

DRAFT ENVIRONMENTAL  
IMPACT REPORT  
(STATE CLEARINGHOUSE  
#2020080314)

Lacey Ranch Area  
Master Plan Project  
January 2022

PREPARED FOR:



City of Lemoore  
711 Cinnamon Drive  
Lemoore, CA 93245

PREPARED BY:



Crawford & Bowen Planning, Inc.  
113 N. Church Street, Suite 302  
Visalia, CA 93291

Draft Environmental Impact Report  
**Lacey Ranch Area Master Plan Project**

State Clearinghouse #2020080314

Prepared for:



City of Lemoore  
711 Cinnamon Drive  
Lemoore, CA 93245  
(559) 924-6700

Contact: Nathan Olson, City Manager

Prepared by:



Crawford & Bowen Planning, Inc.  
113 N. Church Street, Suite 302  
Visalia, CA 93291  
(559) 840-4414

Contact: Travis Crawford, AICP

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# Executive Summary

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# EXECUTIVE SUMMARY

## Introduction

This Draft Environmental Impact Report (Draft EIR or EIR) has been prepared consistent with the California Environmental Quality Act (CEQA) for the proposed Lacey Ranch Master Plan Project. Its intent is to inform the public, regulatory agencies and the City of Lemoore (City) decision makers of the potential environmental impacts the proposed Project would have on environmental factors as specified in the CEQA Guidelines. This Draft EIR, in its entirety, addresses and discloses potential environmental effects associated with construction and operation of the proposed Project, including direct, indirect, and cumulative impacts to the environmental resources identified in the CEQA Guidelines environmental checklist. The City of Lemoore is the “Lead Agency” pursuant to CEQA and is responsible for the preparation and distribution of the Draft EIR.

## CEQA Process

The City circulated an Initial Study and Notice of Preparation (IS/NOP) of an EIR for the proposed Project on August 20, 2020 for a 30-day public review period to trustee and responsible agencies, the State Clearinghouse, and the public. A scoping meeting (conducted virtually via a “Zoom” meeting) was held on September 14, 2020.

The next step in the process is circulation of this Draft EIR which will be distributed to the public for review and comment for at least 45 days. This EIR is organized as follows:

**Executive Summary:** Summarizes the analysis contained in the EIR.

**Chapter 1 – Introduction:** Provides a brief introduction to CEQA and the scope/contents of the DEIR.

**Chapter 2 – Project Description:** Describes the Project in detail. Includes Project location, objectives, environmental setting and regulatory context.

**Chapter 3 – Environmental Analysis:** Contains the CEQA checklist. Each topic discusses environmental/regulatory setting, Project impact analysis, mitigation measures and conclusions.

**Chapter 4 – Alternatives:** Describes and evaluates alternatives to the Project. The proposed Project is compared to each alternatives and potential environmental impacts are analyzed.

**Chapter 5 – Other CEQA Sections:** Describes other required sections such as environmental effects that cannot be avoided, social effects, growth inducement, etc.

**Appendices:** Following the text of the Draft EIR, several appendices and technical studies have been included as reference material.

## Project Location

The proposed Project is located on approximately 156-acres immediately north of the City of Lemoore in Kings County and is bounded by W. Lacey Blvd to the north and 18<sup>th</sup> Avenue to the west. The Project is on assessor parcel number 021-030-057-000. See Figure 1 – Regional Location, Figure 2 – Vicinity Map and Figure 3 – Site Aerial in Chapter Two – Project Description. The site lies within a portion of the NW quarter of Section 35, Township 18 South, Range 20 East, Mount Diablo Base and Meridian.

## Project Description Summary

Within the Lacey Ranch Area Master Plan, the Project applicant is proposing to subdivide and develop approximately 156 acres of land into a planned residential community with a mix of single-family and multi-family housing units. The Project will be constructed in four phases, as is outlined below. The exact numbers of each housing type may vary slightly, depending on final density, but there will be a maximum of 825 housing units in total. Specific housing types include:

- ±164 compact lots with an average lot size of 4,500 square feet
- ±310 medium lots with an average lot size of 6,500 square feet
- ±73 estate lots with an average lot size of 9,500 square feet
- ±145 multifamily units at 20 units per acre
- ±59 multifamily units at 12 units per acre

The Project includes a total of four parks for a total of 7.9 acres and 1.64 acres of trail area. The 1.64 acres of trail area will be designated and zoned consistent with the designations and zoning of their adjacent parcels. Refer to Figure 4 – Site Plan in Chapter Two – Project Description.



Proposed Project construction will require site preparation activities such as removal of the existing alfalfa crop and site grading activities. Construction is expected to occur over 16 years as determined by market demands and will be constructed over four phases, broken down as follows:

- Phase 1 – 125 single family lots and 90 multifamily lots
- Phase 2 – 125 single family lots and 100 multifamily lots
- Phase 3 – Dependent on market conditions
- Phase 4 – Dependent on market conditions

It is anticipated that the Project would begin development in 2022. Refer to Chapter Two – Project Description for the full description of the Project.

## Project Objectives

In accordance with CEQA Guidelines Section 15124(b), the following are the City of Lemoore's Project objectives:

- To provide a variety of housing opportunities with a range of densities, styles, sizes and values that will be designed to satisfy existing and future demand for quality housing in the area.
- To provide a sense of community and walkability within the development through the use of street patterns, parks/trails, landscaping and other project amenities.
- To provide a residential development that is compatible with surrounding land uses and is near major services.
- To provide a residential development that assists the City in meeting its General Plan and Housing Element requirements and objectives.

## Summary of Environmental Impacts

As described in Chapter 3, it was determined that all impacts were either less than significant, or could be mitigated to a less than significant level with the exception of the following:

- Agriculture - Loss of Farmland (project and cumulative level)
- Biological resources (cumulative level only)
- Hydrology – Water Supply (cumulative level only)
- Transportation -Vehicle Miles Traveled impacts (project and cumulative level)

Even with the mitigation measures described in Chapter 3, Environmental Setting, Impacts, and Mitigation Measures, of this Draft EIR, impacts in these issue areas would be significant and unavoidable. Mitigation measures are listed in Table ES-1, Mitigation Monitoring and Reporting Program.

## Summary of Project Alternatives

CEQA Guidelines Section 15126.6 requires the consideration of a range of reasonable alternatives to the proposed Project that could feasibly attain most of the objectives of the proposed Project. This EIR analyzed the following alternatives:

- **No Project Alternative:** Under this Alternative, the Project would not be constructed and the site would remain as agricultural land.
- **Alternate Locations Alternative:** Under this Alternative, the Project would be developed on a different site of similar size and scale.
- **Reduced (50%) Project Alternative:** Under this Alternative, the site would be developed with reduced residential densities which would result in development of fewer number of units and a decrease in population as compared to the proposed Project. This alternative would keep the same acreage, but would reduce the number of units from 825 to 412. All other project components, including overall acreage would remain (parks, etc.). This would result in larger lot sizes as compared to the proposed Project.

See Chapter 4 – Alternatives for a full description of potential environmental impacts associated with each alternative.

## Mitigation Monitoring and Reporting Program

State law requires that a public agency adopt a monitoring program for mitigation measures that have been incorporated into the approved Project to reduce or avoid significant effects on the environment. The purpose of the monitoring program is to ensure compliance with environmental mitigation during Project implementation and operation. Since there are potentially significant impacts requiring mitigation associated with the Project, a Mitigation Monitoring Program will be included in the Project's Final EIR and is included herein on the following pages.

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<b>Biological Resources</b>				
<p><b>BIO – 1:</b></p> <ol style="list-style-type: none"> <li>1. To the extent practicable, construction shall be scheduled to avoid the Swainson’s hawk nesting season, season (February 15 to August 31).</li> <li>2. If it is not possible to schedule construction between September and February, prior to commencement of ground disturbance activities, a qualified biologist shall conduct surveys for Swainson’s hawk in accordance with the Swainson’s Hawk Technical Advisory Committee’s <i>Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in California’s Central Valley</i> (SWTAC 2000, Appendix C). Surveys shall be conducted within a 10-mile radius around the Project site to identify the nearest nest, which will determine the habitat mitigation ratio. If no Swainson’s hawk nests are observed, no further action is necessary. CDFW shall be consulted if an active nest is found within 0.5 miles of the Project site. A copy of the survey report shall be submitted to the City of Lemoore Community Development Department.</li> </ol>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore and CDFW	
<p><b>BIO – 2:</b></p> <p>If an active Swainson’s hawk nest is discovered at any time within 0.5 mile of active construction, a qualified biologist shall complete an assessment of the potential for current construction activities to impact the nest. The assessment shall consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to construction activities of this Project. Based on this assessment, the biologist shall determine if construction activities can proceed, and the level of nest monitoring required. Construction activities shall not occur within 500 feet of an</p>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore and CDFW	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<p>active nest but depending upon conditions at the site this distance may be reduced. Full-time monitoring to evaluate the effects of construction activities on nesting Swainson’s hawks may be required. The qualified biologist shall have the authority to stop work if it is determined that Project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nesting Swainson’s hawk to disturbances and at the discretion of the qualified biologist. No avoidance would be needed if construction occurs near a known Swainson’s hawk nest outside of the Swainson’s hawk nesting season.</p>				
<p><b>BIO -3:</b>                      Prior to the issuance of grading or building permits, the Project proponent shall consult with the California Department of Fish and Wildlife (CDFW) regarding compensation for the loss of 156 acres of Swainson’s hawk foraging habitat. Potential compensation may include a compensatory ratio of 0.5:1 up to 1:1 ratio, depending on the location of active Swainson’s hawk nests. Evidence of consultation with CDFW and payment of compensation shall be submitted to the City of Lemoore Community Development Department.).</p>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore and CDFW	
<p><b>BIO – 4:</b></p> <ol style="list-style-type: none"> <li>1. To the extent practicable, construction shall be scheduled to avoid the Swainson’s hawk nesting season, season (February 15 to August 31).</li> <li>2. If it is not possible to schedule construction between September 15 and February 15, a pre-construction clearance survey for nesting birds shall be conducted by a qualified no more than 14 days prior to the start of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the</li> </ol>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore and CDFW	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<p>impact areas, including within 250 feet in the case of raptor nests and within 100 feet for nests of all other birds. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work shall be halted or redirected to other areas until nesting and fledging are completed or the nest has failed for non-construction related reasons.</p>				
<p><b>BIO – 5:</b>                      Within 14 days prior to the start of Project ground-disturbing activities, a pre-activity survey with a 500-foot buffer where land access is permitted shall be conducted by a qualified biologist knowledgeable in the identification of burrowing owl, American badger, San Joaquin kit fox (SJKF) and other special status species that are known to be in the area, and approved by the CDFW. Surveys need not be conducted for all areas at one time; they may be phased so that surveys occur within 14 days of the portion of the Project site that will be disturbed. If dens/burrows that could support any of these species are discovered during the pre-activity surveys, the avoidance buffers outlined below shall be established. No work would occur within these buffers unless the biologist approves and monitors the activity. If no listed or special status species is observed during the preconstruction clearance survey, no further action is necessary.</p> <p><b>Burrowing Owl (active burrows)</b></p> <ul style="list-style-type: none"> <li>• Non-breeding season: September 1 – January 31 – 160 feet</li> <li>• Breeding season: February 1 – August 31 – 250 feet</li> </ul>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore and CDFW	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<p><b>American Badger/SJKF</b></p> <ul style="list-style-type: none"> <li>• Potential or Atypical den – 50 feet</li> <li>• Known den – 100 feet</li> <li>• Natal or pupping den – 500 feet, unless otherwise specified by CDFW.</li> </ul> <p>If burrowing owl are found within these recommended buffers and avoidance is not possible, burrow exclusion shall be conducted by qualified biologists and only during the non-breeding season, before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance. Replacement of occupied burrows with artificial burrows shall occur at a ratio of one burrow collapsed to one artificial burrow constructed (1:1) to mitigate for evicting burrowing and the loss of burrows. Burrowing owl may attempt to colonize or re-colonize an area that will be impacted; thus, ongoing surveillance shall occur at excluded burrows at a rate that is sufficient to detect burrowing owl if they return.</p> <p>If, during construction activities, a live burrowing owl, American badger, or SJKF is encountered, all construction activity should stop in the affected area until the animal leaves of its own volition. The special-status species should be avoided by construction activities and construction workers and allowed to leave the Project Site without harassment</p>				
<p><b>BIO – 6:</b> Prior to the initiation of construction activities, all construction personnel should attend a Worker Environmental Awareness Training program developed by a qualified biologist. Any personnel associated with</p>	Project Applicant	Prior to issuance of grading or	City of Lemoore and CDFW	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<p>construction that did not attend the initial training shall be trained by the authorized biologist prior to working on the project site. Any employee responsible for the operations and maintenance or decommissioning of the project facilities shall also attend the Worker Environmental Awareness Training program prior to starting work on the project and on an annual basis.</p> <p>The Program shall be developed and presented by the project qualified biologist(s) or designee approved by the qualified biologist(s). The program shall include information on the life histories of special-status species with potential to occur on the Project, their legal status, course of action should these species be encountered on-site, and avoidance and minimization measures to protect these species. It shall include the components described below:</p> <p>a. Information on the life history and identification of special-status species that may occur or that may be affected by Project activities. The program shall also discuss the legal protection status of each such species, the definition of “take” under the Federal Endangered Species Act and California Endangered Species Act, measures the Project proponent/operator shall implement to protect the species, reporting requirements, specific measures for workers to avoid take of special-status plant and wildlife species, and penalties for violation of the requirements outlined in the California Environmental Quality Act mitigation measures and agency permit requirements.</p> <p>b. An acknowledgement form signed by each worker indicating that the Worker Environmental Awareness Training and Education program has been completed shall be kept on file at the construction site.</p> <p>c. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the Worker Environmental Awareness Training and Education program, and signed</p>		building permits		

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<p>acknowledgement forms shall be submitted to the City of Lemoore Community Development Department.</p> <p>d. A sticker shall be placed on hard hats indicating that the worker has completed the Worker Environmental Awareness Training and Education program. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the Worker Environmental Awareness Training and Education Program and are wearing hard hats with the required sticker.</p> <p>e. The construction crews and contractor(s) shall be responsible for preventing unauthorized impacts from project activities to sensitive biological resources that are outside the areas defined as subject to impacts by Project permits. Unauthorized impacts may result in project stoppage, and/or fines depending on the impact and coordination with the California Department of Fish and Wildlife and/or U.S. Fish and Wildlife Service.</p>				
<p><b>BIO – 7:</b></p> <p>Prior to issuance of any grading or building permit, the Project proponent/developer shall submit a final Delineation report to the City of Lemoore. A copy of this report shall also be provided to the Regional Water Quality Control Board (RWQCB), California Department of Fish &amp; Wildlife (CDFW) and U.S. Army Corps of Engineers (USACE) (as applicable). The report shall include information as shown below as a plan if necessary and shall outline compliance to the following:</p> <ol style="list-style-type: none"> <li>1. Delineation of all jurisdictional features at the project site. Potential jurisdictional features within the project boundary identified in the jurisdictional delineation report may be shown in plan form.</li> <li>2. If the Project has a potential to directly or indirectly impact jurisdictional aquatic resources, a formal aquatic resource delineation of these areas</li> </ol>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore and CDFW	



Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<p>shall be performed by a qualified professional to determine the extent of agency jurisdiction and permits/authorizations from the appropriate regulating agencies (RWQCB, CDFW, and USACE) shall be obtained prior to disturbance to jurisdictional features.</p> <p>If it is determined that drainage is jurisdictional and cannot be avoided, the Project proponent shall obtain a Section 401 Waters Quality Certification from the RWQCB, a Section 404 permit from USACE and a Lake and Streambed Alteration Agreement from the CDFW, if required prior to impacting any waters.</p> <p>As part of these authorizations, compensatory mitigation may be required by the regulating agencies to offset the loss of aquatic resources. If so, and as part of the permit application process, a qualified professional shall draft a Mitigation and Monitoring Plan to address implementation and monitoring requirements under the permit to ensure that the Project would result in no net loss of habitat functions and values. The Plan shall contain, at a minimum, mitigation goals and objectives, mitigation location, a discussion of actions to be implemented to mitigate the impact, monitoring methods and performance criteria, extent of monitoring to be conducted, actions to be taken in the event that the mitigation is not successful, and reporting requirements. The Plan shall be approved by the appropriate regulating agencies and compensatory mitigation shall take place either on site or at an appropriate off-site location.</p> <p>3. Any material/spoils generated from project activities containing hazardous materials shall be located away from jurisdictional areas or special-status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber</p>				

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<p>rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate. Protection measures should follow project-specific criteria as developed in a Stormwater Pollution Prevention and Protection Plan (SWPPP).</p> <p>4. Equipment containing hazardous liquid materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and at least 50 feet outside the delineated boundary of jurisdictional water features. Any spillage of material shall be stopped if it can be done safely. The contaminated area shall be cleaned, and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative shall be notified.</p>				
<b>Cultural Resources</b>				
<p><b>CUL-1:</b>                      Prior to any ground disturbance, a surface inspection of the site shall be conducted by a Tribal Monitor. The Tribal Cultural Staff shall monitor the site during grading activities. The Tribal Staff shall provide pre-project-related activities briefings to supervisory personnel and any excavation contractor, which will include information on potential cultural material finds, and any excavation contractor, which will include information on potential cultural material finds, and on the procedures, to be enacted if resources are found. Prior to any ground disturbance, the applicant shall offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground-disturbing activities. Tribal participation would be dependent upon the availability and interest of the tribe.</p>	Project Applicant	Prior to issuance of grading or building permits / ongoing	City of Lemoore	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<p><b>CUL-2:</b></p> <p>In the event that historical or archaeological cultural resources are discovered during project-related activities or decommissioning, operations shall stop within 100 feet of the find, and a qualified archeologist shall determine whether the resource requires further study. The qualified archeologist shall determine the measures that shall be implemented to protect the discovered resources including, but not limited to, excavation of the finds and evaluation of the finds in accordance with § 15064.5 of the CEQA Guidelines. Measures may include avoidance, preservation in-place, recordation, additional archaeological resting, and data recovery, among other options. Any previously undiscovered resources found during project-related activities within the project area shall be recorded on appropriate Department of Parks and Recreation forms and evaluated for significance. No further ground disturbance shall occur in the immediate vicinity of the discovery until approved by the qualified archeologist.</p> <p>The Lead Agency, along with other relevant or tribal officials, shall be contacted upon the discovery of cultural resources to begin coordination on the disposition of the find(s). Treatment of any significant cultural resources shall be undertaken with the approval of the Lead Agency.</p>	Project Applicant	During construction	City of Lemoore	
<p><b>CUL-3:</b></p> <p>Upon coordination with the Lead Agency, any archaeological artifacts recovered shall be donated to an appropriate tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.</p>	Project Applicant	During Construction	City of Lemoore	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<p><b>CUL-4:</b>                      If human remains are discovered during project-related activities or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987) shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of discovery of human remains, at the direction of the County Coroner.</p>	Project Applicant	During Construction	City of Lemoore	
<b>Geology and Soils</b>				
<p><b>GEO-1:</b>                      Prior to the issuance of building or grading permits for the project, the project proponent shall conduct a full geotechnical study to evaluate soil conditions and geologic hazards on the project site and submit it to the City of Lemoore Building Division for review and approval. The project proponent shall retain a California registered and licensed geotechnical engineer to design the project facilities to withstand probable seismically induced ground shaking at the site. All grading and construction on site shall adhere to the specifications, procedures, and site conditions contained in the final design plans, which shall be fully compliant with the seismic recommendations of the California registered professional engineer.</p>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<p>a. The geotechnical study must be signed by a California registered and licensed professional geotechnical engineer or engineering geologist and must include the following:</p> <ul style="list-style-type: none"> <li>I. Location of fault traces and potential for surface rupture and ground shaking potential.</li> <li>II. Maximum considered earthquake and associated ground acceleration for design.</li> <li>III. Potential for seismically induced liquefaction, landslides, differential settlement, and unstable soils.</li> <li>IV. Stability of any existing or proposed cut-and-fill slopes.</li> <li>V. Identification of collapsible or expansive soils.</li> <li>VI. Foundation material type.</li> <li>VII. Potential for wind erosion, water erosion, sedimentation, and flooding.</li> <li>VIII. Location and description of unprotected drainage that could be impacted by the proposed development.</li> <li>IX. Recommendations for placement and design of facilities, foundations, and remediation of unstable ground.</li> </ul>				

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<p>b. The project proponent shall determine the final siting of project facilities based on the results of the geotechnical study and implement recommended measures to minimize geologic hazards.</p> <p>c. The City of Lemoore Building Division shall evaluate any final facility siting design developed prior to the issuance of any building or grading permits to verify that geological constraints have been avoided or mitigated.</p> <p>d. The final structural design shall be subject to approval and follow-up inspection by the City of Lemoore Building Division. Final design requirements shall be provided to the on-site construction supervisor and the City of Lemoore Building Inspector to ensure compliance. A copy of the approved design shall be submitted to the City of Lemoore Community Development Department.</p>				
<p><b>GEO – 2:</b>                      Prior to issuing of grading or building permits, the project applicant shall submit to the City: (1) the approved Stormwater Pollution Prevention Plan (SWPPP) and (2) the Notice of Intent (NOI) to comply with the General National Pollutant Discharge Elimination System (NPDES) from the Central Valley Regional Water Quality Control Board. The requirements of the SWPPP and NPDES shall be incorporated into design specifications and construction contracts. Recommended Best Management Practices for the construction phase may include the following:</p> <ul style="list-style-type: none"> <li>• Stockpiling and disposing of debris, concrete, and soil properly;</li> </ul>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<ul style="list-style-type: none"> <li>• Protecting existing storm drain inlets and stabilizing disturbed areas;</li> <li>• Implementing erosion controls;</li> <li>• Properly managing construction materials;</li> <li>• Managing waste, aggressively controlling litter, and implementing sediment controls; and</li> <li>• Evidence of the approved SWPPP shall be submitted to the Lead Agency.</li> </ul>				
<p><b>GEO – 3:</b></p> <p>If any paleontological resources are encountered during ground-disturbance activities, all work within 25 feet of the find shall halt until a qualified paleontologist as defined by the Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010), can evaluate the find and make recommendations regarding treatment. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. The qualified paleontologist shall contact the Natural History Museum of Los Angeles County or other appropriate facility regarding any discoveries of paleontological resources.</p> <p>If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from project implementation. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they shall be avoided to ensure no adverse effects, or such effects must be mitigated. Construction in that area shall not resume until the resource appropriate measures are recommended</p>	Project Applicant	During Construction	City of Lemoore	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<p>or the materials are determined to be less than significant. If the resource is significant and fossil recovery is the identified form of treatment, then the fossil shall be deposited in an accredited and permanent scientific institution. Copies of all correspondence and reports shall be submitted to the Lead Agency.</p>				
<b>Hazards and Hazardous Materials</b>				
<p><b>HAZ – 1:</b></p> <p>Prior to the issuance of grading or building permits, the Project proponent or contractor shall:</p> <ul style="list-style-type: none"> <li>i. Provide a site plan that clearly delineates the locations of all known oil wells and the 10-foot no-build radius around each well. A copy of the map shall be submitted to the California Department of Conservation, Geologic Energy Management Division (CalGEM), and the City of Lemoore Community Development Department.</li> </ul>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore	
<p><b>HAZ – 2:</b></p> <p>In the event that other abandoned or unrecorded wells are uncovered or damaged during excavation or grading activities, all work shall cease in the vicinity of the well, and the California Department of Conservation, Geologic Energy Management Division (CalGEM), shall be contacted for requirements and approval; copies of said approvals shall be submitted to the City of Lemoore Community Development Department CalGEM, may determine that remedial plugging operations may be required.</p>	Project Applicant	During construction	City of Lemoore	



Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<p><b>HAZ-3:</b> As a best management practice, prior to the issuance of grading permits, the areas of surface staining located near the diesel AST and engine shall be excavated, drummed, and removed from the subject property for proper off-site disposal. Additionally, secondary containment shall be provided for the diesel AST in order to prevent an accidental release from adversely impacting the subject property. Evidence of compliance shall be submitted to the City of Lemoore Community Development Department.</p>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore	
<b>Hydrology and Water Quality</b>				
<p><b>HYD - 1:</b> a) Prior to issuance of grading permits or ground disturbance, the Project proponent shall provide approval of the proposed annexation into the City of Lemoore’s service area. b) The Project proponent shall offer the City 100 water shares (150 acre feet) of water. Documentation of the annexation and offer of water shall be provided to the City Community Development Department.</p>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore	
<p><b>HYD - 2:</b> Prior to issuance of building permits, the Project proponent shall pay water service impact fees for new development. The fee, or equivalent in-lieu, will be determined by the City of Lemoore. Evidence of the payment of impact fees shall be submitted to the City Community Development Department.</p>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore	
<b>Noise</b>				

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<p><b>NOI - 1:</b></p> <ul style="list-style-type: none"> <li>a) All construction equipment shall be equipped with noise control devices (e.g. mufflers) in accordance with manufacturers' specifications throughout construction. Construction equipment shall be periodically inspected to ensure proper maintenance and presence of noise control devices (e.g. lubrication, mufflers that do not leak, and shrouding).</li> <li>b) Equipment staging and laydown areas shall be located at the furthest practical distance from nearby residential land uses. To the extent possible, staging and laydown areas should be located at least 500 feet of existing residential dwellings.</li> <li>c) Haul trucks shall not be allowed to idle for periods greater than five minutes, except as needed to perform a specified function (e.g., concrete mixing).</li> </ul>	Project Applicant	During Construction	City of Lemoore	
<p><b>NOI - 2:</b></p> <p>Prior to the issuance of grading permits, signs legible at a distance of 50 feet shall be posted at the construction site and near adjacent sensitive receptors displaying hours of construction activities and providing the contact phone number of a designated noise disturbance coordinator.</p>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore	
<b>Public Services</b>				
<p><b>PUB-1:</b></p> <p>Prior to issuance of building permits, the Project proponent shall pay fire service impact fees for new development. The fee, or equivalent in-lieu, will be determined by the Lemoore Volunteer Fire Department in conjunction with the City of Lemoore. Evidence of the payment of impact fees shall be submitted to the City Community Development Department.</p>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<p><b>PUB-2:</b> Prior to issuance of building permits, the Project proponent shall pay police service impact fees for new development. The fee, or equivalent in-lieu, will be determined by the Lemoore Police Department in conjunction with the City of Lemoore. Evidence of the payment of impact fees shall be submitted to the City Community Development Department.</p>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore	
<p><b>PUB-3:</b> Prior to issuance of building permits, the Project proponent shall pay school impact fees. The Project's school impact fees will be determined by the Lemoore Union High School District and the Lemoore Union Elementary School District. Evidence of the payment of impact fees shall be submitted to the City Community Development Department.</p>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore	
<p><b>PUB-4:</b> Prior to issuance of building permits, the Project proponent shall pay parkland impact fees or in-lieu equivalent to maintain the City's established requirement of five acres of parkland per thousand residents. The impact fees or in-lieu equivalent will apply to the 3.25 acres of parkland not being constructed by the Project, as set forth in the City's General Plan and Lemoore City Municipal Code Title 9, Chapter 7, Article N. The Project's parkland impact fees will be determined by the City of Lemoore. Evidence of the payment of impact fees shall be submitted to the City Community Development Department.</p>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<b>Transportation</b>				
<p><b>TRA-1:</b></p> <p>Prior to issuance of building permit, the Project shall pay its fair share cost percentages and/or construct the recommended improvements as determined by the City. The following are the required improvements:</p> <ul style="list-style-type: none"> <li>○ Liberty Drive / Hanford-Armona Road</li> <li>▪ Signalize the intersection with protected left-turn phasing in all directions while retaining the existing lane geometrics.</li> </ul>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore	
<p><b>TRA-2:</b></p> <p>Prior to the issuance of construction or building permits, the project developer shall:</p> <ol style="list-style-type: none"> <li>1. Obtain all necessary encroachment permits for work within the road right-of-way or use of oversized/overweight vehicles that will utilize City-maintained roads, which may require California Highway Patrol or a pilot car escort. Copies of the approved traffic plan and issued permits shall be submitted to the City of Lemoore Community Development Department and Public Works Department-Development Review.</li> <li>2. Prepare and submit a Construction Traffic Control Plan to City of Lemoore Public Works Department-Development Review and the Community Development Department, as appropriate, for approval. The Construction Traffic Control Plan shall 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:               <ol style="list-style-type: none"> <li>a. Timing of deliveries of heavy equipment and building materials;</li> </ol> </li> </ol>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<ul style="list-style-type: none"> <li>b. Directing construction traffic with a flag person;</li> <li>c. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;</li> <li>d. Ensuring access for emergency vehicles to the project site;</li> <li>e. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;</li> <li>f. Maintaining access to adjacent property; and,</li> <li>g. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hour, distributing construction traffic flow across alternative routes to access the project sites, and avoiding residential neighborhoods to the maximum extent feasible.</li> </ul>				
<p><b>TRA-3:</b></p> <ul style="list-style-type: none"> <li>a) Prior to a Subdivision Notice of Completion, the Project shall construct Class I Bikeways along the following:                             <ul style="list-style-type: none"> <li>• South side of Street 'S' between Lemoore Avenue and the eastern boundary of the Project.</li> <li>• Street 'G' between Street 'S' and Street 'P'. the Project shall install Class II Bikeways along Street 'S' between Lemoore Avenue and the eastern boundary of the Project and along Mary Drive between Street 'I' and Lacey Boulevard.</li> </ul> </li> <li>b) Adjacent to the Project, Class II Bikeways shall be constructed along the following:</li> </ul>	Project Applicant	Prior to issuance of occupancy permits	City of Lemoore	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<ul style="list-style-type: none"> <li>• The frontage along Lemoore Avenue between Lacey Boulevard and Glendale Avenue</li> <li>• The frontage along Lacey Boulevard between Lemoore Avenue the eastern boundary of the Project.</li> </ul>				
<p><b>TRA-4:</b> Prior to a Subdivision Notice of Completion the Project shall incorporate:</p> <p>a) Intersection traffic calming features such as mini-circles at the following intersections:</p> <ul style="list-style-type: none"> <li>• Beverly Drive and Street 'S',</li> <li>• Street 'G' and Street 'S',</li> <li>• Street 'L' and Street 'S',</li> <li>• Street 'C' and Street 'I',</li> <li>• Street 'D' and Street 'I',</li> <li>• Mary Drive and Street 'I',</li> <li>• Street 'A' and Street 'F'.</li> </ul> <p>b) Street traffic calming features including on street parking throughout the Project (excluding Street 'S') at the following:</p> <ul style="list-style-type: none"> <li>• Between Lemoore Avenue and the eastern boundary of the Project,</li> <li>• Along Mary Drive between Lacey Boulevard and Street 'J',</li> <li>• Along median islands on Street 'S' between Lemoore Avenue and Street 'D'</li> <li>• Along Mary Drive between Lacey Boulevard and Street 'I',</li> <li>• Planter strips with street trees throughout the Project.</li> </ul>	Project Applicant	Prior to issuance of occupancy permits	City of Lemoore	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<p><b>TRA-5:</b> Prior to issuance of an Occupancy permit for the multi-family residential component, the Project shall implement a minimum of 14 bike parking spaces.</p>	Project Applicant	Prior to issuance of occupancy permits	City of Lemoore	
<b>Tribal Cultural Resources</b>				
<p><b>TRI-1:</b> Prior to any ground disturbance, a surface inspection of the site shall be conducted by a Tribal Monitor. The Tribal Cultural Staff shall monitor the site during grading activities. The Tribal Staff shall provide pre-project-related activities briefings to supervisory personnel and any excavation contractor, which will include information on potential cultural material finds, and any excavation contractor, which will include information on potential cultural material finds, and on the procedures, to be enacted if resources are found. Prior to any ground disturbance, the applicant shall offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground-disturbing activities. Tribal participation would be dependent upon the availability and interest of the tribe.</p>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore	
<p><b>TRI-2:</b> In the event that historical or archaeological cultural resources are discovered during project-related activities or decommissioning, operations shall stop within 100 feet of the find, and a qualified archeologist shall determine whether the resource requires further study. The qualifies archeologist shall determine the measures that shall be implemented to protect the discovered resources including, but not limited to, excavation of the finds and evaluation of he finds and evaluation of the finds in accordance with § 15064.5 of the CEQA</p>	Project Applicant	During Construction	City of Lemoore	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
<p>Guidelines. Measures may include avoidance, preservation in-place, recordation, additional archaeological resting, and data recovery, among other options. Any previously undiscovered resources found during project-related activities within the project area shall be recorded on appropriate Department of Parks and Recreation forms and evaluated for significance. No further ground disturbance shall occur in the immediate vicinity of the discovery until approved by the qualified archaeologist.</p> <p>The Lead Agency, along with other relevant or tribal officials, shall be contacted upon the discovery of cultural resources to begin coordination on the disposition of the find(s). Treatment of any significant cultural resources shall be undertaken with the approval of the Lead Agency.</p>				
<p><b>TRI-3:</b></p> <p>Upon coordination with the Lead Agency, any archaeological artifacts recovered shall be donated to an appropriate tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.</p>	Project Applicant	During Construction	City of Lemoore	
<p><b>TRI-4:</b></p> <p>If human remains are discovered during project-related activities or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987) shall be followed. Section 7050.5(c) shall guide the potential</p>	Project Applicant	During Construction	City of Lemoore	



Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
Native American involvement, in the event of discovery of human remains, at the direction of the County Coroner.				
<b>Utilities and Service Systems</b>				
<p><b>UTIL-1:</b>                      Prior to issuance of building permits, the Project proponent shall pay impact fees for its fair share of wastewater (sewer) services. The fee, or equivalent in-lieu, will be determined by the City of Lemoore. Evidence of the payment of impact fees shall be submitted to the City Community Development Department.</p>	Project Applicant	Prior to issuance of grading or building permits	City of Lemoore	

# Chapter 1

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## INTRODUCTION

# 1.0 INTRODUCTION

This Environmental Impact Report (EIR or Draft EIR) has been prepared on behalf of the City of Lemoore (City) in accordance with the California Environmental Quality Act (CEQA). This chapter outlines the purpose of and overall approach to the preparation of the EIR for the proposed Project. The Project applicant is proposing to subdivide and develop approximately 156 acres of vacant land into a 825-unit residential community with a mix of single-family and multi-family housing units. The proposed Project is bounded by W. Lacey Blvd to the north and 18<sup>th</sup> Avenue to the west. The proposed Project is more fully described in Chapter Two – Project Description.

An EIR responds to the requirements of CEQA as set forth in Sections 15126, 15175, and 15176 of the CEQA Guidelines. The Planning Commission and City Council will use the EIR during the public review process in order to understand the potential environmental implications associated with implementing the Project.

## 1.1 Purpose of EIR

The City of Lemoore, as Lead Agency, determined that the proposed activities constitute a “project” within the definition of CEQA. The preparation of an EIR is required by CEQA prior to approving any project that may have a significant impact on the environment. For the purposes of CEQA, the term “project” refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

This Draft EIR has been prepared according to CEQA requirements to evaluate the potential environmental impacts associated with the implementation of the proposed Project. The Draft EIR also discusses alternatives to the Project, and proposes mitigation measures that will offset, minimize, or otherwise avoid significant environmental impacts. This Draft EIR has been prepared in accordance with CEQA, California Resources Code Section 21000 et seq.; the Guidelines for the California Environmental Quality Act (California Code of Regulations, Title 14, Chapter 3); and the rules, regulations, and procedures for implementing CEQA as adopted by the City of Lemoore.

An EIR must disclose the expected direct and indirect environmental impacts associated with a project, including impacts that cannot be avoided, growth-inducing effects, impacts found not to

be significant, and significant cumulative impacts, as well as identify mitigation measures and alternatives to the proposed Project that could reduce or avoid its adverse environmental impacts. CEQA requires government agencies to consider and, where feasible, minimize environmental impacts of proposed development.

## 1.2 Type of EIR

The State CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a Project-level EIR pursuant to CEQA Guidelines Section 15161. A Project-level EIR is described in State CEQA Guidelines § 15161 as: “The most common type of EIR (which) examines the environmental impacts of a specific development project. This type of EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project including planning, construction, and operation.” The project-level analysis considers the broad environmental effects of a proposed project.

## 1.3 Intended Uses of the EIR

The City of Lemoore, as the Lead Agency, has prepared this EIR to provide the public and responsible and trustee agencies with an objective analysis of the potential environmental impacts resulting from implementation of the proposed Project. The environmental review process enables interested parties to evaluate the proposed project in terms of its environmental consequences, to examine and recommend methods to eliminate or reduce potential adverse impacts, and to consider a reasonable range of alternatives to the project. While CEQA requires that consideration be given to avoiding adverse environmental effects, the lead agency must balance adverse environmental effects against other public objectives, including the economic and social benefits of a project, in determining whether a project should be approved.

This EIR will be used as the primary environmental document to evaluate all subsequent planning and permitting actions associated with the Project. This EIR may also be used by other agencies within the area, including the Local Agency Formation Commission of Kings County (for annexation) and the San Joaquin Valley Air Pollution Control District, which may use this EIR during the permitting process.

## 1.4 Known Responsible and Trustee Agencies

The term “Responsible Agency” includes all public agencies other than the Lead Agency that have discretionary approval power over the project or an aspect of the project (CEQA Guidelines Section 15381). For the purpose of CEQA, a “Trustee” agency has jurisdiction by law over natural resources that are held in trust for the people of the State of California (CEQA Guidelines Section 15386). The Project may require permits and approvals from Trustee and Responsible Agencies, which may include the following:

- Regional (Central Valley) Water Quality Control Board (RWQCB)
- San Joaquin Valley Air Pollution Control District (SJVAPCD)

## 1.5 Environmental Review Process

The review and certification process for the EIR has involved, or will involve, the following general procedural steps:

### Initial Study and Notice of Preparation

The City of Lemoore circulated an Initial Study (IS) and Notice of Preparation (NOP) (referred to collectively as “IS/NOP”) of an EIR for the proposed Project from August 20, 2020 through September 21, 2020 to trustee and responsible agencies, the State Clearinghouse (SCH #2020080314), and the public. The IS/NOP analyzed the following CEQA Appendix G topics, and it was determined that no impacts would occur that would require analysis in the draft EIR. No further discussion of these topics is warranted in this document:

- Aesthetics
- Mineral Resources
- Recreation
- Wildfire

Three agency comments on the IS/NOP related to the EIR analysis were presented or submitted during the public review period. The IS/NOP and written comments provided to the City during the 30-day public review period for the IS/NOP are presented in Appendix A. The letters are summarized as follows:

1. **California Department of Conservation – Geologic Energy Management Division:** Provided regulations pertaining to handling of any known oil or gas wells located within the Project boundaries.
2. **California Department of Conservation – Division of Land Resource Protection:** Provided regulations pertaining to conversion of farmland to urban uses.
3. **Pacific Gas and Electric Company:** Provided information and regulations pertaining to gas and electric facilities that would serve the Project.

## Scoping Meeting

Pursuant to Section 15206 of the State CEQA Guidelines, the lead agency is required to conduct at least one scoping meeting for all projects of statewide, regional, or area-wide significance. The scoping meeting is for jurisdictional agencies and interested persons or groups to provide comments regarding (but not limited to) the range of actions, alternatives, mitigation measures, and environmental effects to be analyzed. The City of Lemoore hosted a scoping meeting on September 14, 2020.

## Draft EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the project, description of the environmental setting, identification of the project's direct and indirect impacts on the environment, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This Draft EIR also identifies issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the IS/NOP were considered in preparing the analysis in this EIR. Upon completion of the Draft EIR, the City of Lemoore will file the Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research to begin the public review period.

## Public Notice/Public Review

Concurrent with the NOC, the City of Lemoore will provide a public notice of availability for the Draft EIR, and invite comment from the general public, agencies, organizations, and other interested parties. Consistent with CEQA requirements, the review period for this Draft EIR is forty-five (45) days. Public comment on the Draft EIR will be accepted in written form. All comments or questions regarding the Draft EIR should be addressed to:

Nathan Olson, City Manager  
City of Lemoore  
711 W. Cinnamon Drive  
Lemoore, CA 93245

## Responses to Comments/Final EIR

Following the public review period, a Final EIR will be prepared. The Final EIR will respond to written comments received during the public review period and to oral comments received during such review period.

## Entitlement Procedures / Certification of the EIR / Project Consideration

The City of Lemoore is Lead Agency for the proposed Project, pursuant to the California Environmental Quality Act (CEQA). The Project will require the following approvals and/or entitlements from the City of Lemoore:

- Annex approximately 156 acres from Kings County into the City of Lemoore
- Approval of a General Plan Amendment
- Approval of a Zone Change
- Adoption of the Lacey Ranch Master Plan through a Planned Unit Development
- Approval of Tentative Tract Map(s)
- Approval of Major Site Plan Review
- Certification of the Project EIR
- Certification of the Final EIR
- Adoption of the Mitigation Monitoring and Reporting Program
- Adoption of 15091 and 15093 Findings and Statement of Overriding Considerations
- Issuance of Grading / Building Permits
- Approval of the Project Water Supply Assessment

The City of Lemoore will review and consider the Final EIR. If the City finds that the Final EIR is "adequate and complete," the City Council may certify the Final EIR in accordance with CEQA. As set forth by CEQA Guidelines Section 15151, the standards of adequacy require an EIR to provide a sufficient degree of analysis to allow decisions to be made regarding the proposed Project that intelligently take account of environmental consequences.

Upon review and consideration of the Final EIR, the City Council may take action to approve, revise, or reject the project. A decision to approve the proposed Project, for which this EIR identifies significant environmental effects, must be accompanied by written findings in accordance with State CEQA Guidelines Sections 15091 and 15093. A Mitigation Monitoring and Reporting Program (MMRP) would also be adopted in accordance with Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097 for mitigation measures that have been incorporated into or imposed upon the Project to reduce or avoid significant effects on the environment. The MMRP will be designed to ensure that these measures are carried out during project implementation in a manner that is consistent with the EIR.

## 1.6 Organization and Scope

Sections 15122 through 15132 of the State CEQA Guidelines identify the content requirements for Draft and Final EIRs. An EIR must include a description of the environmental setting, an environmental impact analysis, mitigation measures, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. Discussion of the environmental issues addressed in the Draft EIR was established through review of environmental and planning documentation developed for the project, environmental and planning documentation prepared for recent projects located within the City of Lemoore, and responses to the IS/NOP. This Draft EIR is organized in the following manner:

### Executive Summary

The Executive Summary summarizes the characteristics of the proposed Project, known areas of controversy and issues to be resolved, and provides a concise summary matrix of the project's environmental impacts and possible mitigation measures. This chapter also identifies alternatives that reduce or avoid at least one significant environmental effect of the proposed Project.

### Chapter 1.0 – Introduction

Chapter 1.0 briefly describes the proposed Project, the purpose of the environmental evaluation, identifies the lead, trustee, and responsible agencies, summarizes the process associated with preparation and certification of an EIR, identifies the scope and organization of the Draft EIR, and summarizes comments received in response to the IS/NOP.



## Chapter 2.0 – Project Description

Chapter 2.0 provides a detailed description of the proposed Project, including the location, intended objectives, background information, the physical and technical characteristics, including the decisions subject to CEQA, subsequent entitlement activities, and a list of related agency action requirements.

## Chapter 3.0 – Environmental Setting, Impacts and Mitigation Measures

Chapter 3.0 contains an analysis of environmental topic areas as identified below. Each subchapter addressing a topical area is organized as follows:

**Environmental Setting.** A description of the existing environment as it pertains to the topical area.

**Regulatory Setting.** A description of the regulatory environment that may be applicable to the project.

**Impacts and Mitigation Measures.** Identification of the thresholds of significance by which impacts are determined, a description of project-related impacts associated with the environmental topic, identification of appropriate mitigation measures, and a conclusion as to the significance of each impact.

The following environmental topics are addressed in this Draft EIR:

- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing

- Public Services
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Services

#### Chapter 4.0 – Cumulative Impacts

Chapter 4.0 discusses potential cumulative impacts resulting from project implementation. Cumulative impacts can result from the proposed Project alone, or together with other projects. A cumulative impact of concern under CEQA occurs when the net result of combined individual impacts compounds or increase other overall environmental impacts.

#### Chapter 5.0 – Project Alternatives

Chapter 5.0 provides a comparative analysis between the merits of the proposed Project and the selected alternatives. State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the project, which could feasibly attain the basic objectives of the project and avoid and/or lessen any significant environmental effects of the project.

#### Chapter 6.0 – Other CEQA-Required Topics

Chapter 6.0 evaluates and describes the following CEQA required topics: growth-inducing effects, significant and irreversible effects, significant and unavoidable impacts, substantial adverse effects on protected fish, wildlife, and plant species, substantial adverse effects on human beings, and effects not found to be significant.

#### Chapter 7.0 – Report Preparers

Chapter 7.0 lists all authors and agencies that assisted in the preparation of the Draft EIR, by name, title, and company or agency affiliation.

#### Appendices

This section includes the IS/NOP and responses to the IS/NOP in addition to biological, water, air quality/greenhouse gases, noise and traffic technical studies.

## Chapter 2

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# PROJECT DESCRIPTION

# Project Description

## 2.1 Project Location

The proposed Project is located on approximately 156-acres immediately north of the City of Lemoore in Kings County and is bounded by W. Lacey Blvd to the north and 18<sup>th</sup> Avenue to the west. The Project is on assessor parcel number 021-030-057-000. See Figure 1 – Regional Location, Figure 2 – Vicinity Map and Figure 3 – Site Aerial. The site lies within a portion of the NW quarter of Section 35, Township 18 South, Range 20 East, Mount Diablo Base and Meridian.

## 2.2 Surrounding Land Use

The proposed Project site is located in an area that is dominated by farmland / agricultural operations and scattered rural residential housing to the north, east and west, and residential development to the south. The site is partially designated by the City of Lemoore General Plan for future residential uses and is currently zoned as Limited Agricultural-10 District (AL-10) by Kings County. Approximately one-third of the site (the southern one-third) is within the City’s Sphere of Influence (SOI) while the remaining two-thirds are currently outside the SOI. The entire site is proposed for annexation into the City limits of Lemoore. As of Spring 2020, the land is being farmed for alfalfa. Table 2-1 shows land uses and zoning designations of adjacent parcels surrounding the site.

**Table 2-1: Surrounding Land Use and Zoning**

<b>Location</b>	<b>Existing Land Use</b>	<b>Current Zoning Classification</b>
<b>North</b>	Agriculture	AL-10 (Limited Agricultural-10 District) – County
<b>South</b>	Residential	Low Density Residential (RLD) - City
<b>West</b>	Agriculture/City Water tank and treatment facility	AL-10 (Limited Agricultural-10 District) – County / PR (Parks and Recreation/Ponding Basin) - City
<b>East</b>	Agriculture	AL-10 (Limited Agricultural-10 District) - County

## 2.3 Project Description

This EIR examines the potential environmental impacts of a proposed Project that consists of the following:

- Annexation of approximately 156 acres from Kings County into the City of Lemoore
- Approval of a General Plan Amendment
- Approval of a Rezoning
- Adoption of the Lacey Ranch Master Plan through a Planned Unit Development
- Approval of Tentative Tract Map(s)
- Approval of Major Site Plan Review
- Certification of the Project EIR
- Certification of the Final EIR
- Adoption of the Mitigation Monitoring and Reporting Program
- Adoption of 15091 and 15093 Findings and Statement of Overriding Considerations
- Issuance of Grading / Building Permits
- Approval of the Project Water Supply Assessment

Within the Lacey Ranch Area Master Plan, the Project applicant is proposing to subdivide and develop approximately 156 acres of land into a planned residential community with a mix of single-family and multi-family housing units. The Project will be constructed in four phases, as is outlined below. The exact numbers of each housing type may vary slightly, depending on final density, but there will be a maximum of 825 housing units in total (see Figure 4). Specific housing types include:

- ±164 compact lots with an average lot size of 4,500 square feet
- ±310 medium lots with an average lot size of 6,500 square feet
- ±73 estate lots with an average lot size of 9,500 square feet
- ±145 multifamily units at 20 units per acre
- ±59 multifamily units at 12 units per acre

Table 2-2 depicts the proposed land use designations and zone districts of the proposed Project.

**Table 2-2: Proposed Land Use and Zoning Designations**

Proposed Land Use	Proposed Land Use Designation	Proposed Zone District
Single Family lots	Low Density Residential	RLD – Low Density Residential
12 unit per acre multifamily	Medium Density Residential	RMD – Medium Density Residential
20 unit per acre multifamily	High Density Residential	RHD – High Density Residential
Parks	Parks/Recreation	PR – Parks/Recreation
Storm drainage basin	Greenway/Detention Basin	PR – Parks/Recreation

Figure 1 - Regional Location

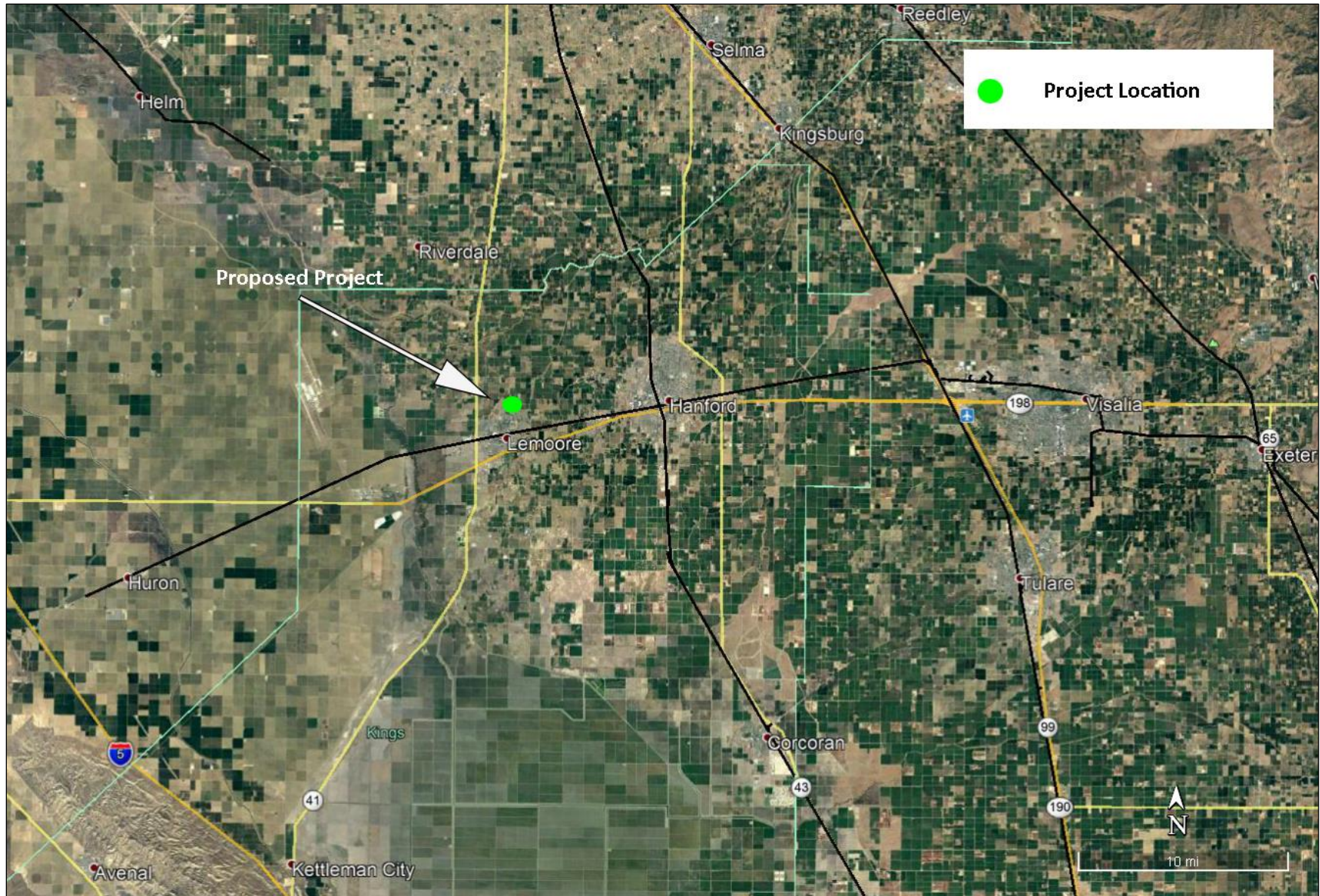


Figure 2 - Project Vicinity

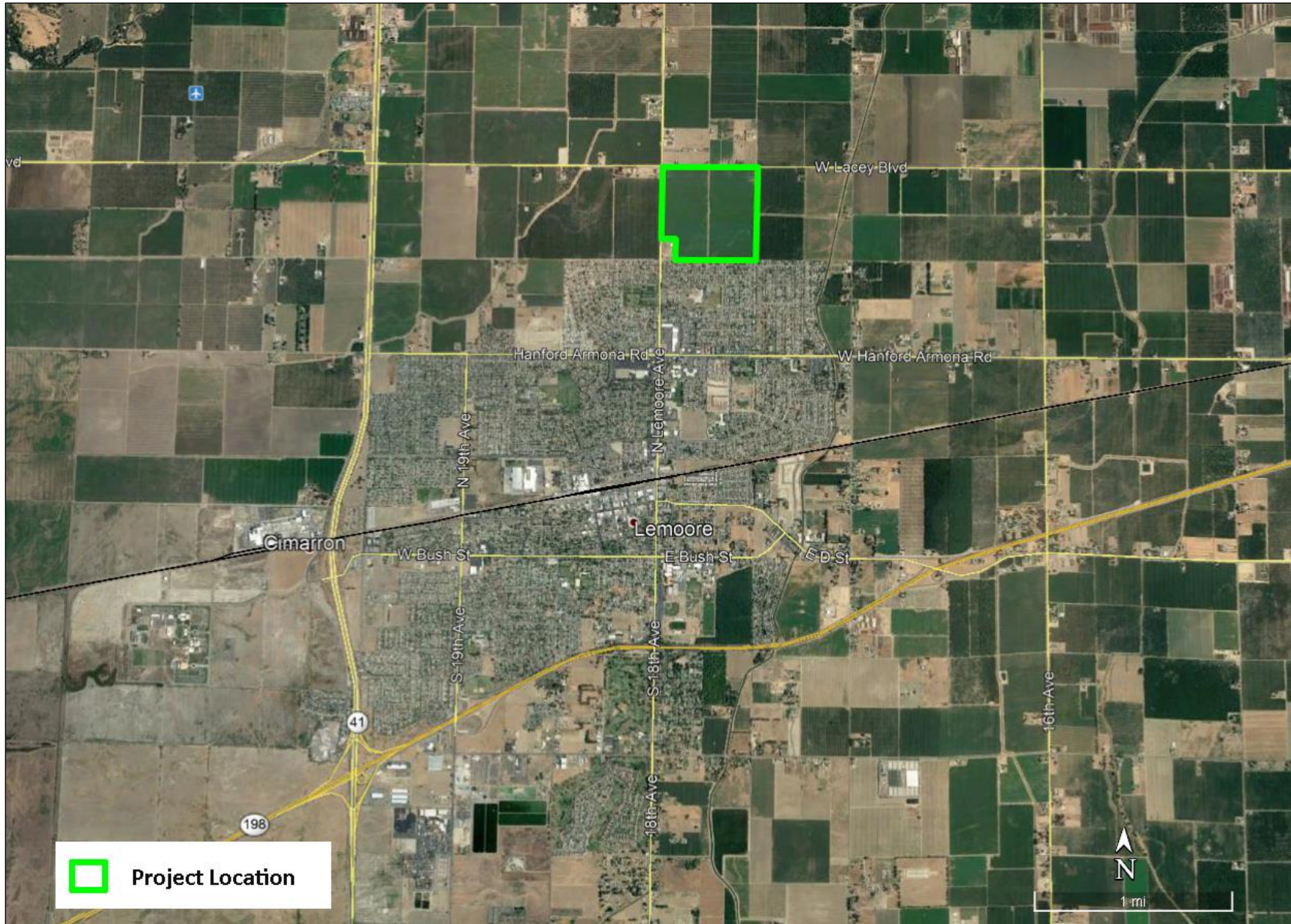
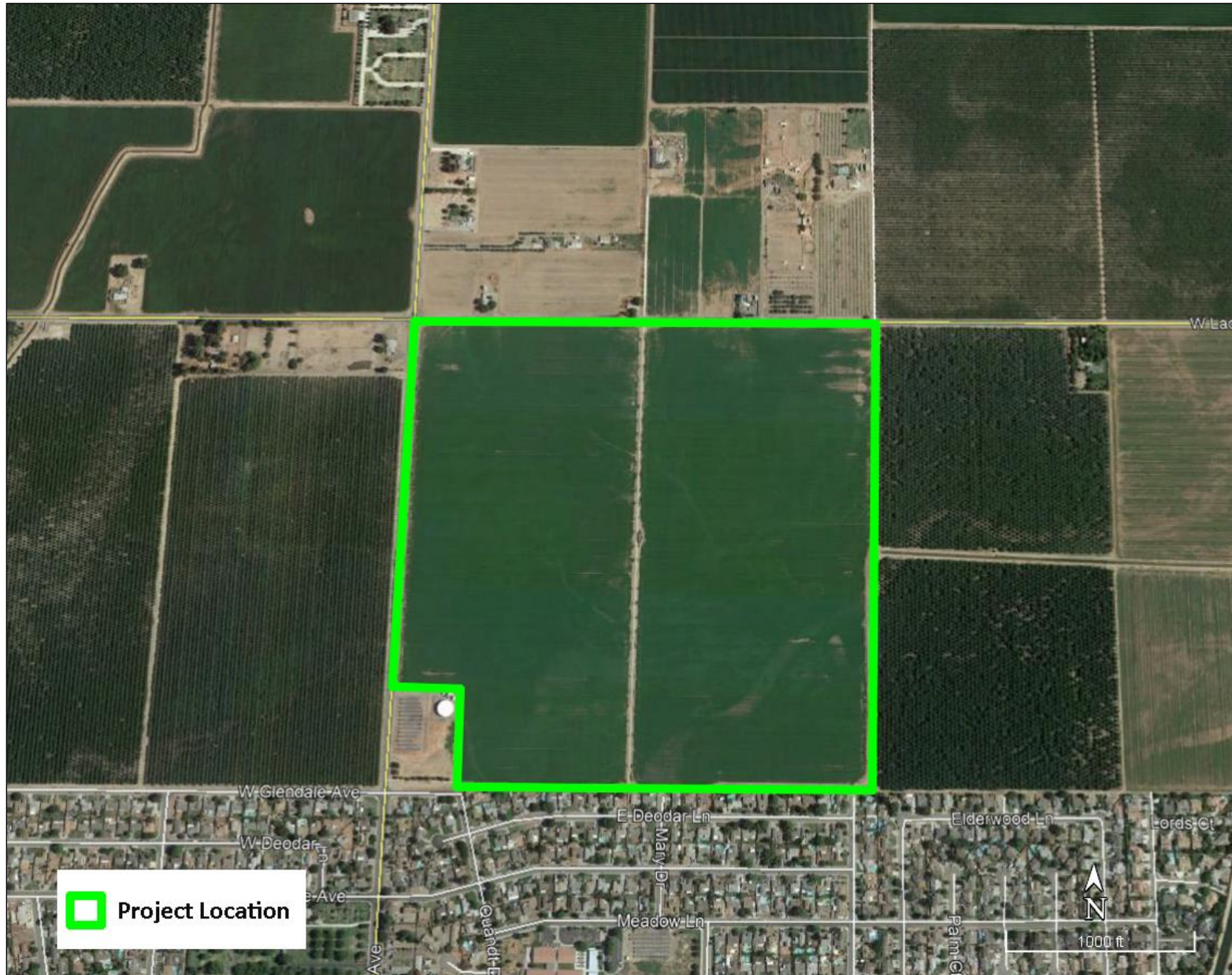


Figure 3 - Site Aerial





*Parks and Open Space*

The Project includes a total of four parks for a total of 7.9 acres and 1.64 acres of trail area, as depicted on Figure 4. The 1.64 acres of trail area will be designated and zoned consistent with the designations and zoning of their adjacent parcels.

*Site Circulation and Access*

The site has been designed with seven points of ingress and egress. One of these points connects at W. Lacey Blvd along the northern edge of the Project; three access points connect at 18<sup>th</sup> Avenue on the western edge; two access points are along the southern edge; and one access point is along the eastern edge. The Project will be responsible for construction of internal roadways as well as for potential improvements to surrounding roadways to accommodate the Project.

*Infrastructure*

The Project includes the construction of a 4.39-acre storm drain basin and will require connection to various City-operated systems such as for sewer, water and storm drain facilities. The Project will be responsible for construction of connection points to the City's existing infrastructure. The Project also includes improvements and landscaping along the frontage roads and within the site itself.

The Project will require a 50-foot easement for irrigation water to Lemoore Canal & Irrigation District Co. as the above-ground canal along a portion of the western and southern boundary will be abandoned and relocated into an underground pipe through the Project site.

*Phasing / Construction Schedule*

Proposed Project construction will require site preparation activities such as demolition to remove the existing alfalfa crop and site grading activities. Construction is expected to occur over 16 years as determined by market demands and will be constructed over four phases, broken down as follows:

- Phase 1 – 125 single family lots and 90 multifamily lots
- Phase 2 – 125 single family lots and 100 multifamily lots
- Phase 3 – Dependent on market conditions
- Phase 4 – Dependent on market conditions

It is anticipated that the Project would begin development in 2022.

## 2.4 Project Objectives

In accordance with CEQA Guidelines Section 15124(b), the following are the City of Lemoore's Project objectives:

- To provide a variety of housing opportunities with a range of densities, styles, sizes and values that will be designed to satisfy existing and future demand for quality housing in the area.
- To provide a sense of community and walkability within the development through the use of street patterns, parks/trails, landscaping and other project amenities.
- To provide a residential development that is compatible with surrounding land uses and is near major services.
- To provide a residential development that assists the City in meeting its General Plan and Housing Element requirements and objectives.



## 2.5 Other Required Approvals

### *City of Lemoore*

The City of Lemoore is Lead Agency for the proposed Project, pursuant to the California Environmental Quality Act (CEQA). The Project will require the following approvals and/or entitlements from the City of Lemoore:

- Formal Request for Sphere of Influence Amendment
- Initiation of annexation from Kings County into the City of Lemoore
- General Plan Amendment
- Rezoning
- Adopt the Lacey Ranch Master Plan through a Planned Unit Development
- Approval of Tentative Tract Map(s)
- Approval of Major Site Plan Review
- Certification of the Project EIR
- Certification of Final Environmental Impact Report
- Adoption of Mitigation Monitoring and Reporting Program
- Adoption of 15091 and 15093 Findings and Statement of Overriding Considerations
- Grading / Building Permits
- Approval of the Project Water Supply Assessment

### *Other Public Agencies*

The Project will require various permits and/or entitlements from regulatory agencies. These may include, but not be limited to the following:

- LAFCO of Kings County – approval of annexation and Sphere of Influence Amendment
- San Joaquin Valley Air Pollution Control District – approval of Rule 9510 AIA Application
- Regional Water Quality Control Board- Storm Water Pollution Prevention Plan

## Chapter 3

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# ENVIRONMENTAL SETTING, IMPACTS & MITIGATION

### 3.1 Agricultural Resources

This section of the DEIR identifies potential impacts of the proposed Project pertaining to Agricultural Resources. One NOP comment letter pertaining to this topic was received from Monique Wilber of the California Department of Conservation (DOC). The letter provided recommendations pertaining to the evaluation of the loss of farmland including the type/amount of land being converted, impacts to current/future farming, proposed mitigation measures and compatibility with surrounding lands utilizing the California Agricultural Land Evaluation and Site Assessment Model (LESA)<sup>1</sup>, which the California Department of Conservation developed to provide lead agencies with a methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process. An Agricultural Conversion Study was prepared for the Project and is the basis for analysis for the discussion herein Appendix B.

#### **Environmental Setting**

As described in Section 2.1, the Project site is located immediately north of the City of Lemoore in Kings County, in an area dominated by rural agricultural land and homesteads, and the residential units associated with the City of Lemoore immediately to the south. The site is partially designated by the City of Lemoore General Plan for future residential uses and is currently zoned as Limited Agricultural-10 District (AL-10) by Kings County. Approximately one-third of the site (the southern one-third) is within the City's Sphere of Influence (SOI) while the remaining two-thirds are currently outside the SOI. The entire site is within the adopted Urban Development Boundary and proposed for annexation into the City limits of Lemoore.

#### Climate

The proposed Project site is located in the southern Central Valley of California; this area has the rainy winters and dry summers that are characteristic of a Mediterranean climate. The Central Valley has greater temperature extremes than the coastal areas because it is less affected by the moderating influence of the Pacific Ocean.

The Western Regional Climate Center (WRCC) provides climate data derived from stationary weather stations throughout the western United States. WRCC has developed a data set for monthly climate for the Project area (1899 to 2016); this data set is based on weather readings taken from the Hanford 043747 Station, the nearest weather station to the proposed Project site.

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<sup>1</sup> California Department of Conservation, Division of Land Resource Protection. Accessible at [http://www.conservation.ca.gov/dlrp/Pages/qh\\_lesas.aspx](http://www.conservation.ca.gov/dlrp/Pages/qh_lesas.aspx). Accessed September 2018

The majority of rainfall occurs from November through March with an average annual rainfall of approximately eight inches per year. The monthly average temperature maximum was 97.8°F in July and the monthly average minimum was 35.2°F in January.<sup>2</sup>

### Kings County Agricultural Production

Agricultural products are one of Kings County's most important resources. The *2019 Crop Report* stated "The gross value of all agricultural crops and products produced during 2019 in Kings County was \$2,187,693,000. This represents a decrease of \$92,982,000 (4.1%) from the 2018 value."<sup>3</sup>

Fruit and Nut Crops had the largest increase in value at \$43,645,000 (7.3%) due primarily to an increase in production and price of almonds. Seed Crops increased \$1,906,000 (16.2%) due to an increase in acreage.<sup>4</sup>

Livestock and Poultry Products had the largest decrease in value at \$72,682,000 (10.7%) due to a decrease in milk production. Vegetable crops decreased \$34,465 (16%) due largely to a decrease in processing tomato acreage and production. Livestock and Poultry decreased \$19,891,000 (7.1% due to less cattle, calves and poultry sold, as well as lower poultry prices. Field crops decreased \$10,510,000 due primarily to lower cotton prices. Apiary products decreased \$985,000 (6.6%) due largely to less acreage pollinated.<sup>5</sup>

### Project site Crops and Yields

According to Jeff Roberts of Assemi Group, Inc., approximately 155 acres of alfalfa hay has grown on the proposed Project site for the past five years and one acre is occupied by dirt roads.

Alfalfa hay was ranked number ten among the top ten commodities grown in Kings County for the year 2019 with a value of \$45,276,000. The Kings County 2019 Crop Report indicates an acre of alfalfa hay produced a yield of 8.59 tons with a crop value of \$205 per ton. Alfalfa crop yields and total value are provided in Table 3.1-1.

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<sup>2</sup> Western Regional Climate Center. Period of Record Monthly Climate Summary, Hanford, California. <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca3747>. Accessed January 2021.

<sup>3</sup> Kings County Department of Agriculture 2019 Crop Report. Cover Story by Jimmy Hook, Agricultural Commissioner. <https://www.countyofkings.com/home/showpublisheddocument/24293/637345497607270000>. Accessed December 2020.

<sup>4</sup> Ibid.

<sup>5</sup> Ibid.

**Table 3.1-1  
Annual Project Site Crop Yield<sup>6</sup>**

Crop	Bearing Acreage	Per Acre Yield/Ton	Total Tons	Unit Value per Ton (\$)	Total Value (\$)
Alfalfa hay	155	8.59	1,331.5	205	272,957.50

Kings County Priority Ranking

Kings County has developed an “Agricultural Priority” map which ranks the importance of preserving land as: Very Low; Low; Low-Medium; Medium; Medium-High; and Highest. These ‘priorities’ were developed based upon the following: Farmland Designation, Land Use Designation, availability of water, soil type and quality, proximal land uses, project urban growth factors, and others. The proposed Project site has been assigned a Low priority.<sup>7</sup>

Project Site

According to the FMMP<sup>8</sup>, the proposed Project site is mapped as containing approximately 154 acres of Prime Farmland and one acre of Unique Farmland. The proposed Project site is currently under a Williamson Act Contract.

The Project site does not contain any land defined as forest land (as defined by Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or land zoned Timberland Production (as defined by Government Code section 51104(g)).

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<sup>6</sup> Agricultural Land Conversion Analysis for the Lacey Ranch Area Master Plan Project. Prepared by Crawford & Bowen Planning, Inc. June 2021. See Appendix B. Page 15.

<sup>7</sup> Kings County Agricultural Land Conversion Study prepared by Michael Brandman Associates in September, 2008. <https://www.countyofkings.com/home/showpublisheddocument?id=3142>. Accessed May 2021. Exhibit 11.

<sup>8</sup> California Department of Conservation. California Important Farmland Finder. <https://maps.conservation.ca.gov/DLRP/CIFF/>. Accessed December 2020.



## Regulatory Setting

### Federal Regulations

#### *Farmland Protection Policy Act (7 U.S.C Section 4201)*

The purpose of the Farmland Protection Policy Act (FPPA) is to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It additionally directs Federal programs to be compatible with State and local policies for the protection of farmlands. Congress passed the Agriculture and Food Act of 1981 (Public Law 97–98) containing the FPPA—Subtitle I of Title XV, Sections 1539–1549. The final rules and regulations were published in the Federal Register on June 17, 1994.

The FPPA is intended to minimize the impact Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It assures that, to the extent possible, Federal programs are administered to be compatible with State, local units of government, and private programs and policies to protect farmland. Federal agencies are required to develop and review their policies and procedures to implement the FPPA every two years. The FPPA does not authorize the Federal Government to regulate the use of private or non-Federal land or, in any way, affect the property rights of owners.

For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of Statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forestland, pastureland, cropland, or other land, but not water or urban built-up land.

Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a Federal agency or with assistance from a Federal agency.<sup>9</sup>

### State

*California Department of Conservation(DOC), Division of Land Resource Protection*

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<sup>9</sup> USDA Natural Resources Conservation Service. Farmland Protection Policy Act. <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/landuse/fppa/>. Accessed August 2020.

The Division of Land Resource Protection (DLRP), within the Department of Conservation (DOC), serves as the State's leader in conserving California's irreplaceable agricultural lands. DLRP provides information, and technical and financial assistance to partners to protect California's agricultural land and promote sustainable growth.

The DOC applies the Natural Resources Conservation Service (NRCS) soil classifications to identify agricultural lands, and these agricultural designations are used in planning for the present and future of California's agricultural land resources. The DOC has a minimum mapping unit of 10 acres, with parcels that are smaller than 10 acres being adsorbed into the surrounding classifications.

#### *Farmland Mapping and Monitoring Program*

The DOC established the Farmland Mapping and Monitoring Program (FMMP) in 1982. The FMMP is a non-regulatory program and provides a consistent and impartial analysis of agricultural land use changes throughout California. The FMMP produces maps and statistical data used for analyzing impacts on California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status. The best quality land is called Prime Farmland with additional categories, including Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance.

The list below provides a description of all the categories mapped by the FMMP<sup>10</sup>.

- **Prime Farmland.** Farmland that has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- **Farmland of Statewide Importance.** Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

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<sup>10</sup> California Department of Conservation Division of Land Resource Protection. Farmland Mapping and Monitoring Program. Important Farmland Categories. <https://www.conservation.ca.gov/dlrp/fmmp/Pages/Important-Farmland-Categories.aspx#:~:text=Important%20Farmland%20Categories.%20%20Rural%20Residential%20Land%20%28R%29,an%20extent%20of%20at%20least%2040%20acres.%20>. Accessed August 2020.

- **Unique Farmland.** Farmland of lesser quality soils used for the production of the State’s leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.
- **Farmland of Local Importance.** Lands that produce dryland grains (barley and wheat); lands that have physical characteristics that would qualify for “Prime” or “Statewide Important” farmlands except for the lack of irrigation water; and lands that currently support confined livestock, poultry, and/or aquaculture operations.
- **Grazing Land.** Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen’s Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.
- **Urban and Built-up Land.** Land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
- **Other Land.** Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

#### *California Land Conservation (Williamson Act)*

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, is promulgated in California Government Code Sections 51200–51297.4. The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space uses. In return, the landowners receive property tax assessment based on farming and open space uses, as opposed to full market value, thus resulting in a lower tax burden. Private land within locally designated agricultural preserve areas is eligible for enrollment under Williamson Act contracts. However, an agricultural preserve must consist of no less than 100 acres. In order to meet this requirement, two or more parcels may be combined if they are contiguous, or if they are in common ownership.

The Williamson Act program is administered by the DOC, in conjunction with local governments, which administer the individual contract arrangements with landowners. The landowner commits the parcel to a 10-year period wherein no conversion out of agricultural use is permitted. Each year the contract automatically renews unless a notice of non-renewal or cancellation is filed. In return, the land is taxed at a rate based on the actual use of the land for agricultural purposes, as opposed to its unrestricted market value. An application for immediate cancellation can also be requested by the landowner, provided that the proposed immediate cancellation application is consistent with the cancellation criteria stated in the California Land Conservation Act and those adopted by the affected county or city. Non-renewal or immediate cancellation does not change the zoning of the property. Participation in the Williamson Act program is dependent on county adoption and implementation of the program and is voluntary for landowners.

As defined by the Williamson Act, prime agricultural land includes: (1) Class I and II soils as classified by the NRCS; (2) land that qualifies for rating 80 through 100 in the Storie Index Rating by the University of California, Division of Agricultural Sciences; (3) land that supports livestock used for the production of food and fiber and with at least one animal unit per acre; 4) land planted with fruit or nut-bearing crops that yield not less than \$200 per acre annually during commercial bearing periods; or (5) land that has returned from the production of unprocessed agricultural plant products and annual gross value of not less than \$200 per acre for three of the previous five years.<sup>11</sup>

The Williamson Act states that a board or council by resolution shall adopt rules governing the administration of agricultural preserves. The rules of each agricultural preserve specify the uses allowed. Generally, any commercial agricultural use will be permitted within any agricultural preserve. In addition, local governments may identify compatible uses permitted with a use permit. California Government Code Section 51238 states that, unless otherwise decided by a local board or council, the erection, construction, alteration, or maintenance of electric and communication facilities, as well as other facilities, are determined to be compatible uses within any agricultural preserve. Section 51238 also states that a board of supervisors may impose conditions on lands or land uses to be placed within preserves to permit and encourage compatible uses in conformity with Section 51238.1. Further, California Government Code Section 51238.1 allows a board or council to allow as compatible any use that without conditions or mitigations

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<sup>11</sup> Government Code, Section 51201(c)(1)-(5)).

would otherwise be considered incompatible. However, this may occur only if that use meets the following conditions:

- The use will not significantly compromise the long-term productive agricultural capability of the subject contracted parcel or parcels on other contracted lands in agricultural preserves.
- The use will not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels or on other contracted lands in agricultural preserves. Uses that significantly displace agricultural operations on the subject contracted parcel or parcels may be deemed compatible if they relate directly to the production of commercial agricultural products on the subject contracted parcel or parcels or neighboring lands, including activities such as harvesting, processing, or shipping.
- The use will not result in the significant removal of adjacent contracted land from agricultural or open-space use.

Section 51243.5 states that a city may exercise its option to not succeed to the rights, duties, and powers of the county under the contract if each of the following had occurred prior to January 1, 1991:

- (1) The land being annexed was within one mile of the city's boundary when the contract was executed.
- (2) The city had filed with the local agency formation commission a resolution protesting the execution of the contract.
- (3) The local agency formation commission had held a hearing to consider the city's protest to the contract.
- (4) The local agency formation commission had found that the contract would be inconsistent with the publicly desirable future use and control of the land.
- (5) The local agency formation commission had approved the city's protest.

#### *Farmland Security Zone Act*

The Farmland Security Zone Act (FSZA) is similar to the Williamson Act and was passed by the California State Legislature in 1999 to ensure that long-term farmland preservation is part of public policy. Farmland Security Zone Act contracts are sometimes referred to as "Super Williamson Act Contracts." Under the provisions of this act, a landowner already under a

Williamson Act contract can apply for Farmland Security Zone status by entering into a contract with the county. Farmland Security Zone classification automatically renews each year for an additional 20 years. In return for a further 35 percent reduction in the taxable value of land and growing improvements (in addition to Williamson Act tax benefits), the owner of the property promises not to develop the property into nonagricultural uses. FSZA contracts may be canceled, but only upon a finding that cancellation would both serve the purposes of the Williamson Act and be in the public interest (California Government Code Section 51297).

*Public Resources Code Section 21060.1*

The Public Resource Code (PRC) Section 21060.1 defines agricultural land for the purposes of assessing environmental impacts using the FMMP. The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and the conversion of these lands. The FMMP provides analysis of agricultural land use and land use changes throughout California.

Local Regulations

*2030 City of Lemoore General Plan*

The 2030 Lemoore General Plan (General Plan) has policies that apply to projects within the City of Lemoore that serve to protect farmland. General Plan Implementing Policies are listed below.

PU-I-10 Requires that developers of agricultural land to be annexed to the City offer the water rights associated with this land to the City.

COS-I-1 Protect lands designated for Agricultural/Rural/Conservation uses with appropriate zoning consistent with the General Plan.

COS-I-2 Identify a secure funding mechanism for the purchase of conservation easements to support farmland preservation and a green space buffer on County land surrounding the Lemoore Planning Area, with particular emphasis on land east of the City.

*There are several ways to obtain funding for farmland conservation easements, including but not limited to, development impact fees, transfers of development rights (TDRs), tax allocations/appropriations, grants, donations or bonds. Each tool has strength and weaknesses and the options must be evaluated to choose the best one for Lemoore. Implementation will necessitate cooperation with the County, usually in the form of a*

*Memorandum of Understanding (MOU), and would also benefit from guidance through applicable land trust organizations, such as the American Farmland Trust or the California Council of Land Trusts.*

**COS-I-3** Work with the County to evaluate the need for and feasibility of creating a County Farmland Trust or Open Space District to negotiate open space transactions, hold easements, pursue local open space and farmland preservation policies.

*A land trust or open space district would be voter-established entity with authority hold and manage lands for farmland preservation and conservation purposes. Donation of easements to a land trust or open space district may validate easements for tax purposes.*

**COS-I-9** Require developers to inform subsequent buyers of potential continued agricultural production and the lawful use of agricultural chemicals, including pesticides and fertilizers adjacent to the new development site.

*A "Right to Farm" acknowledgement will be required of all purchasers of lots adjacent to farmland.*

## **Thresholds of Significance**

The thresholds of significance for this section are established by the CEQA Checklist Item. Would the project:

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

## Impacts and Mitigation Measures

**Impact 3.1-1:** *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

**Significant and Unavoidable.** According to the FMMP,<sup>12</sup> the 155-acre proposed Project site is classified as approximately 154 acres of Prime Farmland and one acre of Unique Farmland. The site is partially designated by the City of Lemoore General Plan for future residential uses and is currently zoned as Limited Agricultural-10 District (AL-10) by Kings County. Approximately one-third of the site (the southerly one-third) is within the City's Sphere of Influence (SOI) while the remaining northern two-thirds are currently outside the SOI and outside the City's Planning Boundary. As the northern two thirds of the proposed Project site was not included in the Planning Area of the 2030 Lemoore General Plan, this same area of the site was not included in the agricultural conversion analysis of the 2030 Lemoore General Plan EIR.

The City has evaluated the Project's farmland conversion impacts utilizing the California Agricultural Land Evaluation and Site Assessment Model (LESA)<sup>13</sup>, which the California Department of Conservation developed to provide lead agencies with a methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process. (See Public Resources Code §21095.)

The LESA is composed of six different factors, which are divided into two sets: Land Evaluation (LE) and Site Assessment (SA) factors. Two LE factors (Land Capability Classification Rating and Storie Index Rating) are based upon measures of soil resources quality and intended to measure the inherent, soil-based qualities of land as they relate to agricultural suitability. Four SA factors (Project Size Rating, Water Resource Availability Rating, Surrounding Agricultural Lands Rating, and Surrounding Protected Resource Lands Rating) are intended to measure social, economic, and geographic attributes that also contribute to the overall value of agricultural land.

The two sets of factors are evenly weighted, meaning the two LE factors and four SA factors are of equal importance; however, for a given project, each of these six factors is separately rated in

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<sup>12</sup> California Department of Conservation. Farmland Mapping and Monitoring Program. Kings County. <https://maps.conservation.ca.gov/DLRP/CIFF/>. Accessed August 2020.

<sup>13</sup> California Department of Conservation, Division of Land Resource Protection. Accessible at [http://www.conservation.ca.gov/dlrp/Pages/qh\\_les.aspx](http://www.conservation.ca.gov/dlrp/Pages/qh_les.aspx). Accessed September 2018



a 100-point scale. The factors are then weighted relative to one another and combined, resulting in a single numeric score for a given project, with a maximum attainable score of 100 points. This final project score becomes the basis for making a determination of the potential impacts' level of significance for the project, based upon a range of established scoring thresholds.

#### *Land Evaluation Factors*

The LESA includes two LE factors, discussed below, that are separately rated.

The Land Capability Classification Rating (LCC): The LCC indicates the suitability of soils for most kinds of crops. Groupings are made according to the limitations of the soils when used to grow crops and the risk of damage to soils when used in agriculture. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receiving the highest rating (Class I). Specific subclasses are also utilized to further characterize soils.

The Storie Index Rating: The Storie Index provides a numeric rating (based upon a zero to 100 scale) of the relative degree of suitability or value of a given soil for intensive agriculture. The rating is based upon soil characteristics only. Four factors that represent the inherent characteristics and qualities of the soil are considered in the Storie Index rating: profile characteristics, texture of the surface layer, slope, and other factors such as drainage or salinity. In some situations, only the United States Department of Agriculture's LCC information may be available. In those cases, the Storie Index ratings can be calculated from information contained in soil surveys by qualified soil scientists; however, if limitation of time and/or resources restrict the derivation of the Storie Index rating for a given project, it may be possible to adapt the Land Evaluation by relying solely upon the LCC rating.

#### *Site Assessment Factors*

The four SA factors that are separately rated and included in the LESA are discussed below.

The Project Size Rating: The Project Size rating is based upon identifying acreage figures for three separate groupings of soil classes within the project site, and then determining what grouping generates the highest Project Size score. The Project Size Rating relies upon acreage figures that were tabulated under the Land Capability Classification Rating.

The Water Resources Availability Rating: The Water Resources Availability rating is based upon identifying the various water sources that may supply a given property, and then determining whether different restrictions in supply are likely to take place in years that are characterized as being periods of drought and non-drought.

The Surrounding Agricultural Land Rating: Determination of the Surrounding Agricultural Land rating is based upon identification of a project's Zone of Influence (ZOI), which is defined as that land near a given project, both directly adjoining and within a defined distance away, that is likely to influence, and be influenced by, the agricultural land use of the subject project site. The Surrounding Agricultural Land rating is designed to provide a measurement of the level of agricultural land use for lands close to a given project. The LESA rates the potential significance of the conversion of an agricultural parcel that has a large proportion of surrounding land in agricultural production more highly than one that has relatively small percentage of surrounding land in agricultural production. The definition of the ZOI that accounts for surrounding lands (up to a minimum of 0.25 mile from the project boundary) is the result of several iterations during model development for assessing an area that will generally be a representative sample of surrounding land use. The ZOI surrounding the proposed Project site includes 568.7 acres of land is classified as being 383.1 acres are Prime Farmland, 41.2 are Unique Farmland and the remaining 144.4 acres consist of rural residential land and urban and built-up land and semi-agricultural and rural commercial land (Appendix B).

The Surrounding Protected Resource Land Rating: The Surrounding Protected Resource Land rating is essentially an extension of the Surrounding Agricultural Land rating, and it is scored in a similar manner. Protected resource lands are those lands with long-term use restrictions that are compatible with or supportive of agricultural uses of land. Included among them are the following:

- Williamson Act contracted lands
- Publicly owned lands maintained as a park, forest, or watershed resources
- Lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban and industrial uses

#### *Final LESA Scoring*

A single LESA score is generated for a given project after all the individual LE and SA factors have been scored and weighted. The LESA is weighted so that 50 percent of the total LESA score of a given project is derived from the LE factors and 50 percent is derived from the SA factors. The final LESA score was determined for the proposed Project and the modeling results are described in Table 3.1-2.

**Table 3.1-2  
Land Evaluation and Site Assessment Model Scoring Summary**

<b>Category</b>	<b>Factor</b>	<b>Raw Points</b>	<b>Factor Weight</b>	<b>Weighted Points</b>	<b>Comments</b>
Land Evaluation	Land Capability Class	89.8	0.25	22.45	Majority of site is Class II
	Storie Index	1.01	0.25	0.25	Majority of site is ranked as 1
	<b>Subtotal</b>		<b>0.50</b>	<b>22.7</b>	
Site Assessment	Project Size	100	0.15	15	
	Water Resource Availability	100	0.15	15	Groundwater is available via on-site wells
	Surrounding Agricultural Land	80	0.15	12	
	Surrounding Protected Resource Lands	60	0.05	3	Approximately 68% of ZOI is under contract
	<b>Subtotal</b>		<b>0.50</b>	<b>45</b>	
Final Score				<b>67.7</b>	

### *LESA Thresholds of Significance*

The LESA is designed to make determinations of the potential significance of a project's conversion of agricultural lands during the Initial Study phase of the CEQA process. Scoring thresholds are based upon both the total LESA score and the component LE and SA separate subscores. In this manner, the scoring thresholds are dependent upon the attainment of a minimum score for the LE and SA subscores so that a single threshold is not the result of heavily skewed subscores (i.e., a site with a very high LE score but a very low SA score, or vice-versa). The LESA scoring thresholds are described in Table 3.1-3.

**Table 3.1-3  
LESA Scoring Thresholds**

Total LESA Score	Scoring Decision
0 to 39 points	Not considered significant
40 to 59 points	Considered significant only if LE and SA subscores are each greater than or equal to 20 points
60 to 79 points	Considered significant unless either LE or SA subscore is less than 20 points
80 to 100 points	Considered significant

*LESA Results*

According to the LESA Threshold of Significance, the total score of 67.7 for the proposed Project site is considered significant (see Appendix B).

As discussed in the 2030 Lemoore General Plan EIR, conversion of agricultural land to urban use is not directly mitigable, aside from preventing development altogether. There is no feasible mitigation measure that would reduce the impacts related to of the Prime Farmland converted as a result of development of the proposed Project. Therefore, impacts as a result of farmland conversion are considered *Significant and Unavoidable*.

**Mitigation Measures**

None are required

**Impact 3.1-2:** *Conflict with existing zoning for agricultural use, or a Williamson Act contract?*

**No Impact.**

Agricultural Zoning

The Project site is currently zoned as Limited Agricultural-10 District by Kings County and as a part of the Project, the Zone District will be changed to Low, Medium and High Density Residential and Parks/Recreation by the City of Lemoore. The new zoning would accommodate the proposed Project and as such, there would be *no impact* resulting from a zoning conflict.

Williamson Act Contract

As noted, the Project site is subject to a Williamson Act contract, pursuant to Government Code Section 51200 et seq. The entire Project site is currently under a Williamson Act Contract;

however, a protest was filed with the Local Agency Formation Commission (LAFCo) on December 1, 1982, in accordance with Section 51243.5 (a) of the Government Code, as amended, which will result in a dissolution of the Williamson Act Contract upon annexation of the subject site to the City.

With the dissolution of the Williamson Act Contract, there would be no conflict with a Williamson Act Contract and as such, *no impacts* to this subject area.

### **Mitigation Measures**

None are required.

**Impact 3.1-3:** *Conflict with existing zoning for, or cause rezoning of, forest land as defined in Public Resources Code section 12220(g), timberland as defined by Public Resources Code section 4526, or timberland zoned Timberland Production (as defined by Government Code section 51104(g)), or result in the loss of forest land or convert forest land to non-forest use?*

**No Impact.** There is no forest land zoning on the proposed Project site and there are no forest uses on the site. No loss of forest land would occur, and no conflicts with forest land zoning would occur. Therefore, there is *no impact*.

### **Mitigation Measures**

None are required.

**Impact 3.1-4:** *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?*

**Less Than Significant.** The proposed Project site is located in an area that is dominated by farmland / agricultural operations and scattered rural residential housing to the north, east and west, and residential development to the south. The site is partially designated by the City of Lemoore General Plan for future residential uses and is currently zoned as Limited Agricultural-10 District (AL-10) by Kings County. Approximately one-third of the site (the southern one-third) is within the City's SOI while the remaining two-thirds are currently outside the SOI. The entire site is proposed for annexation into the City limits of Lemoore. According to the Agricultural Conversion Study prepared for the Project, the site is substantially surrounded by Prime

Farmland to the north, east and west. However, the requested General Plan Amendment, Zone Change, Sphere of Influence amendment, and annexation is site specific and does not apply to any properties other than the proposed Project site. Therefore, it is unlikely that the Project would result in the conversion of other farmland or forest land. The impact is *less than significant*.

### **Mitigation Measures**

None are required.

### **Cumulative Impacts**

**Significant, Unavoidable and Cumulatively Considerable.** The geographic area of this cumulative analysis is the entire State of California. This cumulative analysis is based on the Statewide FMMP map. As discussed above, the Project includes the significant impact related to the conversion of protected farmland to urban uses in addition to amending the existing SOI to include additional agricultural acreage. Amending the SOI will eventually lead to urban development and thereby contribute to the loss of viable agricultural land in the region. As such, the Project would have a *significant and unavoidable and cumulatively considerable impact* on agricultural resources.

## 3.2 Air Quality

This section of the DEIR evaluates the potential air quality impacts associated with the implementation of the proposed Project. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.). The methodology follows the Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) prepared by the San Joaquin Valley Air Pollution Control District (District or SJVACPD) for quantification of emissions and evaluation of potential impacts to air resources. The information and analysis presented in this Section are based on the Air Quality and Greenhouse Gas / Energy Analysis Report (AQGGA) prepared for this Project by Mitchell Air Quality Consulting (Appendix B).

### **Environmental Setting**

#### San Joaquin Valley Air Basin

##### *Topography*

The topography of a region is important for air quality because mountains can block airflow that would help disperse pollutants and can channel air from upwind areas that transports pollutants to downwind areas. The Air Basin is generally shaped like a bowl. It is open in the north and is surrounded by mountain ranges on all other sides. The Sierra Nevada mountains are along the eastern boundary (8,000 to 14,000 feet in elevation), the Coast Ranges are along the western boundary (3,000 feet in elevation), and the Tehachapi Mountains are along the southern boundary (6,000 to 8,000 feet in elevation).

##### *Climate*

The climate is important for air quality because of differences in the atmosphere's ability to trap pollutants close to the ground, which creates adverse air quality; inversely, the atmosphere's ability to rapidly disperse pollutants over a wide area prevents high concentrations from accumulating under different climatic conditions. The San Joaquin Valley Air Basin (Air Basin) has an "inland Mediterranean" climate and is characterized by long, hot, dry summers and short,

foggy winters. Sunlight can be a catalyst in the formation of some air pollutants (such as ozone); the Air Basin averages over 260 sunny days per year.<sup>1</sup>

Inversion layers are significant in determining pollutant concentrations. Concentration levels can be related to the amount of mixing space below the inversion. Temperature inversions that occur on the summer days are usually encountered 2,000 to 2,500 feet above the valley floor. In winter months, overnight inversions occur 500 to 1,500 feet above the valley floor.

Dominant airflows provide the driving mechanism for transport and dispersion of air pollution. The mountains surrounding the Air Basin form natural horizontal barriers to the dispersion of air contaminants. The wind generally flows south-southeast through the valley, through the Tehachapi Pass and into the Mojave Desert Air Basin portion of Kern County. As the wind moves through the Mojave Desert Air Basin, it mixes with the air pollution generated locally, generally transporting air pollutants from the north to the south in the summer and in a reverse flow in the winter.

The winds and unstable air conditions experienced during the passage of winter storms result in periods of low pollutant concentrations and excellent visibility. Between winter storms, high pressure and light winds allow cold moist air to pool on the San Joaquin Valley floor. This creates strong, low-level temperature inversions and very stable air conditions, which can lead to Tule fog. Wintertime conditions favorable to fog formation are also conditions favorable to high concentrations of fine particulate matter (PM<sub>2.5</sub>) and inhalable coarse particulates (PM<sub>10</sub>).

### Existing Air Quality Conditions

The local air quality can be evaluated by reviewing relevant air pollution concentrations near the Project area.

Table 3.2-1 summarizes 2017 through 2019 published monitoring data, which is the most recent three-year period available. Data was obtained from the closest air monitoring stations with data available. The table displays data from the Hanford S. Irwin Street monitoring station (located approximately 7 miles east of the Project site). The data show that during the past few years, the Project area has exceeded the standards for ozone (state and national), PM<sub>10</sub> (state), and PM<sub>2.5</sub> (national). The data in the table reflect the concentration of the pollutants in the air, measured using air monitoring equipment. This differs from emissions, which are calculations of a pollutant

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<sup>1</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 15.



being emitted over a certain period. No recent monitoring data for Kings County or for the area defined as the San Joaquin Valley Air Basin were available for carbon monoxide (CO) or sulfur dioxide (SO<sub>2</sub>). Generally, no monitoring is conducted for pollutants that are no longer likely to exceed ambient air quality standards.

**Table 3.2-1  
Air Quality Monitoring Summary<sup>2</sup>**

<b>Air Pollutant</b>	<b>Averaging Time</b>	<b>Item</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Ozone <sup>1</sup>	1 Hour	Max 1 Hour (ppm)	<b>0.106</b>	<b>0.108</b>	<b>0.093</b>
		Days > State Standard (0.09 ppm)	7	1	0
	8 Hour	Max 8 Hour (ppm)	<b>0.094</b>	<b>0.082</b>	<b>0.076</b>
		Days > State Standard (0.07 ppm)	42	30	13
		Days > National Standard (0.070 ppm)	38	29	13
Carbon monoxide (CO)	8 Hour	Max 8 Hour (ppm)	ND	ND	ND
		Days > State Standard (9.0 ppm)	ND	ND	ND
		Days > National Standard (9 ppm)	ND	ND	ND
Nitrogen dioxide (NO <sub>2</sub> ) <sup>1</sup>	Annual	Annual Average (ppm)	0.008	0.008	0.008
	1 Hour	Max 1 Hour (ppm)	0.0569	0.0563	0.0629
		Days > State Standard (0.18 ppm)	0	0	0
	Annual	Annual Average (ppm)	ND	ND	ND
	24 Hour	Max 24 Hour (ppm)	ND	ND	ND

<sup>2</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 25.

Air Pollutant	Averaging Time	Item	2017	2018	2019
Sulfur dioxide (SO <sub>2</sub> )		Days > State Standard (0.04 ppm)	ND	ND	ND
Inhalable coarse particles (PM <sub>10</sub> ) <sup>1</sup>	Annual	Annual Average (µg/m <sup>3</sup> )	49.9	47.3	44.8
	24 hour	24 Hour (µg/m <sup>3</sup> )	<b>298.4</b>	<b>174.2</b>	<b>211.7</b>
		Days > State Standard (50 µg/m <sup>3</sup> )	122.0	113.5	104
		Days > National Standard (150 µg/m <sup>3</sup> )	1.0	6.1	6.6
Fine particulate matter (PM <sub>2.5</sub> ) <sup>1</sup>	Annual	Annual Average (µg/m <sup>3</sup> ) 12.0 µg/m <sup>3</sup>	<b>17.1</b>	<b>17.7</b>	<b>12.1</b>
	24 Hour	24 Hour (µg/m <sup>3</sup> )	<b>113.4</b>	<b>107.8</b>	<b>48.2</b>
		Days > National Standard (35 µg/m <sup>3</sup> )	33.8	31	21.0
<p>Notes:</p> <p>&gt; = exceed      ppm = parts per million      µg/m<sup>3</sup> = micrograms per cubic meter</p> <p>ID = insufficient data      ND = no data      max = maximum</p> <p><b>Bold</b> = exceedance of State or Federal Standard</p> <p>State Standard = California Ambient Air Quality Standard</p> <p>National Standard = National Ambient Air Quality Standard</p> <p><sup>1</sup>      Hanford S. Irwin St. Monitoring Station</p>					

The health impacts of the various air pollutants of concern can be presented in a number of ways. The clearest of these is comparable with the state and federal ozone standards. If concentrations are below the standard, it is safe to say that no health impact would occur to anyone. When concentrations exceed the standard, impacts will vary based on the amount by which the standard is exceeded. The Environmental Protection Agency (EPA) developed the Air Quality Index (AQI) as an easy-to-understand measure of health impacts compared with concentrations in the air.

Table 3.2-23.2-2 provides a description of the health impacts of ozone at different concentrations.

**Table 3.2-2  
Air Quality Index and Health Effects from Ozone<sup>3</sup>**

Air Quality Index/ 8-hour Ozone Concentration	Health Effects Description
AQI—51–100—Moderate	<b>Sensitive Groups:</b> Children and people with asthma are the groups most at risk.
Concentration 55–70 ppb	<b>Health Effects Statements:</b> Unusually sensitive individuals may experience respiratory symptoms.
	<b>Cautionary Statements:</b> Unusually sensitive people should consider limiting prolonged outdoor exertion.
AQI—101–150—Unhealthy for Sensitive Groups	<b>Sensitive Groups:</b> Children and people with asthma are the groups most at risk.
Concentration 71–85 ppb	<b>Health Effects Statements:</b> Increasing likelihood of respiratory symptoms and breathing discomfort in active children and adults and people with respiratory disease, such as asthma.
	<b>Cautionary Statements:</b> Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
AQI—151–200—Unhealthy	<b>Sensitive Groups:</b> Children and people with asthma are the groups most at risk.
Concentration 86–105 ppb	<b>Health Effects Statements:</b> Greater likelihood of respiratory symptoms and breathing difficulty in active children and adults and people with respiratory disease, such as asthma; possible respiratory effects in general population.
	<b>Cautionary Statements:</b> Active children and adults, and people with respiratory disease, such as asthma, should

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<sup>3</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 26.

Air Quality Index/ 8-hour Ozone Concentration	Health Effects Description
	avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
AQI—201–300—Very Unhealthy	<b>Sensitive Groups:</b> Children and people with asthma are the groups most at risk.
Concentration 106–200 ppb	<b>Health Effects Statements:</b> Increasingly severe symptoms and impaired breathing likely in active children and adults and people with respiratory disease, such as asthma; increasing likelihood of respiratory effects in general population.
	<b>Cautionary Statements:</b> Active children and adults, and people with respiratory disease, such as asthma, should avoid all outdoor exertion; everyone else, especially children, should limit outdoor exertion.

The AQI for the 8-hour ozone standard is based on the current National Ambient Air Quality Standards (NAAQS) of 70 parts per billion (ppb). Based on the AQI scale for the 8-hour ozone standard, the Project area experienced three days in the last three years that would be categorized as very unhealthy (AQI 201–250), and as many as 77 days that were unhealthy (AQI 151–200) or unhealthy for sensitive groups (AQI 101–150), violating the 70-ppb standard as measured at the Hanford S. Irwin Street monitoring station. The highest reading was 94 parts per billion (ppb) in 2017 (AQI 172), compared with the 105-ppb cutoff point for unhealthy (AQI 200). The most days over the standard were 38 days in 2017.

The other nonattainment pollutant of concern is PM<sub>2.5</sub>. An AQI of 100 or lower is considered moderate and would be triggered by a 24-hour average concentration of 12.1 to 35.4 µg/m<sup>3</sup>. An AQI of 101 to 105 or 35.5-55.4 µg/m<sup>3</sup> is considered unhealthy for sensitive groups. When concentrations reach this amount, it is considered an exceedance of the federal PM<sub>2.5</sub> standard. The monitoring station nearest the Project exceeded the standard on approximately 86 days in the three-year period spanning from 2017 to 2019. The highest number of exceedances was recorded in 2017 with 34 days over the standard. People with respiratory or heart disease, the elderly, and children are the groups most at risk. Unusually sensitive people should consider reducing prolonged or heavy exertion. The AQI of 151 to 200 is classified as unhealthy for everyone. This AQI classification is triggered when PM<sub>2.5</sub> concentration ranges from 55.4 to 150.4 µg/m<sup>3</sup>. At this concentration, there is increasing likelihood of respiratory symptoms in sensitive

individuals, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease, and in the elderly. People with respiratory or heart disease, the elderly, and children should limit prolonged exertion. Everyone else should reduce prolonged or heavy exertion. The highest concentration recorded at the Hanford S. Irwin Street monitoring station in the last three years was 113.4 µg/m<sup>3</sup> (AQI 181) in 2017. At this concentration the air quality is unhealthy for everyone. At this AQI, increased aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly and increased respiratory effects in general population would occur. People with respiratory or heart disease, the elderly, and children should avoid prolonged exertion; everyone else should limit prolonged exertion when the AQI exceeds this level. The relationship of the AQI to health effects is shown in Table 3.2-3.

**Table 3.2-3  
Air Quality Index and Health Effects of Particulate Pollution<sup>4</sup>**

<b>Air Quality Index/ PM<sub>2.5</sub> Concentration</b>	<b>Health Effects Description</b>
AQI—51–100—Moderate  Concentration 12.1–35.4 µg/m <sup>3</sup>	<p><b>Sensitive Groups:</b> Some people who may be unusually sensitive to particulate.</p> <p><b>Health Effects Statements:</b> Unusually sensitive people should consider reducing prolonged or heavy exertion.</p> <p><b>Cautionary Statements:</b> Unusually sensitive people: Consider reducing prolonged or heavy exertion. Watch for symptoms such as coughing or shortness of breath. These are signs to take it easier.</p>
AQI—101–150—Unhealthy for Sensitive Groups  Concentration 35.5–55.4 µg/m <sup>3</sup>	<p><b>Sensitive Groups:</b> Sensitive groups include people with heart or lung disease, older adults, children, and teenagers.</p> <p><b>Health Effects Statements:</b> Increasing likelihood of respiratory symptoms in sensitive individuals, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease, and the elderly.</p> <p><b>If you have heart disease:</b> Symptoms such as palpitations, shortness of breath, or unusual fatigue may indicate a</p>

<sup>4</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 27.

Air Quality Index/ PM <sub>2.5</sub> Concentration	Health Effects Description
	serious problem. If you have any of these, contact your health care provider.
AQI—151–200—Unhealthy Concentration 86–105 ppb	<p><b>Sensitive Groups:</b> Children and people with asthma are the groups most at risk.</p> <p><b>Health Effects Statements:</b> Greater likelihood of respiratory symptoms and breathing difficulty in active children and adults and people with respiratory disease, such as asthma; possible respiratory effects in general population.</p> <p><b>Cautionary Statements:</b> Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.</p>
AQI—201–300—Very Unhealthy Concentration 106–200 ppb	<p><b>Sensitive Groups:</b> Children and people with asthma are the groups most at risk.</p> <p><b>Health Effects Statements:</b> Increasingly severe symptoms and impaired breathing likely in active children and adults and people with respiratory disease, such as asthma; increasing likelihood of respiratory effects in general population.</p> <p><b>Cautionary Statements:</b> Active children and adults, and people with respiratory disease, such as asthma, should avoid all outdoor exertion; everyone else, especially children, should limit outdoor exertion.</p>

**Attainment Status**

The federal EPA and the California Air Resources Board (ARB) designate air basins where ambient air quality standards are exceeded as “nonattainment” areas. If standards are met, the area is designated as an “attainment” area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered “unclassified.” National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards.

Each standard has a different definition, or “form” of what constitutes attainment, based on specific air quality statistics. For example, the federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual PM<sub>2.5</sub> standard is met if the three-year average of the annual average PM<sub>2.5</sub> concentration is less than or equal to the standard.

The current attainment designations for the Air Basin are shown in Table 3.2-4. The Air Basin is designated as nonattainment for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>.

**Table 3.2-4  
San Joaquin Valley Air Basin Attainment Status<sup>5</sup>**

<b>Pollutant</b>	<b>State Status</b>	<b>National Status</b>
Ozone—One Hour	Nonattainment/Severe	No Standard
Ozone—Eight Hour	Nonattainment	Nonattainment/Extreme
Carbon monoxide	Attainment/Unclassified	Merced, Madera, and Kings Counties are unclassified; others are in Attainment
Nitrogen dioxide	Attainment	Attainment/Unclassified
Sulfur dioxide	Attainment	Attainment/Unclassified
PM <sub>10</sub>	Nonattainment	Attainment
PM <sub>2.5</sub>	Nonattainment	Nonattainment
Lead	Attainment	No Designation/Classification

### *Sensitive Receptors*

Sensitive receptors are considered to be more sensitive than others to air pollutants. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. Residences, schools, hospitals, convalescent homes, and parks are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-

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<sup>5</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 28.

related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with associated greater exposure to ambient air quality. Recreational uses are also considered sensitive due to greater exposure to ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system.

The project is located on approximately 156-acres of undeveloped, agriculturally zoned land north of the City. Existing development in the Project vicinity includes rural roads, scattered rural residential housing to the north, east and west, and residential development to the south. There is an elementary school located 0.15 miles of the Project site.

#### *Toxic Air Contaminants (TAC)*

Hazardous air pollutants (HAPs) is a term used by the federal CAA that includes a variety of pollutants generated or emitted by industrial production activities. Called TACs under the California Clean Air Act of 1988 (CCAA), 10 pollutants have been identified through ambient air quality data as posing the most substantial health risk in California. Direct exposure to these pollutants has been shown to cause cancer, birth defects, damage to brain and nervous system and respiratory disorders. CARB provides emission inventories for only the larger air basins.

Sources include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners and motor vehicle exhaust. TACs do not have ambient air quality standards. Since no safe levels of TACs can be determined, there are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. The requirements of the Air Toxic “Hot Spots” Information and Assessment Act apply to facilities that use, produce, or emit toxic chemicals. Facilities that are subject to the toxic emission inventory requirements of the Act must prepare and submit toxic emission inventory plans and reports to CARB and periodically update those reports. While TACs do result in potential health risks for those exposed, the proposed project would not emit TACs with the exception of diesel particulate matter and therefore only diesel particulate matter is described further in this analysis.

The SJVAPCD has established thresholds of significance for combined toxic air contaminant (“TAC”) emissions from the operations of both permitted and non-permitted sources.<sup>6</sup> Projects

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<sup>6</sup> SJVAPCD (San Joaquin Valley Air Pollution Control District). 2015. *Guidance for Assessing and Mitigating Air Quality Impacts*. March 2015



that have the potential to expose the public to TACs in excess of the following thresholds would be considered to have a significant air quality impact:

- Probability of contracting cancer for the maximally exposed individual equals or exceeds 20 in 1 million people.
- Hazard Index for acute and chronic noncarcinogenic TACs equals or exceeds 1 for the maximally exposed individual.
  - Non-cancer adverse health impact, both for acute (short-term) and chronic (long-term) health effects, is measured against a hazard index, which is defined as the ratio of the predicted incremental exposure concentration from a project to a published reference exposure level that could cause adverse health effects as established by the Office of Environmental Health Hazard Assessment. The ratio (referred to as the hazard quotient) of each noncarcinogenic substance that affects a certain organ system is added together to produce an overall hazard index for that organ system.

#### *Airborne Fungus (Valley Fever)*

Coccidioidomycosis, often referred to as San Joaquin Valley Fever or Valley Fever, is one of the most studied and oldest known fungal infections. Valley Fever most commonly affects people who live in hot dry areas with alkaline soil and varies with the season. This disease, which affects both humans and animals, is caused by inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis* (CI). CI spores are found in the top few inches of soil and the existence of the fungus in most soil areas is temporary. The cocci fungus lives as a saprophyte in dry, alkaline soil. When weather and moisture conditions are favorable, the fungus "blooms" and forms many tiny spores that lie dormant in the soil until they are stirred up by wind, vehicles, excavation, or other ground-moving activities and become airborne. Agricultural workers, construction workers, and other people who work outdoors and who are exposed to wind and dust are more likely to contract Valley Fever. Children and adults whose hobbies or sports activities expose them to wind and dust are also more likely to contract Valley Fever. After the fungal spores have settled in the lungs, they change into a multicellular structure called a spherule. Fungal growth in the lungs occurs as the spherule grows and bursts, releasing endospores, which then develop into more spherules.

The CI fungal spores are often found in the soil around rodent burrows, Indian ruins, and burial grounds. The spores become airborne when the soil is disturbed by winds, construction, farming and soil disturbing activities. This type of fungus is endemic to the southwestern United States

and more common in Kings County. The ecological factors that appear to be most conducive to the survival and replication of the fungal spores are high summer temperatures, mild winters, sparse rainfall, and alkaline, sandy soils. During drought years, the number of organisms competing with CI decreases, and the CI remains alive, but dormant. When rain finally occurs, the arthroconidia germinate and multiply more than usual because of a decreased number of other competing organisms. Later, the soil dries out in the summer and fall, and the fungi can become airborne and potentially infectious.

About 60 percent of Valley Fever cases are mild and display flu-like symptoms or no symptoms at all. Of those who are exposed and seek medical treatment, the most common symptoms include fatigue, cough, loss of appetite, rash, headache, and joint aches. In some cases, painful red bumps may develop on the skin. One important fact to mention is that these symptoms are not unique to Valley Fever and may be caused by other illnesses as well. Identifying and confirming this disease require specific laboratory tests such as: (1) microscopic identification of the fungal spherules in infected tissue, sputum or body fluid sample; (2) growing a culture of CI from a tissue specimen, sputum, or body fluid; (3) detection of antibodies (serological tests specifically for Valley Fever) against the fungus in blood serum or other body fluids; and (4) administering the Valley Fever Skin Test (called coccidioidin or spherulin), which indicate prior exposure to the fungus (Valley Fever Center for Excellence, 2017).

Valley Fever is not contagious, and therefore, cannot be passed on from person to person. Most of those who are infected would recover without treatment within six months and would have a life-long immunity to the fungal spores. In severe cases, especially in those patients with rapid and extensive primary illness, those who are at risk for dissemination of disease, and those who have disseminated disease (fungus leaves the lungs and goes to other places in the body), antifungal drug therapy is used. The type of medication used and the duration of drug therapy are determined by the severity of disease and response to the therapy. The medications used include ketoconazole, itraconazole and fluconazole in chronic, mild-to-moderate disease, and amphotericin B, given intravenously or inserted into the spinal fluid, for rapidly progressive disease.

Factors that increase your chances of getting valley fever in Kings County include the length of time living in the county, duration of time spent in dusty conditions, being caught in a dust storm, activities involving intensive contact with undisturbed soils, duration of time spent outdoors, spending time outside in June through December, being a male, aged 15 to 44, and the area of the county you live in (KCPHSD, 2017c). Residents new to the San Joaquin Valley are at a higher risk of infection due primarily to low immunity to this particular fungus. Many long-time residents

exposed to Valley Fever have recovered and therefore developed a life-long immunity to the disease.

## Regulatory Setting

### Federal Regulations

#### *Clean Air Act (CAA)*

Congress established much of the basic structure of the Clean Air Act (CAA) in 1970 and made major revisions in 1977 and 1990. Six common air pollutants (also known as criteria pollutants) are addressed in the CAA: particulate matter, ground-level ozone, carbon monoxide (CO), sulfur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>), and lead. The EPA labels these pollutants as criteria air pollutants because they are regulated by developing human health-based and/or environmentally based criteria (science-based guidelines), which sets permissible levels. The set of limits based on human health are called primary standards. Another set of limits intended to prevent environmental and property damage are called secondary standards.<sup>7</sup> The federal standards are called National Ambient Air Quality Standards (NAAQS). The air quality standards provide benchmarks for determining whether air quality is healthy at specific locations and whether development activities will cause or contribute to a violation of the standards. The criteria pollutants are:

- Ozone
- Nitrogen dioxide (NO<sub>2</sub>)
- Lead
- Particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>)
- Carbon monoxide (CO)
- Sulfur dioxide

The federal standards were set to protect public health, including that of sensitive individuals; thus, the EPA is tasked with updating the standards as more medical research is available regarding the health effects of the criteria pollutants. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to protect the public health.<sup>8</sup>

### State of California Regulations

#### *California Clean Air Act (CCAA)*

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<sup>7</sup> Ibid. Page 16.

<sup>8</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 16.

The California Legislature enacted the California Clean Air Act (CCAA) in 1988 to address air quality issues of concern not adequately addressed by the federal CAA at the time. California's air quality problems were and continue to be some of the most severe in the nation and required additional actions beyond the federal mandates. The California Air Resources Board (ARB) administers California Ambient Air Quality Standards (CAAQS) for the 10 air pollutants designated in the CCAA. The 10 state air pollutants are the six federal standards listed above as well as visibility-reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride. The EPA authorized California to adopt its own regulations for motor vehicles and other sources that are more stringent than similar federal regulations implementing the federal CAA. Generally, the planning requirements of the CCAA are less stringent than the federal CAA; therefore, consistency with the CAA will also demonstrate consistency with the CCAA.

#### *Toxic Air Contaminants (TAC)*

A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. There are no ambient air quality standards for TAC emissions. TACs are regulated in terms of health risks to individuals and populations exposed to the pollutants. The 1990 Clean Air Act Amendments significantly expanded the EPA's authority to regulate hazardous air pollutants (HAP). Section 112 of the Clean Air Act lists 187 hazardous air pollutants to be regulated by source category. Authority to regulate these pollutants was delegated to individual states. ARB and local air districts regulate TACs and HAPs in California.

#### *Air Pollutant Description and Health Effects*

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. The California Almanac of Emissions and Air Quality presents the relevant concentration and cancer risk data for the ten TACs that pose the most substantial health risk in California based on available data. The ten TACs are acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (DPM).

Some studies indicate that DPM poses the greatest health risk among the TACs listed above. A 10-year research program (ARB 1998) demonstrated that DPM from diesel-fueled engines is a

human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. In addition to increased risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause a cough, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. The federal and state ambient air quality standards, relevant effects, properties, and sources of the pollutants are summarized in Table 1 of Appendix B.

DPM differs from other TACs in that it is not a single substance, but a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies, depending on: engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TACs, however, no ambient monitoring data are available for DPM because no routine measurement method currently exists. The ARB has made preliminary concentration estimates based on a DPM exposure method. This method uses the ARB emissions inventory's PM<sub>10</sub> database, ambient PM<sub>10</sub> monitoring data, and the results from several studies to estimate concentrations of DPM.

Health risks attributable to the top 10 TACs listed above are available from the ARB as part of its California Almanac of Emissions and Air Quality—2009 Edition.<sup>9</sup> As shown therein for data collected at the First Street air monitoring station in Fresno, cancer risks attributable to all of the listed TACs above with the exception of DPM have declined about 70 percent from the mid-1990s to 2007. Risks associated with DPM emissions are provided only for the year 2000 and have not been updated in the Almanac. Although more recent editions of the Almanac do not provide estimated risk, they do provide emission inventories for DPM for later years. The 2013 Almanac provided emission inventory trends for DPM from 2000 through 2035. The same Almanac reports that DPM emissions were reduced in the Air Basin from 16 tons per day in 2000 to 11 tons per day in 2010, a 31 percent decrease. DPM emissions in the San Joaquin Valley are projected to decrease to six tons per day by 2015, a 62 percent reduction from year 2000 levels. ARB predicts a reduction to three tons per day by 2035, which would be an 81 percent reduction from year 2000

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<sup>9</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 24.

levels. Continued implementation of the ARB's Diesel Risk Reduction Plan is expected to provide continued reductions in DPM through 2020 and beyond through regulations on this source.<sup>10</sup>

Asbestos is the name given to a number of naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The three most common types of asbestos are chrysotile, amosite, and crocidolite. Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States. Exposure to asbestos is a health threat; exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest, and abdominal cavity), and asbestosis (a non-cancerous lung disease that causes scarring of the lungs). Exposure to asbestos can occur during demolition or remodeling of buildings that were constructed prior to the 1977 ban on asbestos for use in buildings. Exposure to naturally occurring asbestos can occur during soil-disturbing activities in areas with deposits present. No naturally occurring asbestos is located near the Project site.<sup>11</sup>

#### *Air Quality Plans and Regulations*

Air pollutants are regulated at the national, state, and air basin or county level, and each agency has a different level of regulatory responsibility: the EPA regulates at the national level, the ARB at the state level, and the District at the air basin level.

The EPA is responsible for national and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans, provides research and guidance for air pollution programs, and sets National Ambient Air Quality Standards—also known as the federal standards described earlier.

A State Implementation Plan (SIP) is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The SIP for the State of California is administered by the ARB, which has overall responsibility for statewide air quality maintenance and air pollution prevention. California's SIP incorporates individual federal attainment plans for regional air districts; specifically, an air district prepares their federal attainment plan, which is sent to ARB to be approved and incorporated into California's SIP. Federal attainment plans include the technical foundation for understanding air

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<sup>10</sup> Ibid. Page 24.

<sup>11</sup> Op Cit. Page 24.

quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms. The ARB then submits the SIP to the EPA for approval. After reviewing submitted SIPs, the EPA proposes to approve or disapprove all or part of each plan. The public has an opportunity to comment on the EPA's proposed action. EPA considers public input before taking final action on a state's plan. If EPA approves all or part of a SIP, those control measures are enforceable in federal court. If a state fails to submit an approvable plan or if EPA disapproves a plan, the EPA is required to develop a federal implementation plan (FIP). The SIP approval process often takes several years. The most recent federally approved attainment plans for the SJVAPCD are the 2007 8-Hour Ozone Attainment Plan and the 2012 PM<sub>2.5</sub> Plan for the 2006 PM<sub>2.5</sub> standard.

Areas designated nonattainment must develop air quality plans and regulations to achieve standards by specified dates, depending on the severity of the exceedances. For much of the country, implementation of federal motor vehicle standards and compliance with federal permitting requirements for industrial sources are adequate to attain air quality standards on schedule. For many areas of California, however, additional state and local regulation is required to achieve the standards. Regulations adopted by California are described below.

**Low-Emission Vehicle Program.** The ARB first adopted Low-Emission Vehicle (LEV) program standards in 1990. These first LEV standards ran from 1994 through 2003. LEV II regulations, running from 2004 through 2010, represent continuing progress in emission reductions. As the State's passenger vehicle fleet continues to grow and more sport utility vehicles and pickup trucks are used as passenger cars rather than work vehicles, the more stringent LEV II standards were adopted to provide reductions necessary for California to meet federally mandated clean air goals outlined in the 1994 State Implementation Plan. In 2012, ARB adopted the LEV III amendments to California's LEV regulations. These amendments, also known as the Advanced Clean Car Program, include more stringent emission standards for model years 2017 through 2025 for both criteria pollutants and greenhouse gases (GHGs) for new passenger vehicles.<sup>12</sup>

**On-Road Heavy-Duty Vehicle Program.** The ARB has adopted standards for emissions from various types of new on-road heavy-duty vehicles. Section 1956.8, Title 13, California Code of Regulations contains California's emission standards for on-road heavy-duty engines and vehicles, as well as test procedures. ARB has also adopted programs to reduce emissions from in-use heavy-duty vehicles including the Heavy-Duty Diesel Vehicle Idling Reduction Program, the

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<sup>12</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 30.

Heavy-Duty Diesel In-Use Compliance Program, the Public Bus Fleet Rule and Engine Standards, and the School Bus Program and others.

The regulation applies to nearly all privately and federally owned diesel-fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. The regulation provides a variety of flexibility options tailored to fleets operating low-use vehicles, fleets operating in selected vocations like agricultural and construction, and small fleets of three or fewer trucks.<sup>13</sup>

**ARB Truck and Bus Regulation.** The latest amendments to the Truck and Bus regulation became effective on December 31, 2014. The amended regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet PM filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent.

The regulation applies to nearly all privately and federally owned diesel-fueled trucks and buses and to privately and publicly owned school buses with a GVWR greater than 14,000 pounds. The regulation provides a variety of flexibility options tailored to fleets operating low-use vehicles, fleets operating in selected vocations like agricultural and construction, and small fleets of three or fewer trucks.<sup>14</sup>

**Advanced Clean Truck Regulation.** The Advanced Clean Trucks regulation was approved on June 25, 2020 and has two main components, a manufacturers Zero-Emission Vehicle (ZEV) sales requirement and a one-time reporting requirement for large entities and fleets. Promoting the development and use of advanced clean trucks will help CARB achieve its emission reduction strategies as outlined in the SIP, Sustainable Freight Action Plan, Senate Bill (SB) 350, and Assembly Bill (AB) 32.

The proposed regulation has two components including a manufacturer sales requirement, and a reporting requirement:

- Zero-emission truck sales: Manufacturers who certify Class 2b-8 chassis or complete vehicles with combustion engines would be required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-

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<sup>13</sup> Ibid.

<sup>14</sup> Ibid. Page 30.



emission truck/chassis sales would need to be 55% of Class 2b – 3 truck sales, 75% of Class 4 –8 straight truck sales, and 40% of truck tractor sales.

- **Company and fleet reporting:** Large employers including retailers, manufacturers, brokers and others would be required to report information about shipments and shuttle services. Fleet owners, with 50 or more trucks, would be required to report about their existing fleet operations. This information would help identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs.<sup>15</sup>

**ARB Regulation for In-Use Off-Road Diesel Vehicles.** On July 26, 2007, the ARB adopted a regulation to reduce DPM and nitrous oxide (NO<sub>x</sub>) emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. The regulation limits idling to no more than five consecutive minutes, requires reporting and labeling, and requires disclosure of the regulation upon vehicle sale. The ARB is enforcing that part of the rule with fines up to \$10,000 per day for each vehicle in violation. Performance requirements of the rule are based on a fleet’s average NO<sub>x</sub> emissions, which can be met by replacing older vehicles with newer, cleaner vehicles or by applying exhaust retrofits. The regulation was amended in 2010 to delay the original timeline of the performance requirements, making the first compliance deadline January 1, 2014 for large fleets (over 5,000 horsepower), 2017 for medium fleets (2,501–5,000 horsepower), and 2019 for small fleets (2,500 horsepower or less).

**ARB Regulation for Consumer Products.** The ARB Consumer Products Regulation was last amended in January 2015. The ARB regulates the VOC content of a wide variety of consumer products sold and manufactured in California. The purposed of the regulation is to reduce the emission of ozone precursors, TACs, and GHG emissions in products that are used by homes and businesses. The regulated products include but are not limited to solvents, adhesives, air fresheners, soaps, aromatic compounds, windshield cleaners, charcoal lighter, dry cleaning fluids, floor polishes, and general cleaners and degreasers.

**ARB Airborne Toxic Control Measure for Asbestos.** In July 2001, the ARB approved an Air Toxic Control Measure (ATCM) for construction, grading, quarrying, and surface mining operations to minimize emissions of naturally occurring asbestos. The regulation requires application of best management practices to control fugitive dust in areas known to have naturally occurring

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<sup>15</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 31.

asbestos and requires notification to the local air district prior to commencement of ground-disturbing activities. The measure establishes specific testing, notification and engineering controls prior to grading, quarrying, or surface mining in construction zones where naturally occurring asbestos is located on projects of any size. There are additional notification and engineering controls at work sites larger than 1 acre in size. These projects require the submittal of a Dust Mitigation Plan and approval by the air district prior to the start of a project.

Construction sometimes requires the demolition of existing buildings where construction occurs. The Project includes no demolition. Buildings often include materials containing asbestos. Asbestos is also found in a natural state, known as naturally occurring asbestos. Exposure and disturbance of rock and soil that naturally contain asbestos can result in the release of fibers into the air and consequent exposure to the public. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Sources of asbestos emissions include unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present.

The ARB has an ATCM for construction, grading, quarrying, and surface mining operations, requiring the implementation of mitigation measures to minimize emissions of asbestos-laden dust. The measure applies to road construction and maintenance, construction and grading operations, and quarries and surface mines when the activity occurs in an area where naturally occurring asbestos is likely to be found. Areas are subject to the regulation if they are identified on maps published by the California Department of Conservation (DOC) as ultramafic rock units or if the Air Pollution Control Officer or owner/operator has knowledge of the presence of ultramafic rock, serpentine, or naturally occurring asbestos on the site. The measure also applies if ultramafic rock, serpentine, or asbestos is discovered during any operation or activity. Review of the DOC maps indicates that no ultramafic rock has been found near the area.

**Diesel Risk Reduction Plan.** The ARB's Diesel Risk Reduction Plan has led to the adoption of state regulatory standards for all new on-road, off-road, and stationary diesel-fueled engines and vehicles to reduce DPM emissions by about 90 percent overall from year 2000 levels. The projected emission benefits associated with the full implementation of this plan, including federal

measures, are reductions in DPM emissions and associated cancer risks of 75 percent by 2010, and 85 percent by 2020.<sup>16</sup>

### San Joaquin Valley Air Pollution Control District Regulations

The San Joaquin Valley Air Pollution Control District (District or SJVACPD) is responsible for controlling emissions primarily from stationary sources. The District, in coordination with eight countywide transportation agencies, is also responsible for developing, updating, and implementing air quality plans for the SJVACPD.

#### *Ozone Plans*

The Air Basin is designated nonattainment of state and federal health-based air quality standards for ozone. To meet Clean Air Act requirements for the one-hour ozone standard, the District adopted an Extreme Ozone Attainment Demonstration Plan in 2004, with an attainment date of 2010. Although the EPA revoked the federal 1-hour ozone standard effective June 15, 2005 and replaced it with an 8-hour standard, the requirement to submit a plan for that standard remained in effect for the San Joaquin Valley.

The planning requirements for the 1-hour plan remain in effect until replaced by a federal 8-hour ozone attainment plan. On March 8, 2010, the EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan, including revisions to the plan, effective April 7, 2010. However, the Air Basin failed to attain the standard in 2010 and was subject to a \$29-million Clean Air Act penalty. The penalty is being collected through an additional \$12 motor vehicle registration surcharge for each passenger vehicle registered in the Air Basin that will be applied to pollution reduction programs in the region. The District also instituted a more robust ozone episodic program to reduce emissions on days with the potential to exceed the ozone standards. On July 18, 2016, the EPA published in the Federal Register a final action determining that the San Joaquin Valley has attained the 1-hour ozone national ambient air quality standard. This determination is based on the most recent three-year period (2012-2014) of sufficient, quality-assured, and certified data. The penalty fees remain in place pending submittal of a demonstration that the San Joaquin Valley will maintain the 1-hour standard for 10 years.<sup>17</sup>

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<sup>16</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 32.

<sup>17</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 33.

The EPA originally classified the Air Basin as serious nonattainment for the 1997 federal 8-hour ozone standard with an attainment date of 2013. On April 30, 2007, the District's Governing Board adopted the 2007 Ozone Plan, which contained analysis showing a 2013 attainment target to be infeasible. The 2007 Ozone Plan details the plan for achieving attainment on schedule with an "extreme nonattainment" deadline of 2024. At its adoption of the 2007 Ozone Plan, the District also requested a reclassification to extreme nonattainment. ARB approved the plan in June 2007, and the EPA approved the request for reclassification to extreme nonattainment on April 15, 2010.

The 2007 Ozone Plan contains measures to reduce ozone and particulate matter precursor emissions to bring the Air Basin into attainment with the federal 8-hour ozone standard. The 2007 Ozone Plan calls for a 75 percent reduction of NOX and a 25 percent reduction of reactive organic gases (ROG). Figure 4 of Appendix B displays the anticipated NOX reductions attributed in the 2007 Ozone Plan (Source: 2007 Ozone Plan). The plan, with innovative measures and a "dual path" strategy, assures expeditious attainment of the federal 8-hour ozone standard for all Air Basin residents. The District Governing Board adopted the 2007 Ozone Plan on April 30, 2007. The ARB approved the plan on June 14, 2007. The 2007 Ozone Plan requires yet to be determined "Advanced Technology" to achieve additional reductions after 2021, in order to attain the standard at all monitoring stations in the Air Basin by 2024 as allowed for areas designated extreme nonattainment by the federal Clean Air Act.

The Air Basin is designated as an extreme ozone nonattainment area for the EPA's 2008 8-hour ozone standard of 75 ppb. The District's Governing Board approved the 2016 Plan for the 2008 8-Hour Ozone Standard on June 16, 2016. The ARB approved the attainment demonstration plan for the San Joaquin Valley on July 21, 2016 and transmitted the plan to the EPA on August 24, 2016. The comprehensive strategy in this plan will reduce NO<sub>x</sub> emissions by over 60 percent between 2012 and 2031 and will bring the San Joaquin Valley into attainment of the EPA's 2008 8-hour ozone standard as expeditiously as practicable, no later than December 31, 2031. The 2016 Ozone Plan predicts attainment of the 2008 standard by 2031.<sup>18</sup> To ensure that the plan is approvable with the necessary contingencies, the plan includes a "Black Box" that will require implementation of new advanced technologies and controls prior to the 2031 deadline.

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<sup>18</sup> Ibid. Page 30.

The EPA Administrator signed the Final Rule revising the 8-hour ozone standard to 70 ppm on October 1, 2015. The new standard will require the District to prepare a new attainment to achieve the more stringent emission level within 20 years from the effective date of designation.<sup>19</sup>

State ozone standards do not have an attainment deadline but require implementation of all feasible measures to achieve attainment at the earliest date possible. This is achieved through compliance with the federal deadlines and control measure requirements.

#### *Particulate Matter Plans*

The Air Basin was designated nonattainment of state and federal health-based air quality standards for PM<sub>10</sub>. The Air Basin is also designated nonattainment of state and federal standards for PM<sub>2.5</sub>.

To meet Clean Air Act requirements for the PM<sub>10</sub> standard, the District adopted a PM<sub>10</sub> Attainment Demonstration Plan (Amended 2003 PM<sub>10</sub> Plan and 2006 PM<sub>10</sub> Plan), which has an attainment date of 2010. The District adopted the 2007 PM<sub>10</sub> Maintenance Plan in September 2007 to assure the San Joaquin Valley's continued attainment of the EPA's PM<sub>10</sub> standard. The EPA designated the Valley as an attainment/maintenance area for PM<sub>10</sub> on September 25, 2008. Although the San Joaquin Valley has exceeded the standard since then, those days were considered exceptional events that are not considered a violation of the standard for attainment purposes.

The 2008 PM<sub>2.5</sub> Plan builds upon the comprehensive strategy adopted in the 2007 Ozone Plan to bring the Air Basin into attainment of the 1997 national standards for PM<sub>2.5</sub>. The EPA has identified NO<sub>x</sub> and SO<sub>2</sub> as precursors that must be addressed in air quality plans for the 1997 PM<sub>2.5</sub> standards. The 2008 PM<sub>2.5</sub> Plan is a continuation of the District's strategy to improve the air quality in the Air Basin. The EPA issued final approval of the 2008 PM<sub>2.5</sub> Plan on November 9, 2011, which became effective on January 9, 2012. The EPA approved the emissions inventory, the reasonably available control measures/reasonably available control technology demonstration, reasonable further progress demonstration, attainment demonstration and associated air quality modeling, and the transportation conformity motor vehicle emissions budgets. The EPA also granted California's request to extend the attainment deadline for the San Joaquin Valley to April 5, 2015 and approved commitments to measures and reductions by the District and the ARB.

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<sup>19</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 34.

Finally, it disapproved the State Implementation Plan's contingency provisions and issued a protective finding for transportation conformity determinations.

In December 2012, the District adopted the 2012 PM<sub>2.5</sub> Plan to bring the San Joaquin Valley into attainment of the EPA's 2006 24-hour PM<sub>2.5</sub> standard of 35 µg/m<sup>3</sup>. The ARB approved the District's 2012 PM<sub>2.5</sub> Plan for the 2006 standard at a public hearing on January 24, 2013.<sup>20</sup> This plan seeks to bring the Valley into attainment with the standard by 2019, with the expectation that most areas will achieve attainment before that time.

The 2015 Plan for the 1997 PM<sub>2.5</sub> Standard approved by the District Governing Board on April 16, 2015—will bring the Valley into attainment of the EPA's 1997 PM<sub>2.5</sub> standard as expeditiously as practicable, but no later than December 31, 2020. The plan was required to request reclassification to Serious nonattainment and to extend the attainment date from 2018 to 2020.<sup>21</sup>

The 2016 Moderate Area Plan for the 2012 PM<sub>2.5</sub> Standard was adopted on September 15, 2016. This plan includes an attainment impracticability demonstration and request for reclassification of the Valley from Moderate nonattainment to Serious nonattainment. The 2016 PM<sub>2.5</sub> Plan is under ARB review.<sup>22</sup>

The District adopted the 2018 Plan for the 1997, 2006, and 2012 PM<sub>2.5</sub> Standards on November 15, 2018. This plan provides a combined strategy to address the EPA federal 1997 annual PM<sub>2.5</sub> standard of 15 µg/m<sup>3</sup> and 24-hour PM<sub>2.5</sub> standard of 65 µg/m<sup>3</sup>; the 2006 24-hour PM<sub>2.5</sub> standard of 35 µg/m<sup>3</sup>; and the 2012 annual PM<sub>2.5</sub> standard of 12 µg/m<sup>3</sup>. This plan demonstrates attainment of the federal PM<sub>2.5</sub> standards as expeditiously as practicable.<sup>23</sup>

### *District Rules and Regulations*

The District rules and regulations that may apply to the Project include, but are not limited to the following:

**Rule 4102—Nuisance.** The purpose of this rule is to protect the health and safety of the public and applies to any source operation that emits or may emit air contaminants or other materials. Agricultural activities are exempt from the nuisance rule.

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<sup>20</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 35.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid.

<sup>23</sup> Ibid.

**Rule 4601—Architectural Coatings.** The purpose of this rule is to limit Volatile Organic Compounds (VOC) emissions from architectural coatings. Emissions are reduced by limits on VOC content and providing requirements on coatings storage, cleanup, and labeling. Only compliant components are available for purchase in the San Joaquin Valley.

**Rule 4641—Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations.** The purpose of this rule is to limit VOC emissions from asphalt paving and maintenance operations. If asphalt paving will be used, then the paving operations will be subject to Rule 4641. This regulation is enforced on the asphalt provider.

**Rule 4901—Wood-Burning Fireplaces and Wood-Burning Heaters.** The purposes of this rule are to limit emissions of carbon monoxide and particulate matter from wood-burning fireplaces, wood-burning heaters, and outdoor wood-burning devices, and to establish a public education program to reduce wood-burning emissions. All development that includes wood-burning devices are subject to this rule.

**Rule 4902—Residential Water Heaters.** In 2009, the District amended Rule 4902 to strengthen the rule by lowering the limit to 10 nanograms per joule (ng/J) for new or replacement water heaters, and to a limit of 14 ng/J for instantaneous water heaters. Retailer compliance dates ranged from 2010 to 2012, depending on the unit type.

**Regulation VIII—Fugitive PM<sub>10</sub> Prohibitions.** This regulation is a control measure that is one main strategies from the 2006 PM<sub>10</sub> for reducing the PM<sub>10</sub> emissions that are part of fugitive dust. Projects over 10 acres are required to file a Dust Control Plan (DCP) containing dust control practices sufficient to comply with Regulation VIII. Rule 8021 regulates construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and trackout, etc. All development projects that involve soil disturbance are subject to at least one provision of the Regulation VIII series of rules.

**Rule 9510—Indirect Source Review.** This rule reduces the impact of NOX and PM<sub>10</sub> emissions from growth within the Air Basin. The rule places application and emission reduction requirements on development projects meeting applicability criteria in order to reduce emissions through on-site mitigation, off-site District-administered projects, or a combination of the two. This Project is subject to Rule 9510 because it would develop more than 50 residential dwelling units.

### Local Regulations

The City of Lemoore General Plan lists the following policies from the Conservation and Open Space chapter that are supportive of improved air quality:

### *Guiding Policies*

- COS-G-12:** Make air quality a priority in land use planning by implementing emissions reduction efforts targeting mobile sources, stationary sources and construction related sources.
- COS-G-13:** Minimize exposure to toxic air pollutant emissions and noxious odors from industrial, manufacturing and processing facilities.
- COS-G-14:** Utilize diverse and creative mitigation approaches to manage remaining levels of air pollution that cannot be reduced or avoided.

### *Implementing Policies*

- COS-I-41:** Amend the Zoning Ordinance to prohibit locating new “sensitive receptor” uses—hospitals, residential care facilities and child care facilities—within:
- 500 feet of a freeway, urban roads carrying 100,000 vehicles per day, or rural roads carrying 50,000 vehicles per day.
  - 1,000 feet of a distribution center (that accommodates more than 100 trucks a day, more than 40 trucks with operating transport refrigeration units (TRUs) a day, or where TRU operation exceeds 300 hours per week).
  - 300 feet of any dry-cleaning operation that uses toxic chemicals. For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult your local air district.
  - 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons or more per year).
- COS-I-42:** Conforming to the SJVAPCD Fugitive Dust Rule, require developers to use best management practices (BMPs) to reduce particulate emission as a condition of approval for subdivision maps, site plans and all grading permits. BMPs include:
- During clearing, grading, earth-moving or excavation operations, fugitive dust emissions shall be controlled by regular watering, paving of construction roads, or other dust-preventive measures;
  - All materials excavated or graded shall be either sufficiently watered or covered by canvas or plastic sheeting to prevent excessive amounts of dust;



- All materials transported off-site shall be either sufficiently watered or covered by canvas or plastic sheeting to prevent excessive amounts of dust;
- All motorized vehicles shall have their tires watered before exiting a construction site;
- The area disturbed by demolition, clearing, grading, earth-moving, or excavation shall be minimized at all times; and
- All construction-related equipment shall be maintained in good working order to reduce exhaust.

**COS-I-43:** Enact a wood-burning ordinance compliant with District Rule 4901 that:

- Regulates the installation of EPA-certified wood heaters or approved woodburning appliances in new developments or replacements;
- Lists permitted and prohibited fuels; and
- Describes a “No Burn” policy on days when the air quality is poor.

**COS-I-45:** Utilize more plants and trees in public area landscaping, focusing on those that are documented as more efficient pollutant absorbers.

**COS-I-46:** Establish a Clean Air Awards Program to acknowledge outstanding effort and to educate the public about the linkages between land use, transportation and air quality.

**COS-I-47:** Coordinate air quality planning efforts and CEQA review of discretionary projects with potential for causing adverse air quality impacts with other local, regional and State agencies.

*The City will work with the San Joaquin Valley Air Pollution Control District on parallel initiatives for air quality, so programs are complementary and uniform wherever possible.*

**COS-I-48:** Educate employees and department managers about sustainability with a focus on specific operational changes that can be made to reduce greenhouse gas emissions, such as fuel-efficient driving and reducing energy use at work.

**COS-I-49:** Require tenants of all new development within one mile of industrial land uses to record odor easements attesting to the presence of nearby industry and acknowledging the right of said industry to emit odors that are not a threat to human health.

The following air quality supportive policies are from the General Plan Circulation chapter:

- C-I-4:** Develop a multi-modal transit system map integrating bicycle, public transportation, pedestrian and vehicle linkages within the City to ensure circulation gaps are being met. Safe Routes to School and any necessary related improvements will also be shown on this map, and costs and priorities indicated based on need.
- C-I-5:** Use traffic calming measures to reduce speeds in existing and future residential areas. Traffic calming measures may include, but are not limited to:
- Reducing curb-to-curb pavement widths to the minimum necessary to ensure traffic flow and safety;
  - Allowing on-street parking where possible;
  - Providing generous street tree plantings and other vegetation;
  - Building corner bulb-outs and intersection roundabouts;
  - Allowing for curvilinear street design; and
  - Installing, where appropriate, specific traffic calming features, such as bulb-outs and medians.

### Public Transit

#### ***C-G-1 Guiding Policies***

- C-G-2:** Promote improved transit service and the development and use of park-and-ride facilities for commuters.

#### ***C-G-3 Implementing Actions***

- C-I-1:** Coordinate with Caltrans and Kings Area Rural Transit to identify and implement Park & Ride sites with convenient access to public transit.  
*Park & Ride areas should include secure parking for cars, motorcycles, and bicycles, and have minimal impact on neighborhoods.*
- C-I-2:** Work with Kings Area Rural Transit to situate transit stops and hubs at locations that are convenient for transit users and promote increased transit ridership through the provision of benches, bike racks on buses, and other amenities. This will include identifying existing underserved neighborhoods and new areas under development that will need transit service. The Kings County Association of Governments conducts annual transit needs public hearings where the City and the public may express their transit needs.

- C-I-3:** Work with Kings Area Rural Transit to provide accessible, well lighted and attractive bus shelters that are compatible with surrounding neighborhoods. Bus shelters should be located within landscape easement areas adjacent to the pedestrian sidewalks and incorporate features that are handicapped-friendly. They should be designated to discourage overnight sleepers and withstand vandalism. The City will work with KART on the issue of sharing responsibility on the upkeep of these shelters and incorporate them as part of its Capital Improvements Plan, if necessary.
- C-I-7:** Ensure that new development is designed to make public transit a viable choice for residents. Options include:
- Locate medium-high density development whenever feasible near streets served by public transit; and
  - Link neighborhoods to bus stops by continuous sidewalks or pedestrian paths.

Bicycles, Trails, and Pedestrian Circulation

***C-G-3 Guiding Policy***

- C-G-4:** Promote bicycling and walking as alternatives to the automobile.

***C-G-5 Implementing Actions***

- C-I-1:** Implement the Lemoore Bikeway Plan in coordination with the County’s Regional Bicycle Plan, which is updated every four years.
- C-I-2:** Establish bicycle lanes, bike routes, and bike paths consistent with the General Plan.  
*This would include establishing a new, more specific, Lemoore Bike Map.*
- C-I-3:** Increase bicycle safety by:
- Sweeping and repairing bicycle lanes and paths on a regular basis;
  - Ensuring that bikeways are delineated and signed in accordance with Caltrans’ standards, and lighting is provided, where needed;
  - Providing bicycle paths or lanes on bridges and overpasses;
  - Ensuring that all new and improved streets have bicycle-safe drainage grates and are kept free of hazards such as uneven pavement, gravel, and other debris;

- Providing adequate signage and markings warning vehicular traffic of the existence of merging or crossing bicycle traffic where bike routes and paths make transitions into or across roadways;
- Working with the Lemoore Union School districts to promote classes on bicycle safety in the schools; and
- Installing large sidewalks along arterial and median parkway streets so that children may ride safely away from traffic (e.g., Lemoore Avenue and Hanford-Armona Road).

**C-I-8:** Amend the Zoning Ordinance to include standards in all new development for pedestrian circulation including: patterned concrete sidewalks across vehicular streets, crossing signalization, bulb-outs, bicycle parking and lockers integrated with parking areas, and street lighting.

## Thresholds of Significance

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

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

While the final determination of whether a project is significant is within the purview of the lead agency pursuant to Section 15064(b) of the CEQA Guidelines, the District recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If the lead agency finds that the project has the potential to exceed these air pollution thresholds, the project should be considered to have significant air quality impacts. The applicable District thresholds and methodologies are contained under each impact analysis below.

## Impacts and Mitigation Measures

**Impact 3.2-1:** *Would the project conflict with or obstruct implementation of the applicable air quality plan?*

**Less Than Significant Impact.** The CEQA Guidelines indicate that a significant impact would occur if the Project would conflict with or obstruct implementation of the applicable air quality plan. The GAMAQI indicates that projects that do not exceed District regional criteria pollutant emissions quantitative thresholds would not conflict with or obstruct the applicable air quality plan (AQP). An additional criterion regarding the Project's implementation of control measures was assessed to provide further evidence of the Project's consistency with current AQPs. This document proposes the following criteria for determining Project consistency with the current AQPs:

1. Will the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQPs? This measure is determined by comparison to the regional and localized thresholds identified by the District for Regional and Local Air Pollutants.
2. Will the project comply with applicable control measures in the AQPs? The primary control measures applicable to development projects is Regulation VIII—Fugitive PM10 Prohibitions and Rule 9510 Indirect Source Review.

### Contribution to Air Quality Violations

A measure for determining if the Project is consistent with the air quality plans is if the Project would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the air quality plans. Regional air quality impacts and attainment of standards are the result of the cumulative impacts of all emission sources within the air basin. Individual projects are generally not large enough to contribute measurably to an existing violation of air quality standards. Therefore, the cumulative impact of the Project is based on its cumulative contribution. Because of the region's nonattainment status for ozone, PM2.5, and PM10—if project-generated emissions of either of the ozone precursor pollutants (ROG and NOX), PM10, or PM2.5 would exceed the District's significance thresholds—then the Project would be considered to contribute to violations of the applicable standards and conflict with the attainment plans.

As discussed in Impact 3.2-2 below, emissions of ROG, NOX, PM10, and PM2.5 associated with the construction and operation of the Project would not exceed the District's significance thresholds. As shown in Impact 3.2-2, the Project would not result in CO hotspots that would violate CO standards. Therefore, the Project would not contribute to air quality violations.

### **Compliance with Applicable Control Measures**

The AQP contains a number of control measures, which are enforceable requirements through the adoption of rules and regulations. A description of rules and regulations that apply to this Project is provided below.

**SJVAPCD Rule 9510—Indirect Source Review (ISR)** is a control measure in the 2006 PM10 Plan that requires NOX and PM10 emission reductions from development projects in the San Joaquin Valley. The NOX emission reductions help reduce the secondary formation of PM10 in the atmosphere (primarily ammonium nitrate and ammonium sulfate) and also reduce the formation of ozone. Reductions in directly emitted PM10 reduce particles such as dust, soot, and aerosols. Rule 9510 is also a control measure in the 2016 Plan for the 2008 8-Hour Ozone Standard. Developers of projects subject to Rule 9510 must reduce emissions occurring during construction and operational phases through on-site measures or pay off-site mitigation fees. The Project is required to comply with Rule 9510.

**Regulation VIII—Fugitive PM10 Prohibitions** is a control measure that is one of the main strategies from the 2006 PM10 for reducing the PM10 emissions that are part of fugitive dust. Residential projects over 10 acres are required to file a Dust Control Plan (DCP) containing dust control practices sufficient to comply with Regulation VIII. The Project is required to prepare a DCP to comply with Regulation VIII.

Other control measures that apply to the Project are Rule 4641—Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operation that requires reductions in VOC emissions during paving and Rule 4601—Architectural Coatings that limits the VOC content of all types of paints and coatings sold in the San Joaquin Valley. These measures apply at the point of sale of the asphalt and the coatings, so Project compliance is ensured without additional mitigation measures.

The Project would comply with all applicable SJVAPCD rules and regulations. Therefore, the Project meets this criterion.

Although the Project requires a General Plan Amendment, the City of Lemoore 2030 General Plan includes policies that will help further reduce Project impacts. The applicable measures are listed in Table 3.2-5.

**Table 3.2-5: Consistency with Lemoore 2030 General Plan<sup>24</sup>**

General Plan Policy	Project Consistency
<p><b>COS-I-42</b> Conforming to the SJVAPCD Fugitive Dust Rule, require developers to use best management practices (BMPs) to reduce particulate emission as a condition of approval for subdivision maps, site plans and all grading permits. BMPs include:</p> <ul style="list-style-type: none"> <li>• During clearing, grading, earth-moving or excavation operations, fugitive dust emissions shall be controlled by regular watering, paving of construction roads, or other dust-preventive measures;</li> <li>• All materials excavated or graded shall be either sufficiently watered or covered by canvas or plastic sheeting to prevent excessive amounts of dust;</li> <li>• All materials transported off-site shall be either sufficiently watered or covered by canvas or plastic sheeting to prevent excessive amounts of dust;</li> <li>• All motorized vehicles shall have their tires watered before exiting a construction site;</li> <li>• The area disturbed by demolition, clearing, grading, earth-moving, or excavation shall be minimized at all times; and</li> <li>• All construction-related equipment shall be maintained in good working order to reduce exhaust.</li> </ul>	<p><b>Consistent.</b> All individual projects with the Lacey Area Master Plan are required to submit Dust Control Plans to the SJVAPCD containing BMPs appropriate to the project prior to commencing grading activities. This measure is enforced by the SJVAPCD.</p>
<p><b>COS-I-43</b> Enact a wood-burning ordinance compliant with District Rule 4901 that:</p> <ul style="list-style-type: none"> <li>• Regulates the installation of EPA-certified wood heaters or approved woodburning appliances in new developments or replacements;</li> </ul>	<p><b>Consistent.</b> All residential developments will use natural gas fireplaces or have no fireplaces. Under Rule 4901, two woodburning devices can be installed per acre.</p>

<sup>24</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 75.

General Plan Policy	Project Consistency
<ul style="list-style-type: none"> <li>• Lists permitted and prohibited fuels; and Describes a “No Burn” policy on days when the air quality is poor.</li> </ul>	
<p><b>COS-I-45</b> Utilize more plants and trees in public area landscaping, focusing on those that are documented as more efficient pollutant absorbers.</p>	<p><b>Consistent.</b> The project will install trees consistent with the City of Lemoore Landscaping Requirements.</p>
<p><b>C-I-5</b> Use traffic calming measures to reduce speeds in existing and future residential areas. Traffic calming measures may include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• Reducing curb-to-curb pavement widths to the minimum necessary to ensure traffic flow and safety;</li> <li>• Allowing on-street parking where possible;</li> <li>• Providing generous street tree plantings and other vegetation;</li> <li>• Building corner bulb-outs and intersection roundabouts;</li> <li>• Allowing for curvilinear street design; and</li> <li>• Installing, where appropriate, specific traffic calming features, such as bulb-outs and medians.</li> </ul>	<p><b>Consistent.</b> Streets included in the project area must comply with Safe Streets requirements.</p>
<p><b>C-I-7</b> Ensure that new development is designed to make public transit a viable choice for residents. Options include:</p> <ul style="list-style-type: none"> <li>• Locate medium-high density development whenever feasible near streets served by public transit; and</li> <li>• Link neighborhoods to bus stops by continuous sidewalks or pedestrian paths.</li> </ul>	<p><b>Consistent.</b> The multi-family development projects will be located in the areas likely to be served by transit when service is extended in the future. The project will include sidewalks and pedestrian paths that connect to larger roads that are the likely location of future bus stops.</p>
<p><b>C-I-2</b> Establish bicycle lanes, bike routes, and bike paths consistent with the General Plan.  <b>C-I-3</b> Increase bicycle safety by:</p> <ul style="list-style-type: none"> <li>• Sweeping and repairing bicycle lanes and paths on a regular basis;</li> <li>• Ensuring that bikeways are delineated and signed in accordance with Caltrans' standards, and lighting is provided, where needed;</li> <li>• Providing bicycle paths or lanes on bridges and overpasses;</li> <li>• Ensuring that all new and improved streets have bicycle-safe drainage grates and are kept free of hazards such as uneven pavement, gravel, and other debris;</li> <li>• Providing adequate signage and markings warning vehicular traffic of the</li> </ul>	<p><b>Consistent.</b> Arterials and collectors extended to serve the project will include bike lanes when the roads are constructed to their ultimate width. Road improvements will be constructed to City of Lemoore standards.</p>



General Plan Policy	Project Consistency
existence of merging or crossing bicycle traffic where bike routes and paths make transitions into or across roadways; <ul style="list-style-type: none"> <li>• Working with the Lemoore Union School districts to promote classes on bicycle safety in the schools; and</li> <li>• Installing large sidewalks along arterial and median parkway streets so that children may ride safely away from traffic (e.g., Lemoore Avenue and Hanford-Armona Road)</li> </ul>	

The Project is consistent with General Plan policies related to air quality. Therefore, the Project complies with this criterion and would not conflict with or obstruct implementation of the applicable air quality attainment plan.

The Project’s emissions are less than significant for all criteria pollutants and would not result in inconsistency with the AQP for this criterion. The Project complies with applicable control measures of the AQP. Therefore, the Project is consistent with the AQP, and the impact would be *less than significant*. In addition, the project is consistent with City of Lemoore General Plan policies related to air quality that will help further the goals of the AQP.

**Mitigation Measures:**

None are required.

**Impact 3.2-2:** *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

**Less Than Significant Impact.** To result in a less than significant impact, the following criteria must be true:

1. Regional analysis: emissions of nonattainment pollutants must be below the District’s regional significance thresholds. This is an approach recommended by the District in its GAMAQI.
2. Summary of projections: the project must be consistent with current air quality attainment plans including control measures and regulations. This is an approach consistent with Section 15130(b) of the CEQA Guidelines.

3. Cumulative health impacts: the project must result in less than significant cumulative health effects from the nonattainment pollutants. This approach correlates the significance of the regional analysis with health effects, consistent with the court decision, *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4<sup>th</sup> 1184, 1219-20.

### Regional Emissions

Air pollutant emissions have both regional and localized effects. This analysis assesses the regional effects of the Project's criteria pollutant emissions in comparison to SJVAPCD thresholds of significance for short-term construction activities and long-term operation of the Project. Localized emissions from Project construction and operation are assessed under Impact 3.2-3— Sensitive Receptors using concentration-based thresholds that determine if the Project would result in a localized exceedance of any ambient air quality standards or would make a cumulatively considerable contribution to an existing exceedance.

The primary pollutants of concern during Project construction and operation are ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. The District GAMAQI adopted in 2015 contains thresholds for CO, NO<sub>x</sub>, ROG, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>.

Ozone is a secondary pollutant that can be formed miles from the source of emissions, through reactions of ROG and NO<sub>x</sub> emissions in the presence of sunlight. Therefore, ROG and NO<sub>x</sub> are termed ozone precursors. The Air Basin often exceeds the state and national ozone standards. Therefore, if the Project emits a substantial quantity of ozone precursors, the Project may contribute to an exceedance of the ozone standard. The Air Basin also exceeds air quality standards for PM<sub>10</sub>, and PM<sub>2.5</sub>; therefore, substantial Project emissions may contribute to an exceedance for these pollutants. The District's annual emission significance thresholds used for the Project define the substantial contribution for both operational and construction emissions as follows:

- 100 tons per year CO
- 10 tons per year NO<sub>x</sub>
- 10 tons per year ROG
- 27 tons per year SO<sub>x</sub>
- 15 tons per year PM<sub>10</sub>
- 15 tons per year PM<sub>2.5</sub>

The proposed Project does not contain sources that would produce substantial quantities of SO<sub>2</sub> emissions during construction and operation. Modeling conducted for the Project show that SO<sub>2</sub> emissions are well below the District GAMAQI thresholds, as shown in the modeling results contained in Appendix B. No further analysis of SO<sub>2</sub> is required.

### Construction Emissions

Construction emissions were modeled using the CalEEMod version 2016.3.2. The results of the modeling are presented in Table 3.2-6. The highest emissions that would occur in any year of construction activity were compared with the significance threshold. The emissions reflect compliance with SJVAPCD regulations that apply to construction activities. For assumptions in estimating the emissions, please refer to Section 4, Modeling Parameters and Assumptions. As shown in Table 3.2-6, the emissions are below the significance thresholds in each construction year. Therefore, the emissions are *less than significant* on a Project basis.

**Table 3.2-6: Construction Air Pollutant Emissions Summary<sup>25</sup>**

Year	Emissions (tons per year)				
	ROG	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
Phase 1 2022	0.37	3.43	3.03	0.53	0.30
Phase 1 2023	0.28	2.21	2.64	0.27	0.14
Phase 1 2024	0.26	2.10	2.61	0.26	0.13
Phase 1 2025	1.60	0.74	1.09	0.08	0.04
Phase 2 2026	0.32	2.89	2.96	0.56	0.27
Phase 2 2027	0.28	2.42	2.77	0.38	0.15
Phase 2 2028	0.28	2.40	2.72	0.38	0.15
Phase 2 2029	1.26	0.85	1.13	0.12	0.05
Phase 3 2030	0.24	1.33	2.35	0.25	0.12
Phase 3 2031	0.19	1.17	2.21	0.08	0.04
Phase 3 2032	0.97	0.33	0.68	0.02	0.01
Phase 4 2034	0.27	1.44	2.44	0.36	0.18
Phase 4 2035	0.18	1.11	2.22	0.09	0.03
Phase 4 2036	0.18	1.11	0.22	0.09	0.03
Phase 4 2037	1.34	0.42	1.02	0.03	0.02
<b>Total for All Years of Construction</b>	<b>8.01</b>	<b>23.96</b>	<b>30.10</b>	<b>3.52</b>	<b>1.66</b>
<b>Highest Construction Emissions in Any Year</b>	<b>1.34</b>	<b>3.43</b>	<b>3.03</b>	<b>0.56</b>	<b>0.30</b>
Significance threshold (tons/year)	10	10	100	15	15
Exceed threshold—significant impact?	No	No	No	No	No
Notes:					

<sup>25</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 84.

PM<sub>10</sub> and PM<sub>2.5</sub> emissions are from the mitigated output to reflect compliance with Regulation VIII—Fugitive PM<sub>10</sub> Prohibitions.  
 ROG = reactive organic gases NO<sub>x</sub> = nitrogen oxides PM<sub>10</sub> and PM<sub>2.5</sub> = particulate matter  
 Calculations use unrounded numbers.  
 Source: CalEEMod output (Appendix B).

### Operational Emissions

Operational emissions occur over the lifetime of the proposed Project and are from two main sources: area sources and motor vehicles, or mobile sources. First occupancy expected in late 2022. Project buildout is expected to occur in approximately 16 years. The apartments and the park are included in Phase 1 and Phase 2. Phase 3 and Phase 4 are only single-family residential. The SJVAPCD considers construction and operational emissions separately when making significance determinations. For assumptions in estimating the emissions, please refer to Section 4 of Appendix B, Modeling Parameters and Assumptions. The emissions modeling results for Project operation are summarized in Table 3.2-7.

As shown in Table 3.2-7, the emissions are below the SJVAPCD significance thresholds prior to application of mitigation measures. The Project emissions include credit for compliance with regulations and Project design features that would reduce Project emissions. The results are presented for the total with each phase modeled separately and at buildout using a single model run for 2038. The emissions in both cases would result in a *less than significant impact*.

**Table 3.2-7: Operational Air Pollutant Emissions<sup>26</sup>**

Phase and Year	Emissions (tons per year)				
	ROG	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
Phase 1 2022	2.40	2.87	10.39	1.29	0.65
Phase 2 2026	1.68	1.54	5.90	1.65	0.47
Phase 3 2030	1.23	0.95	3.48	1.20	0.34
Phase 4 2034	1.63	1.22	4.10	1.65	0.47
<b>Total Project Emissions All Phases</b>	<b>6.94</b>	<b>6.57</b>	<b>23.87</b>	<b>5.79</b>	<b>1.93</b>
<b>Total Project Emissions Buildout 2038</b>	<b>6.33</b>	<b>5.28</b>	<b>16.94</b>	<b>6.86</b>	<b>1.94</b>
Significance threshold	10	10	100	15	15
Exceed threshold—significant impact?	No	No	No	No	No

<sup>26</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 86.

**Notes:**

ROG = reactive organic gases NO<sub>x</sub> = nitrogen oxides PM<sub>10</sub> and PM<sub>2.5</sub> = particulate matter  
 Area source emissions include emissions from natural gas, landscape, and painting.  
 Source: CalEEMod output (Appendix B).

**Step 2: Plan Approach**

Section 15130(b) of the CEQA Guidelines states the following:

The following elements are necessary to an adequate discussion of significant cumulative impacts: 1) Either: (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.

In accordance with CEQA Guidelines 15130(b), this analysis of cumulative impacts is based on a summary of projections analysis. The District attainment plans are based on a summary of projections that accounts for projected growth throughout the Air Basin, and the controls needed to achieve ambient air quality standards. This analysis considers the current CEQA Guidelines, which includes the amendments approved by the Natural Resources Agency, effective on December 28, 2018. The Air Basin is in nonattainment or maintenance status for ozone and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), which means that concentrations of those pollutants currently exceed the ambient air quality standards for those pollutants, or that the standards have recently been attained in the case of pollutants with maintenance status. When concentrations of ozone, PM<sub>10</sub>, or PM<sub>2.5</sub> exceed the ambient air quality standard, then those sensitive to air pollution (such as children, the elderly, and the infirm) could experience health effects such as: decrease of pulmonary function and localized lung edema in humans and animals; increased mortality risk; and risk to public health, implied by altered connective tissue metabolism, altered pulmonary morphology in animals after long-term exposures, and pulmonary function decrements in chronically exposed humans. See Section 2.3—Existing Air Quality Conditions for additional correlation of the health impacts with the existing pollutant concentrations experienced in the Lemoore area.

Under the CEQA Guidelines, cumulative impacts may be analyzed using other plans that evaluate relevant cumulative effects. The geographic scope for cumulative criteria pollution from air quality impacts is the Air Basin because that is the area in which the air pollutants generated by the sources within the Air Basin circulate and are often trapped. The SJVAPCD is required to

prepare and maintain air quality attainment plans and a State Implementation Plan to document the strategies and measures to be undertaken to reach attainment of ambient air quality standards. While the SJVAPCD does not have authority over land use decisions, it is recognized that changes in land use and circulation planning would help the Air Basin achieve clean air mandates. The District evaluated emissions from land uses and transportation in the entire Air Basin when it developed its attainment plans. Emission inventories used to predict attainment of NAAQS must be based on the latest planning assumptions for mobile sources.

In accordance with CEQA Guidelines Section 15064, subdivision (h)(3), a lead agency may determine that a Project's incremental contribution to a cumulative effect is not cumulatively considerable if the Project complies with the requirements in a previously approved plan or mitigation program.

The history and development of the SJVAPCD's current Ozone Attainment Plan is described in Appendix B. The 2007 8-Hour Ozone Plan contains measures to achieve reductions in emissions of ozone precursors and sets plans towards attainment of ambient ozone standards by 2023. The 2012 PM2.5 Plan and the 2015 PM2.5 Plan for the 1997 PM2.5 Standard require fewer NOX reductions to attain the PM2.5 standard than the Ozone Plan, so the Ozone Plan is considered the applicable plan for reductions of the ozone precursors NOX and ROG. The 2012 PM2.5 Plan requires reductions in directly emitted PM2.5 from combustion sources, such as diesel engines and fireplaces, and from fugitive dust to attain the ambient standard and is the applicable plan for PM2.5 emissions. PM2.5 is also formed in secondary reactions in the atmosphere involving NOX and ammonia to form nitrate particles. Reductions in NOX required for ozone attainment are also sufficient for PM2.5 attainment. As discussed in Impact 3.2-1, the Project is consistent with all applicable control measures in the air quality attainment plans. The Project would comply with any District rules and regulations that may pertain to implementation of the AQPs. Therefore, impacts would be *less than significant* with regard to compliance with applicable rules and regulations.

This Project does not exceed SJVAPCD thresholds and will reduce its cumulative impact through compliance with Rule 9510; therefore, the Project is considered *less than significant* for this criterion.

### **Project Health Impacts**

In the 5th District Court of Appeal case *Sierra Club v. County of Fresno (Friant Ranch, L.P.)*, the Court found the Project EIR deficient because it did not identify specific health-related effects resulting from the estimated amount of pollutants generated by the project. The ruling stated that

the EIR should give a “sense of the nature and magnitude of the ‘health and safety problems’ caused by a project’s air pollution. The EIR should translate the emission numbers into adverse impacts or to understand why such translation is not possible at this time (and what limited translation is, in fact, possible).”

The standard measure of the severity of impact is the concentration of pollutant in the atmosphere compared to the ambient air quality standard for the pollutant for a specified period of time. The severity of the impact increases with the concentration and the amount of time that people are exposed to the pollutant. The change in health impacts with concentration is described in Table 3 and Table 4 of Appendix B using the EPA’s Air Quality Index. The pollutants of concern in the Friant Ranch ruling were regional criteria pollutants ozone, and PM10. It is important to note that the potential for localized impacts can be addressed through dispersion modeling. The SJVAPCD includes screening criteria that if exceeded would require dispersion modeling to determine if Project emissions would result in a significant health impact. For this Project, no significant localized health impacts would occur. Regional pollutants require more complex modeling as described below.

Ozone concentrations are estimated using regional photochemical models because ozone formation is subject to temperature, inversion strength, sunlight, emissions transport over long distances, dispersion, and the regional nature of the precursor emissions. The emissions from individual projects are too small to produce a measurable change in ozone concentrations—it is the cumulative contribution of emissions from existing and new development that is accounted for in the photochemical model. Ozone concentrations vary widely throughout the day and year even with the same amount of daily emissions. The SJVAPCD indicated in an Amicus Brief on Friant Ranch that running the photochemical model with just Friant Ranch emissions (109.5 tons/year NOX) is not likely to yield valid information given the relative scale involved. A copy of the SJVAPCD brief is included in Appendix B. The NOX inventory for the San Joaquin Valley is 224 tons per day in 2019 or 81,760 tons per year. Friant Ranch would result in 0.13 percent increase in NOX emissions. A project emitting at the SJVAPCD CEQA threshold of 10 tons per year would result in a 0.01 percent increase in NOX emissions. Most project emissions are generated by motor vehicle travel distributed on regional roadways miles from the project site, and these emissions are not conducive to project-level concentration-based modeling.

Emissions throughout the San Joaquin Valley are projected to markedly decline in the coming decade. The SJVAPCD 2016 Ozone Plan predicts NOX emissions will decline to 103 tons per day by 2029 or 54 percent from 2019 levels through implementation of control measures included in the plan. This means that ozone health impacts to residents of the San Joaquin Valley will be

lower than currently experienced and most areas of the San Joaquin Valley will have attained ozone air quality standards. The plan accounts for growth in population at rates projected by the State of California for the San Joaquin Valley, so only cumulative projects that would exceed regional growth projections would potentially delay attainment and prolong the time and the number of people would experience health impacts. It is unlikely that anyone would experience greater impacts from regional emissions than currently occur. The federal transportation conformity regulation provides a means of ensuring growth in emissions does not exceed emission budgets for each County. Regional Transportation Plans and Regional Transportation Improvement Plans must provide a conformity analysis based on the latest planning assumptions that demonstrates that budgets will not be exceeded. If budgets are exceeded, the San Joaquin Valley may be subject to Clean Air Act sanctions until the deficiency is addressed.

Particulate emission impacts can be localized and regional. Particulates can be directly emitted and can be formed in the atmosphere with chemical reactions. Small directly emitted particles such as diesel emissions and other combustion emissions can remain in the atmosphere for a long time and can be transported over long distances. Large particles such as fugitive dust tend to be deposited a short distance from where emitted but can also travel long distances during periods of high winds. Particulates can be washed out of the atmosphere by rain and deposited on surfaces. Secondary particulates formed in the atmosphere such as ammonium nitrate require NOX and ammonia, and they require low inversion levels and certain ranges of temperature and humidity to result in substantial concentrations. These complications make modeling Project particulate emissions to determine concentration feasible only for directly emitted particles at receptor locations close to the Project site. Regional particulate concentrations are modeled using a gridded inventory (emissions in tons/day are placed a 4-kilometer, three-dimensional grid to spatially allocate the emissions geographically and vertically in the atmosphere) and an atmospheric chemistry component to simulate the chemical reactions. The model uses relative reduction factors to determine the amount of reductions of each PM component will be needed to attain the air quality standards on the days with the conditions most favorable to high particulate concentrations. A small project would not produce sufficient emissions to determine a project's individual contribution to the particulate concentration.

### **Step 3: Cumulative Health Impacts**

The Air Basin is in nonattainment for ozone, PM10 (State only), and PM2.5, which means that the background levels of those pollutants are at times higher than the ambient air quality standards. The air quality standards were set to protect public health, including the health of sensitive individuals (such as children, the elderly, and the infirm). Therefore, when the concentration of



those pollutants exceeds the standard, it is likely that some sensitive individuals in the population would experience health effects that were described in Table 3.2-1. However, the health effects are a factor of the dose-response curve. Concentration of the pollutant in the air (dose), the length of time exposed, and the response of the individual are factors involved in the severity and nature of health impacts. If a significant health impact results from project emissions, it does not mean that 100 percent of the population would experience health effects. Table 3.2-2, Table 3.2-3, and Table 3.2-4 relate the pollutant concentration experienced by residents using air quality data for the nearest air monitoring station to the health impacts ascribed to those concentrations by the EPA Air Quality Index. This provides a more detailed look at the actual impacts currently experienced by area residents.

Since the Air Basin is nonattainment for ozone, PM10, and PM2.5, it is considered to have an existing significant cumulative health impact without the Project. When this occurs, the analysis considers whether the Project's contribution to the existing violation of air quality standards is cumulatively considerable. The SJVAPCD regional thresholds for NOX, VOC, PM10, or PM2.5 are applied as cumulative contribution thresholds. Projects that exceed the regional thresholds would have a cumulatively considerable health impact. As shown in Table 3.2-6 and Table 3.2-7, the regional analysis of construction and operational emissions indicates that the Project would not exceed the SJVAPCD's significance thresholds and the Project is consistent with the applicable Air Quality Plan.

The SJVAPCD Air Quality Attainment Plans predict that nonattainment pollutant emissions will continue to decline each year as regulations adopted to reduce these emissions are implemented, accounting for growth projected for the region. Therefore, the cumulative health impact will also decline even with the Project's emission contribution. The impact would be *less than significant*.

### **Mitigation Measures**

None are required.

**Impact 3.2-3:** *Would the project expose sensitive receptors to substantial pollutant concentrations?*

**Less Than Significant Impact.** Those who are sensitive to air pollution include children, the elderly, and persons with pre-existing respiratory or cardiovascular illness. The District considers a sensitive receptor a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools. The closest off-site

sensitive receptors are existing residences located adjacent to the Project site to the north, east, south, and west. As a residential land use development Project, proposed residences included as part of the Project would be considered sensitive receptors once occupied.

### **Off-site Sensitive Receptors**

Impacts to receptors located outside the Project boundaries would occur primarily during Project construction. Construction emissions commencing with the year 2022 and continue until Project buildout. Construction activities are expected to occur over multiple years as the subdivision is gradually built out; however, most emissions are expected to occur during the initial site preparation and grading activities and to a lesser extent during ground-up construction. For criteria pollutants, impacts to receptors located outside of the Project are based on emissions during the highest emissions during any construction year. As shown in Table 3.2-8 and Table 3.2-9, emissions generated from construction and operation of the Project are less than SJVAPCD screening criteria. Therefore, this impact would be *less than significant*.

### **On-site Sensitive Receptors**

The Project is not a significant source of TAC emissions. Construction activities produce short-term emissions that would not contribute substantially to cancer risk, which is estimated on a 70-year exposure period.

### **Construction: ROG**

Reactive Organic Gases (ROG) is emitted during the application of architectural coatings (painting). The amount emitted is dependent on the amount of ROG (or VOC) in the paint. ROG emissions are typically an indoor air quality health hazard concern rather than an outdoor air quality health hazard concern. Therefore, exposure to ROG during architectural coatings is a less than significant health impact.

There are three types of asphalt that are typically used in paving: asphalt cements, cutback asphalts, and emulsified asphalts. However, SJVAPCD Rule 4641 prohibits the use of the following types of asphalt: rapid cure cutback asphalt; medium cure cutback asphalt; slow cure asphalt that contains more than one-half (0.5) percent of organic compounds that evaporate at 500 degrees Fahrenheit (°F) or lower; and emulsified asphalt containing organic compounds, in excess of 3 percent by volume, that evaporate at 500°F or lower. An exception to this is medium cure asphalt when the National Weather Service official forecast of the high temperature for the 24-hour period following application is below 50°F.

The acute (short-term) health effects from worker direct exposure to asphalt fumes include irritation of the eyes, nose, and throat. Other effects include respiratory tract symptoms and pulmonary function changes. The studies were based on occupational exposure of fumes. Residents are not in the immediate vicinity of the fumes; therefore, they would not be subjected to concentrations high enough to evoke a negative response. In addition, the restrictions that are placed on asphalt in the San Joaquin Valley reduce ROG emissions from asphalt and exposure. The impact to nearby sensitive receptors from ROG during construction would be *less than significant*.

### **Localized Pollutant Screening Analysis**

Emissions occurring at or near the Project have the potential to create a localized impact, also referred to as an air pollutant hotspot. Localized emissions are considered significant if, when combined with background emissions, they would result in exceedance of any health-based air quality standard. The impact from localized pollutants is based on the impact to the nearest sensitive receptor.

The SJVAPCD's GAMAQI includes screening thresholds for identifying projects that need detailed analysis for localized impacts. Projects with on-site emission increases from construction activities or operational activities that exceed the 100 pounds per day screening level of any criteria pollutant after compliance with Rule 9510 and implementation of all enforceable mitigation measures would require preparation of an ambient air quality analysis. The criteria pollutants of concern for localized impact in the SJVAB are PM10, PM2.5, NOX, and CO. There is no localized emission standard for ROG and most types of ROG are not toxic and have no health-based standard; however, ROG was included for informational purposes only.

### **Maximum Daily Construction Emissions**

The highest daily emissions occur during Project grading activities except for ROG emissions, which are highest during application of architectural coatings during each phase. The results of the construction screening analysis are presented in Table 3.2-8. The Project would not exceed SJVAPCD thresholds for localized criteria pollutant emissions; therefore, this impact is considered *less than significant*.

**Table 3.2-8: Maximum Daily Air Pollutant Emissions during Construction<sup>27</sup>**

Maximum Daily Emissions by Phase	Emissions (pounds per day)				
	ROG	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
Phase 1	55.00	38.89	29.66	9.89	5.99
Phase 2	42.35	27.98	26.78	9.37	5.51
Phase 3	52.44	13.87	23.36	8.72	4.95
Phase 4	45.93	13.86	23.29	8.71	4.95
<b>Highest Emissions in Any Year</b>	<b>55.00</b>	<b>38.89</b>	<b>29.66</b>	<b>9.89</b>	<b>5.99</b>
Screening Thresholds	100	100	100	100	100
Exceeds Threshold (Yes or No)	No	No	No	No	No
Notes: NO <sub>x</sub> = nitrogen oxides      CO = carbon monoxide      PM <sub>10</sub> and PM <sub>2.5</sub> = particulate matter N/A = Not applicable Emissions shown are from the summer model output except for NO <sub>x</sub> , which is higher during the winter. There is no ambient air quality standard for ROG. Source: CalEEMod output (Appendix B).					

### Maximum Daily Operational Emissions

An analysis of maximum daily emissions during operation was conducted to determine if emissions would exceed 100 pounds per day for any pollutant of concern. The maximum daily operational emissions would occur at Project buildout, which is assumed to occur by 2038. Operational emissions include emissions generated on-site by area sources such as natural gas combustion and landscape maintenance, and off-site by motor vehicles accessing the Project. Most motor vehicle emissions would occur distant from the site and would not contribute to a violation of ambient air quality standards; therefore, only emissions from vehicles operating within 0.5 mile of the site were included in the assessment. The results of the screening analysis are presented in Table 3.2-9.

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<sup>27</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 92.

**Table 3.2-9: Maximum Daily Air Pollutant Emissions during Operations<sup>28</sup>**

Maximum Daily Emissions per Source Category	Emissions (pounds per day)				
	ROG	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
Area	30.76	7.56	64.66	0.90	0.90
Energy	0.48	4.08	1.74	0.33	0.33
Mobile	0.47	1.64	4.92	2.73	0.74
<b>Total</b>	<b>31.70</b>	<b>13.29</b>	<b>71.31</b>	<b>3.96</b>	<b>1.96</b>
Screening threshold	100	100	100	100	100
Exceed screening threshold?	No	No	No	No	No
Notes: NO <sub>x</sub> = nitrogen oxides      CO = carbon monoxide      PM <sub>10</sub> and PM <sub>2.5</sub> = particulate matter N/A = Not applicable Emissions shown are from the summer model output. There is no ambient air quality standard for ROG. Source: CalEEMod output (Appendix B).					

The Project would not exceed SJVAPCD screening thresholds for localized operational criteria pollutant impacts; therefore, the Project's localized criteria pollutant impacts would be *less than significant*.

#### **Operation: ROG**

During operation, ROG would be emitted primarily from motor vehicles. Direct exposure to ROG from Project motor vehicles would not result in health effects, because the ROG would be distributed across miles and miles of roadway and in the air. The concentrations would not be great enough to result in direct health effects.

#### **Operation: PM10, PM2.5, CO, NO2**

As shown in Table 3.2-9, localized emissions of PM10, PM2.5, CO, and NO2 would not exceed the SJVAPCD screening thresholds at full Project buildout. Residential development is an insignificant source of these pollutants, except for projects that allow woodburning devices that emit PM10, PM2.5 in wood smoke. The Project will include only natural gas-fueled fireplaces and inserts that are insignificant sources of PM2.5 and PM10. Therefore, the Project would not expose sensitive receptors to substantial criteria air pollutant concentrations during operation.

<sup>28</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 98.

### **Carbon Monoxide Hot Spot Analysis**

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

Construction of the Project would result in minor increases in traffic for the surrounding road network for the duration of construction. Motor vehicles accessing the site when it becomes operational would result in a minor increase in daily trips that would not substantially reduce the LOS on roads serving the site. The highest background 8-hour average CO concentration during the latest year it was monitored is 2.06 ppm, which is 78 percent lower than the CAAQS of 9.0 ppm or the NAAQS of 9 ppm.

The SJVAPCD screening threshold for CO impacts is triggered when LOS on one or more streets or at one or more intersections in the Project vicinity will be reduced to LOS E or F, or the Project will substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the Project vicinity. No intersections in the vicinity of the Project vicinity currently have an LOS of E or F and the Project traffic study indicates that no intersections would operate at LOS E or F with the construction of intersection improvements required of the Project. CO emissions are predicted to continue to decline as old vehicles are retired and cleaner new motor vehicles take their place. Therefore, no CO hotspot modeling is required for the Project.

### **Construction: Toxic Air Contaminants**

Project construction would involve the use of diesel-fueled vehicles and equipment that emit DPM, which is considered a TAC. The SJVAPCD's latest threshold of significance for TAC emissions is an increase in cancer risk for the maximally exposed individual of 20 in a million (formerly 10 in a million). The SJVAPCD's 2015 GAMAQI does not currently recommend analysis of TAC emissions from Project construction activities, but instead focuses on projects with operational emissions that would expose sensitive receptors over a typical lifetime of 70 years. Residential projects produce limited amounts of TAC emissions during operation and thus have not been subject to Project TAC analysis. Most emissions from construction activities occur during the grading and site preparation phases that occur over the first three months of construction of individual tracts and do not overlap with Project operations. Limited amounts of diesel equipment are used during ground-up construction of individual houses that occurs during the majority of the construction schedule when some units may be occupied. Construction equipment fleet operators are subject to ARB's In Use Offroad Equipment Fleet Regulation, which requires

the use of increasing amounts of lower-emitting equipment that will help to ensure that risk would not exceed SJVAPCD thresholds.

Construction phase risks would be considered acute health risks as opposed to cancer risks, which are long-term. The Office of Environmental Health Hazard Assessment (OEHHA) has yet to define acute risk factors for diesel particulates that would allow the calculation of a hazards risk index; thus, evaluation of this impact would be speculative, and no further discussion is necessary.

### **Operation: Toxic Air Contaminants**

The ARB Air Quality and Land Use Handbook contains recommendations that will “help keep California’s children and other vulnerable populations out of harm’s way with respect to nearby sources of air pollution” (ARB 2005), including recommendations for distances between sensitive receptors and certain land uses. In the *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal.4th 369 (2015) (Case No. S213478) the California Supreme Court held that “agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project’s future users or residents. But when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project’s impact on the environment—and not the environment’s impact on the project—that compels an evaluation of how future residents or users could be affected by exacerbated conditions.” Although the Court ruled that impacts from the existing environment on projects are not required to be addressed under CEQA, land uses such as gasoline stations, dry cleaners, distribution centers, and auto body shops can expose residents to high levels of TAC emissions if they are close to the Project site. Information regarding the location of existing TAC sources is provided for disclosure purposes only and not as a measure of the Project’s significance under CEQA.

Consistency with these recommendations is assessed as follows:

- Heavily traveled roads. ARB recommends avoiding new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day. Epidemiological studies indicate that the distance from the roadway and truck traffic densities were key factors in the correlation of health effects, particularly in children. The Project is located at the northern edge of the City of Lemoore in an area that is currently rural with limited existing traffic. Traffic volumes on roads near the Project will be a small fraction of the amounts recommended by ARB. Therefore, no roads serving the Project would exceed this criterion.

- Distribution centers. ARB also recommends avoiding siting new sensitive land uses within 1,000 feet of a distribution center. The Project is not located within 1,000 feet of a distribution center.
- Fueling stations. ARB recommends avoiding new sensitive land uses within 300 feet of a large fueling station (a facility with a throughput of 3.6 million gallons per year or greater). ARB recommends a 50-foot separation is recommended for typical gas dispensing facilities. The nearest gas station is located at 1110 N. Lemoore Avenue, approximately 0.49 mile south of the Project site.
- Dry cleaning operations. ARB recommends avoiding siting new sensitive land uses within 300 feet of any dry-cleaning operation that uses perchloroethylene. For operations with two or more machines, ARB recommends a buffer of 500 feet. For operations with three or more machines, ARB recommends consultation with the local air district. The nearest dry-cleaning operation is approximately 0.52 mile south of the Project site at 111 E. Hanford-Armona Road.
- Auto body shops. Auto body shops have the potential to emit TACs related to painting. The nearest auto body shop is located at 4113 E. Street, 1.2 miles south of the Project site, which is beyond the distance that would result in a measurable impact.

### Valley Fever

Valley fever, or coccidioidomycosis, is an infection caused by inhalation of the spores of the fungus, *Coccidioides immitis* (*C. immitis*). The spores live in soil and can live for an extended time in harsh environmental conditions. Activities or conditions that increase the amount of fugitive dust contribute to greater exposure, and they include dust storms, grading, and recreational off-road activities.

The San Joaquin Valley is considered an endemic area for Valley fever. By geographic region, hospitalizations for Valley fever in the San Joaquin Valley increased from 230 (6.9 per 100,000 population) in 2000 to 701 (17.7 per 100,000 population) in 2007. Within the region, Kern County reported the highest hospitalization rates, increasing from 121 (18.2 per 100,000 population) in 2000 to 285 (34.9 per 100,000 population) in 2007, and peaking in 2005 at 353 hospitalizations (45.8 per 100,000 population). The Centers for Disease Control and Prevention indicates that 752 of the 8,657 persons (8.7 percent) hospitalized in California between 2000 and 2007 for Valley fever died (CDC 2009). California experienced 6,880 new cases of Valley fever in 2019. A total of 164 Valley fever cases were reported in Kings County in 2019 (CDPH 2020).



The distribution of *C. immitis* within endemic areas is not uniform and growth sites are commonly small (a few tens of meters) and widely scattered. Known sites appear to have some ecological factors in common suggesting that certain physical, chemical, and biological conditions are more favorable for *C. immitis* growth. Avoidance, when possible, of sites favorable for the occurrence of *C. immitis* is a prudent risk management strategy. Listed below are ecologic factors and sites favorable for the occurrence of *C. immitis*:

- 1) Rodent burrows (often a favorable site for *C. immitis*, perhaps because temperatures are more moderate and humidity higher than on the ground surface).
- 2) Old (prehistoric) Indian campsites near fire pits.
- 3) Areas with sparse vegetation and alkaline soils.
- 4) Areas with high salinity soils.
- 5) Areas adjacent to arroyos (where residual moisture may be available).
- 6) Packrat middens.
- 7) Upper 30 centimeters of the soil horizon, especially in virgin undisturbed soils.
- 8) Sandy, well-aerated soil with relatively high water-holding capacities.

Sites within endemic areas less favorable for the occurrence of *C. immitis* include:

- 1) Cultivated fields.
- 2) Heavily vegetated areas (e.g., grassy lawns).
- 3) Higher elevations (above 7,000 feet).
- 4) Areas where commercial fertilizers (e.g., ammonium sulfate) have been applied.
- 5) Areas that are continually wet.
- 6) Paved (asphalt or concrete) or oiled areas.
- 7) Soils containing abundant microorganisms.
- 8) Heavily urbanized areas where there is little undisturbed virgin soil (USGS 2000).

The Project site is situated in a city growth area. The Project includes urbanization of a site that was formerly used for agricultural purposes. Therefore, implementation of the Project would have a low probability of the site having *C. immitis* growth sites and exposure to the spores from disturbed soil.

Construction activities would generate fugitive dust that could contain *C. immitis* spores. However, the Project will minimize the generation of fugitive dust during construction activities by complying with the District's Regulation VIII and with Rule 8021 Section 6.3, which requires applicants to develop, prepare, submit, obtain approval of, and implement a Dust Control Plan to reduce fugitive dust impacts to less than significant for all construction phases of the Project, which would also control the release of the *Coccidioides immitis* fungus from construction activities. Therefore, this regulation, combined with the relatively low probability of the presence of *C. immitis* spores, would reduce Valley fever impacts to a *less than significant*.

During operations, dust emissions are anticipated to be negligible, because most of the Project area would be developed by buildings, pavement, and landscaped areas. This condition would preclude the possibility of the Project from providing habitat suitable for *C. immitis* spores and for generating fugitive dust that may contribute to Valley fever exposure. Impacts would be *less than significant*.

### **Naturally Occurring Asbestos**

According to a map of areas where naturally occurring asbestos in California are likely to occur (U.S. Geological Survey 2011), there are no such areas in the Project area. Therefore, development of the Project is not anticipated to expose receptors to naturally occurring asbestos. Impacts would be less than significant.

In summary, the Project would not exceed SJVAPCD localized emission daily screening levels for any criteria pollutant. The Project is not a significant source of TAC emissions during construction or operation. The Project is not in an area with suitable habitat for Valley fever spores and is not in an area known to have naturally occurring asbestos. Therefore, the Project would not result in significant impacts to sensitive receptors.

### **Mitigation Measures**

None Required.

**Impact 3.2-4:** *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

**Less Than Significant.** Odor impacts on residential areas and other sensitive receptors, such as hospitals, day-care centers, schools, etc. warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas.

Two situations create a potential for odor impact. The first occurs when a new odor source is located near an existing sensitive receptor. The second occurs when a new sensitive receptor locates near an existing source of odor. According to the CBIA v. BAAQMD ruling, impacts of existing sources of odors on the Project are not subject to CEQA review. Therefore, the analysis to determine if the Project would locate new sensitive receptors near an existing source of odor is provided for information only. The District has determined the common land use types that are known to produce odors in the Air Basin. These types are shown in Table 3.2-10.

**Table 3.2-10  
Screening Levels for Potential Odor Sources<sup>29</sup>**

<b>Odor Generator</b>	<b>Screening Distance</b>
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g., auto body shop)	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile

According to the SJVAPCD GAMAQI, analysis of potential odor impacts should be conducted for the following two situations:

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<sup>29</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 98.

- Generators: projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate, and
- Receivers: residential or other sensitive receptor projects or other projects built for the intent of attracting people located near existing odor sources.

## **Project Analysis**

### ***Project as a Generator***

Land uses that are typically identified as sources of objectionable odors include landfills, transfer stations, sewage treatment plants, wastewater pump stations, composting facilities, feed lots, coffee roasters, asphalt batch plants, and rendering plants. The Project would not engage in any of these activities. Therefore, the Project would not be considered a generator of objectionable odors during operations.

During construction, the various diesel-powered vehicles and equipment in use on-site would create localized odors. These odors would be temporary and would not likely be noticeable for extended periods of time beyond the Project's site boundaries. The potential for diesel odor impacts would therefore be *less than significant*.

### ***Project as a Receiver***

With the CBIA v. BAAQMD ruling, analysis of odor impacts on receivers is not required for CEQA compliance. Therefore, the following analysis is provided for information only.

As a residential development, the Project has the potential to place sensitive receptors near existing odor sources. Review of the area near the Project site found no major odor-generating sources (as listed in Table 3.2-10) within screening distance of the site. Therefore, the uses in the vicinity of the Project would not cause substantial odor impacts to the Project.

## **Mitigation Measures**

None Required.

## **Cumulative Impacts:**

**Less Than Cumulatively Considerable.** The geographical area for considering cumulative impacts to air quality resources is the San Joaquin Valley Air Basin. Although the proposed Project would generate emissions, as discussed in the previous section, air quality impacts due to construction and operational emissions would fall below established significant thresholds.

The proposed Project is located in a rural area, immediately north of the City of Lemoore, which has other stationary or mobile emission sources. However, as discussed above, emissions of ROG, NOX, PM10, and PM2.5 associated with the construction and operation of the Project would not exceed the District's significance thresholds. The Project would not result in CO hotspots that would violate CO standards. Therefore, the emissions from the proposed Project operations are not expected to be cumulatively significant. As such, cumulative impacts are considered *less than cumulatively considerable*.

### 3.3 Biological Resources

This section of the DEIR addresses the biological resources present within the proposed Project area. The section includes a discussion of the special-status species that may potentially occur within the proposed Project area as well as any sensitive habitats in the area. It also recognizes the potential impacts of implementing the proposed Project on such resources and identifies mitigation measures, where appropriate. The information and analysis presented in this Section are based on the desktop review and reconnaissance site survey conducted by Colibri Ecological Consulting, LLC (Colibri). The *Biological Resource Evaluation* in its entirety is provided in Appendix C.

#### **Environmental Setting**

The Project site is within a region with a Mediterranean climate of hot summers and mild, wet winters. The site is currently characterized as dry open valley bottom, now utilized for agricultural purposes. Specifically, the site is in active cultivation of alfalfa. It was bordered by a walnut orchard to the east, mixed agricultural fields to the north and west (Figure 2), and a suburban development to the south. An unnamed irrigation ditch, which was dry at the time of the survey, bordered the southeast corner of the Project site. A slightly elevated dirt road running north-south bisected the Project site.

Project site topography is relatively flat, varying in elevation from 212 to 230 feet above mean sea level, with the lowest elevation occurring along the northern boundary of the site and the highest elevation occurring along the most southeastern portion. The Project site is underlain by a mix of Nord complex and Whitewolf coarse sandy loam.<sup>1</sup>

#### **Regulatory Setting**

##### Federal Regulations

##### *Federal Migratory Bird Treaty Act of 1918*

The Migratory Bird Treaty Act (16 U.S.C. 704) (MBTA) makes it unlawful to “take” (kill, harm, harass, etc.) any migratory bird listed in 50 Code of Federal Regulations 10, including their nests,

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<sup>1</sup> Biological Resource Evaluation for the Lemoore Residential Development Project. Prepared by Colibri Ecological Consulting, LLC. December 2020. Page 11.

eggs, or products. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, and many other species.

*Federal Endangered Species Act of 1973*

Section 3 of the federal Endangered Species Act (ESA) defines an endangered species as any species or subspecies “in danger of extinction throughout all or a significant portion of its range.” A threatened species is defined as any species or subspecies of fish, wildlife, or plants “likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” Threatened or endangered species and their critical habitat are designated through publication of a final rule in the Federal Register. Designated endangered and threatened animal species are fully protected from “take” unless an applicant has an incidental take permit issued by the USFWS under Section 10 or incidental take statement issued under Section 7 of the ESA. A take is defined as the killing, capturing, or harassing of a species. Proposed endangered or threatened species, or their critical habitats, are those for which a proposed regulation, but no final rule, has been published in the Federal Register.

*Federal Clean Water Act (USC, Title 33, Sections 1251 through 1376)*

The federal Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation’s waters. Section 401 requires a project proponent for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. The RWQCB administers the certification program in California. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S. Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S., including wetlands. USACE implementing regulations are found at CFR, Title 33, Sections 320 and 330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the U.S. Environmental Protection Agency (EPA) in conjunction with USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

## State of California Regulations

### *California Endangered Species Act*

The California Endangered Species Act (CESA) declares that deserving plant or animal species will be given protection by the State because they are of ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the State. CESA establishes that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats. Under State law, plant and animal species may be formally designated as rare, threatened, or endangered through official listing by the California Fish & Game Commission. Listed species are given greater attention during the land use planning process by local governments, public agencies, including the California Department of Fish & Wildlife (CDFW) and landowners than are species that have not been listed.

On private property, endangered plants may also be protected by the Native Plant Protection Act (NPPA) of 1977. Threatened plants are protected by CESA, and rare plants are protected by the NPPA. However, CESA authorizes that “Private entities may take plant species listed as endangered or threatened under the ESA and CESA through a Federal incidental take permit issued pursuant to Section 10 of the ESA, if the CDFG certifies that the incidental take statement or incidental take permit is consistent with CESA.”

In addition, the California Environmental Quality Act (CEQA) requires disclosure of any potential impacts on listed species and alternatives or mitigation that would reduce those impacts.

### *California Environmental Quality Act—Treatment of Listed Plant and Animal Species*

ESA and CESA protect only those species formally listed as threatened or endangered (or rare in the case of the State list). Section 15380 of the CEQA Guidelines independently defines “endangered” species of plants or animals as those whose survival and reproduction in the wild are in immediate jeopardy and “rare” species as those who are in such low numbers that they could become endangered if their environment worsens. Therefore, a project normally will have a significant effect on the environment if it will substantially affect a rare or endangered species of animal or plant or the habitat of the species. The significance of impacts to a species under CEQA must be based on analyzing actual rarity and threat of extinction despite legal status or lack thereof.



*Section 1602 of the California Fish and Game Code*

Streambeds and other drainages that occur within the area are subject to regulation by the CDFW. Please note that although the agency is now called the California Department of Fish & Wildlife, the State Code is still named the California Department of Fish and Game (CDFG) Code. For purposes of this document, these terms are interchangeable. The CDFW considers most drainages to be “streambeds” unless it can be demonstrated otherwise. A stream is defined as a body of water that flows at least periodically or intermittently through a bed or channel with banks and supports fish or other aquatic life. This includes watercourses having a surface or sub-surface flow that supports, or has supported, riparian vegetation. CDFW jurisdiction typically extends to the edge of the riparian canopy, and therefore, usually encompasses a larger area than U.S. Army Corps jurisdiction.

*Regional Water Quality Control Board- Central*

Under Section 401 of the CWA, the RWQCB must certify that actions receiving authorization under Section 404 of the CWA also meet State water quality standards. The RWQCB also regulates waters of the State under the Porter-Cologne Act Water Quality Control Act (Porter Cologne Act). The RWQCB requires projects to avoid impacts to wetlands if feasible and requires that projects do not result in a net loss of wetland acreage or a net loss of wetland function and values. The RWQCB typically requires compensatory mitigation for impacts to wetlands and/or waters of the State. The RWQCB also has jurisdiction over waters deemed ‘isolated’ or not subject to Section 404 jurisdiction under the Solid Waste Agency of Northern Cook County (SWANCC) decision. Dredging, filling, or excavation of isolated waters constitutes a discharge of waste to waters of the state and prospective dischargers are required obtain authorization through an Order of Waste Discharge or waiver thereof from the RWQCB and comply with other requirements of Porter-Cologne Act.

*Porter-Cologne Act*

The California State Water Resources Control Board (SWRCB) has determined in response to the U.S. Supreme Court decisions that reduce federal jurisdiction over Waters of the U.S., that the State would require that a Report of Waste Discharge be required for any discharge of waste, including fill, into “waters of the state”, other than those projects requiring a federal Clean Water Act (CWA) Section 404 permit and the State’s CWA Section 401 Certification of the federal permit, under the authority of the state Porter-Cologne Act. The Central Valley Regional Water Quality Control Board (Central Valley RWQCB) is responsible for issuing Waste Discharge Requirements

(WDRs) to protect state surface and groundwater quality after reviewing a Report of Waste Discharge.

*Sections 3503, 3503.5, and 3800 of the California Fish and Game Code*

These sections of the Fish and Game Code prohibit the “take or possession of birds, their nests, or eggs.” Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered a “take.” Such a take would also violate Federal law protecting migratory birds.

Incidental Take Permits (*i.e.*, Management Agreements) are required from the CDFW for projects that may result in the incidental take of species listed by the State of California as endangered, threatened, or candidate species. The permits require that impacts to protected species be minimized to the extent possible and mitigated to a level of insignificance.

Local Regulations

*City of Lemoore General Plan, 2030*

The City of Lemoore General Plan outlines several policies intended for the protection of natural plant and animal habitats, including the following, which apply to the Project:

- |                 |   |
|-----------------|---|
| <b>COS-G-7</b>  | Protect rare and endangered species.  |
| <b>COS-I-10</b> | Require protection of sensitive habitat areas and “special status” species in new development in the following order: 1) avoidance; 2) onsite mitigation, and 3) offsite mitigation. Require assessments of biological resources prior to approval of any development within 300 feet of any creeks, sensitive habitat areas, or areas of potential sensitive status species. |
|                 | <i>The term “special status” species includes species classified as rare and endangered. These priorities are consistent with the California Department of Fish and Game guidelines. When habitat preservation on-site is not feasible (i.e., preserved parcels would be too small to be of any value), then off-site mitigation should occur.</i>                            |
| <b>COS-I-12</b> | Require drainage basin buffers, maintenance of adequate water supply and reduced disturbance of the water table and wetlands systems.   |
| <b>COS-I-14</b> | Consult with trustee agencies (California Department of Fish and Game, U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers,  |

Environmental Protection Agency, and Regional Water Quality Control Board) during environmental review when special status species, sensitive natural communities, or wetlands or vernal pools may be adversely affected.

*Applicants will be required to consult with all agencies with review authority for projects in areas supporting wetlands and special status species at the outset of project planning.*

## Thresholds of Significance

The thresholds of significance for this section are established by the CEQA Checklist Item. In accordance with Appendix G of the CEQA Guidelines, the proposed Project would have a significant environmental impact if it would:

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

The following sources were reviewed for information on sensitive biological resources in the Project vicinity:<sup>2</sup>

- California Department of Fish & Wildlife (CDFW) California Natural Diversity Database (CNDDDB)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California
- U.S. Fish & Wildlife Service (USFWS) Species List
- U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) Web Soil Survey
- Current and historical aerial imagery
- United States Geological Survey (USGS) topographic maps
- Other relevant literature

For each of these data sources, the search was focused on the Lemoore USGS 7.5-minute quadrangle in which the Project is located, plus the surrounding eight quadrangles including Burrel, Riverdale, Laton, Vanguard, Hanford, Westhaven, Stratford, and Guernsey. For the CNDDDB query, a 5-mile search radius was used.

The CNDDDB provides element-specific spatial information on individually documented occurrences of special-status species and sensitive natural communities. Some of the information available for review in the CNDDDB is still undergoing review by the CDFW; these records are identified as unprocessed data. The CNPS database provides similar information as the CNDDDB, but at a much lower spatial resolution. Much of this information in these databases is submitted opportunistically and is often focused on protected lands or on lands where various developments have been proposed. Neither database represents data collected during comprehensive surveys for special-status resources in the region. As such, the absence of recorded occurrences in these databases at any specific location does not preclude the possibility that a special-status species could be present. The Web Soil Survey provides comprehensive data, but at a low resolution that requires confirmation in the field. The USFWS species list provides no spatial data on wildlife occurrences and provides only lists of species that might potentially be present.

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<sup>2</sup> Biological Resource Evaluation for the Lemoore Residential Development Project. Prepared by Colibri Ecological Consulting, LLC. December 2020. Page 8.

The results of database inquiries were reviewed to develop a comprehensive list of sensitive biological resources that may be present in the vicinity of the Project. This list was then evaluated against existing conditions observed during the site visit to determine which sensitive resources are or could be present, and then the potential for impacts to those resources to occur from Project implementation.

### Field Surveys

#### *Reconnaissance Level*

A reconnaissance survey was conducted on December 3, 2020. The site and a surrounding 50-foot buffer were walked and inspected to evaluate and document the potential for the area to support state- or federally protected resources. The survey area also included a 0.5-mile buffer around the Project site to evaluate the potential occurrence of nesting special-status raptors, as demonstrated in Figure 3-3.1. The 0.5-mile buffer was surveyed by driving public roads and identifying the presence of large trees or other potentially suitable substrates for nesting raptors as well as open areas that could provide foraging habitat. The main survey area, including the Project site and surrounding 50-foot buffer, was evaluated for the presence of regulated habitats, including lakes, streams, and other waters using methods described in the Wetlands Delineation Manual and regional supplement and as defined by the CDFW under the Porter-Cologne Water Quality Control Act. All plants except ornamentals and all animals (vertebrate wildlife species) observed in the survey area were identified and documented.<sup>3</sup>

The USFWS species list for the Project included nine species listed as threatened or endangered under the FESA. None of those species could occur on or near the Project site due to either (1) the lack of habitat, (2) the Project site being outside the current range of the species, or (3) the presence of development that would otherwise preclude occurrence (see Table 3.3-1). As identified in the species list, the Project site does not occur in USFWS designated or proposed critical habitat for any species.<sup>4</sup>

Searching the CNDDDB for records of special-status species from the Lemoore 7.5-minute USGS topographic quadrangle and the eight surrounding quadrangles produced 78 records of 24 species (see Table 3.3-1). Of those 24 species, four were not considered further because State or federal regulatory agencies or public interest groups do not recognize them through special

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<sup>3</sup> Biological Resource Evaluation for the Lemoore Residential Development Project. Prepared by Colibri Ecological Consulting, LLC. December 2020. See Appendix C. Page 8.

<sup>4</sup> Ibid. Page 11.

designation. Of the remaining 20 species, four are known from within 5 miles of the Project site. Of those four species, three are not expected to occur near the Project site due to either (1) the lack of habitat, (2) the Project site being outside the current range of the species, (3) their absence during the reconnaissance survey, or (4) a combination thereof. The remaining species, the State listed as threatened Swainson's hawk (*Buteo swainsoni*), is known to nest within 5 miles of the

**Figure 3-3.1**  
**Reconnaissance Survey Area Map<sup>5</sup>**



<sup>5</sup> Biological Resource Evaluation for the Lemoore Residential Development Project. Prepared by Colibri Ecological Consulting, LLC. December 2020. Page 10.

**Table 3.3-1  
Federally and State Listed Endangered or Threatened Species<sup>6</sup>**

Species	Status	Habitat	Potential to Occur
<b>Federally and State Listed Endangered or Threatened Species</b>			
Valley elderberry longhorn beetle <i>(Desmocerus californicus dimorphus)</i>	FT	Elderberry ( <i>Sambucus</i> sp.) plants with stems > 1-inch diameter at ground level.	<b>None.</b> Habitat lacking; the Project site is outside the currently recognized range of this species.
Vernal pool fairy shrimp <i>(Branchinecta lynchi)</i>	FT	Vernal pools; some artificial depressions, ditches, stock ponds, vernal swales, ephemeral drainages, and seasonal wetlands.	<b>None.</b> Habitat lacking; no vernal pools or other potentially suitable aquatic features were found in the survey area.
Vernal pool tadpole shrimp <i>(Lepidurus packardii)</i>	FE	Vernal pools, clay flats, alkaline pools, and ephemeral stock tanks.	<b>None.</b> Habitat lacking; no vernal pools, alkaline pools, or ephemeral stock tanks were found in the survey area.
Delta smelt <i>(Hypomesus transpacificus)</i>	FT, SE	Estuarine habitat in Sacramento-San Joaquin River delta.	<b>None.</b> Habitat lacking; no connectivity to the aquatic habitat this species requires.
California red-legged frog <i>(Rana draytonii)</i>	FT, SSSC	Creeks, ponds, and marshes for breeding; small mammal burrows for upland cover.	<b>None.</b> Habitat lacking; the Project site is outside the current known range of this species.

<sup>6</sup> Ibid. Page 12.



Species	Status	Habitat	Potential to Occur
Blunt-nosed leopard lizard ( <i>Gambelia sila</i> )	FE, SE, FP	Upland scrub and sparsely vegetated grassland with small mammal burrows at 100–2400 feet elevation.	<b>None.</b> Habitat lacking; the Project site consists of agricultural land cover.
Giant gartersnake ( <i>Thamnophis gigas</i> )	FT, ST	Marshes, sloughs, ponds, or other permanent sources of water with emergent vegetation, and grassy banks or open areas during active season; uplands with underground refuges or crevices during inactive season.	<b>None.</b> Habitat lacking; no suitable aquatic resources in the survey area.
Swainson's hawk <sup>3</sup> ( <i>Buteo swainsoni</i> )	ST	Large trees for nesting with adjacent grasslands, alfalfa fields, or grain fields for foraging.	<b>High.</b> Foraging habitat on the Project site and elsewhere in the survey area; potential nest trees within 0.5 miles.
Tricolored blackbird ( <i>Agelaius tricolor</i> )	ST, SSSC	Large swaths of prickly, thorny, or emergent vegetation for nesting, with a nearby water source and grassland, pasture, or cattle feedlots for foraging.	<b>None.</b> Habitat lacking; no suitable upland or aquatic land cover in the survey area.
Western snowy plover ( <i>Charadrius alexandrinus nivosus</i> )	FT, SSSC	Sandy beaches, salt pond levees, and shores of large alkali lakes.	<b>None.</b> Habitat lacking; no sandy beaches, salt pond levees, or alkali lakes in the survey area.

Species	Status	Habitat	Potential to Occur
Fresno kangaroo rat ( <i>Dipodomys nitratoides exilis</i> )	FE, SE	Sandy, alkaline, saline, and clay-based soils in upland scrub and grassland.	<b>None.</b> Habitat lacking; no upland scrub or grassland in the survey area.
San Joaquin kit fox <sup>3</sup> ( <i>Vulpes macrotis mutica</i> )	FE, ST	Grassland and upland scrub with a small mammal prey base.	<b>None.</b> Habitat lacking; no grassland or upland scrub in the survey area.
Tipton kangaroo rat <sup>3</sup> ( <i>Dipodomys nitratoides nitratoides</i> )	FE, SE	Grassland and upland scrub with sparse to moderate shrub cover and saline soils; also fallowed agricultural fields.	<b>None.</b> Habitat lacking; no grassland, upland scrub, or fallowed agricultural fields in the survey area.
<b>State Species of Special Concern</b>			
Western spadefoot ( <i>Spea hammondi</i> )	SSSC	Rain pools for breeding and small mammal burrows or other suitable refugia for nonbreeding upland cover.	<b>None.</b> Habitat lacking; no rain pools or other ephemeral water bodies were found in the survey area.
California glossy snake ( <i>Arizona elegans occidentalis</i> )	SSSC	Arid scrub, rocky washes, grasslands, chapparal.	<b>None.</b> Habitat lacking; the Project site is outside the current known range of this species.

Species	Status	Habitat	Potential to Occur
Northwestern pond turtle <i>(Actinemys marmorata)</i>	SSSC	Permanent or intermittent ponds, rivers, marshes, streams, and irrigation ditches, usually with aquatic vegetation and woody debris for basking and adjacent natural upland areas for egg laying.	<b>None.</b> Habitat lacking; no suitable permanent or intermittent water bodies in the survey area; the irrigation ditch bordering the southeast corner of the Project site is evidently routinely cleaned for weed abatement and lacks water for most of the year.
Burrowing owl <i>(Athene cunicularia)</i>	SSSC	Grassland and upland scrub with friable soil; some agricultural or other developed and disturbed areas with ground squirrel burrows.	<b>None.</b> Habitat lacking; no suitable ground squirrel burrows in or near the survey area.
Yellow-headed blackbird <i>(Xanthocephalus xanthocephalus)</i>	SSSC	Freshwater marsh with emergent vegetation.	<b>None.</b> Habitat lacking; no freshwater marshes with emergent vegetation in the survey area.
<b>California Rare Plants</b>			
California alkali grass <sup>3</sup> <i>(Puccinellia simplex)</i>	1B.2	Scrub, meadows, seeps, grassland, vernal pools, saline flats, and mineral springs below 3000 feet elevation.	<b>None.</b> Habitat lacking; the Project site consisted of agricultural land cover.
Alkali-sink goldfields <i>(Lasthenia chrysantha)</i>	1B.1	Vernal pools and wet saline flats below 320 feet elevation.	<b>None.</b> Habitat lacking; no vernal pools or other ephemeral aquatic habitats in the survey area.

Species	Status	Habitat	Potential to Occur
Brittlescale <i>(Atriplex depressa)</i>	1B.2	Alkaline or clay soils in chenopod scrub, meadows and seeps, playas, valley and foothill grassland, and vernal pools below 1000 feet elevation.	<b>None.</b> Habitat lacking; no suitable soils or vernal pools in the survey area.
Mud nama <i>(Nama stenocarpa)</i>	2B.2	Intermittently wet areas below 2700 feet elevation.	<b>None.</b> Habitat lacking; the Project site consisted of agricultural land cover.
Panoche pepper-grass <i>(Lepidium jaredii ssp. album)</i>	1B.2	Alkaline soils in grassland, bottom lands, slopes, washes, and dry hillsides at 1640–2300 feet elevation.	<b>None.</b> Habitat lacking; the Project site is outside the known elevational range of this species.
Recurved larkspur <i>(Delphinium recurvatum)</i>	1B.2	Poorly drained, fine, alkaline soils in chenopod scrub, cismontane woodland, and valley and foothill grassland at 10–2800 feet elevation.	<b>None.</b> Habitat lacking; the Project site consisted of agricultural land cover.

Species	Status	Habitat	Potential to Occur
<b>Status<sup>1</sup></b> FE = Federally listed Endangered FT = Federally listed Threatened FP = State Fully Protected SE = State listed Endangered ST = State listed Threatened SSSC = State Species of Special Concern		<b>Potential to Occur<sup>2</sup></b> None: Species or sign not observed; conditions unsuitable for occurrence. Low: Neither species nor sign observed; conditions marginal for occurrence. Moderate: Neither species nor sign observed; conditions suitable for occurrence. High: Neither species nor sign observed; conditions highly suitable for occurrence. Present: Species or sign observed; conditions suitable for occurrence.	
<b>CNPS California Rare Plant Rank<sup>1</sup>:</b> 1B – plants rare, threatened, or endangered in California and elsewhere. 2B – plants rare, threatened, or endangered in California but more common elsewhere. 3 – plants about which more information is needed. 4 – plants have limited distribution in California.		<b>Threat Ranks<sup>1</sup>:</b> 0.1 – seriously threatened in California (> 80% of occurrences). 0.2 – moderately threatened in California (20-80% of occurrences). 0.3 – not very threatened in California (<20% of occurrences).	

<sup>3</sup>Record from within 5 miles of the Project site.

Project site and use alfalfa fields similar to those on the Project site as foraging habitat. Therefore, the potential for this species to occur on or near the Project site is high.

Searching the CNPS Inventory of Rare and Endangered Plants of California yielded five taxa, four of which have a CRPR of 1B and one of which has a CRPR of 2B. None of those species are expected to occur on or near the Project site due to the lack of habitat (see Table 3.3-1).

The Project site is underlain by a mix of Nord complex and Whitewolf coarse sandy loam. It occupies flat and level terrain (0–1% slopes) at an elevation of 212–220 feet above mean sea level.

### Reconnaissance Observations

A total of 26 plant species (5 native and 21 nonnative), 20 bird species, and two mammal species were observed during the survey.<sup>7</sup>

#### *Special Status Animal Species*

**Swainson’s hawk (*Buteo swainsoni*).** Swainson’s hawk is a state listed as threatened raptor in the family Accipitridae. Swainson’s hawk is a gregarious, migratory, breeding resident of Central California where it uses open areas including grassland, sparse shrubland, pasture, open woodland, and annual agricultural fields such as grain and alfalfa to forage on small mammals, birds, and reptiles. After breeding, it eats mainly insects, especially grasshoppers (Bechard et al. 2020). Swainson’s hawks build small to medium-sized nests in medium to large trees near foraging habitat. The nesting season begins in March or April in Central California when this species returns to its breeding grounds from wintering areas in Mexico and Central and South America. Nest building commences within one to two weeks of arrival to the breeding area and lasts about one week ().<sup>8</sup> One to four eggs are laid and incubated for about 35 days. Young typically fledge in about 38–46 days and tend to leave the nest territory within 10 days of fledging (Colibri, 2020). Swainson’s hawks depart for the non-breeding grounds between August and September.

One CNDDDB record for Swainson’s hawk from 2016 is known from within 5 miles of the Project site. No Swainson’s hawks were observed during the reconnaissance survey. However, Swainson’s hawks may occur on the Project site as they are known to use alfalfa fields as foraging habitat, and trees suitable for nesting were within the 0.5-mile survey area around the Project site. Therefore, this species is considered to have a high potential to occur on the Project site.<sup>9</sup>

## **Impacts and Mitigation Measures**

**Impact 3.3-1:** *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or*

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<sup>7</sup> Biological Resource Evaluation for the Lemoore Residential Development Project. Prepared by Colibri Ecological Consulting, LLC. December 2020. Page 21.

<sup>8</sup> Ibid. Page 23.

<sup>9</sup> Ibid. Pages 23-24.

*regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?*

### **Less than Significant Impact with Mitigation.**

#### Impacts to Special-Status Plant and Animal Species

As stated previously, searching the CNDDDB for records of special-status species from the Lemoore 7.5-minute USGS topographic quadrangle and the eight surrounding quadrangles produced 78 records of 24 species (Table 3.3-1). Of those 24 species, four were not considered further because State or federal regulatory agencies or public interest groups do not recognize them through special designation (Appendix C). Of the remaining 20 species, four are known from within 5 miles of the Project site (Table 3.3-1, Figure 3.3-1). Of those four species, three are not expected to occur near the Project site due to either (1) the lack of habitat, (2) the Project site being outside the current range of the species, (3) their absence during the reconnaissance survey, or (4) a combination thereof. Species such as tricolor blackbird, San Joaquin kit fox, American badger, western burrowing owl and various other bird species are not likely to inhabit the site, there is a potential for special-status species to be present as residents or transients and for migratory birds to nest on and near the Project Site. Although the Project footprint is highly disturbed and contains low-quality burrowing and foraging habitat, suitable nesting and foraging habitat exists within the adjacent lands within, Mitigation Measures BIO-1 through BIO-6 are recommended which, when implemented, would reduce Project impacts to biological resources to less than significant levels.

The remaining species, the State listed as threatened Swainson's hawk (*Buteo swainsoni*), is known to nest within 5 miles of the Project site and use alfalfa fields similar to those on the Project site as foraging habitat.<sup>10</sup> Therefore, the potential for this species to occur on or near the Project site is high. Swainson's hawks have a low potential to nest on the project site but could use the site for foraging. If present during construction activities, the Project would have the potential to directly impact this listed raptor species through mortality or injury which would be a significant impact. Potential impacts would be avoided through impact minimization measures such as preconstruction surveys through the implementation of Mitigation Measure BIO-1 through BIO-6 and would ensure that potential impacts remain *less than significant*.

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<sup>10</sup> Biological Resource Evaluation for the Lemoore Residential Development Project. Prepared by Colibri Ecological Consulting, LLC. December 2020. Pages 11.

**Mitigation Measures:**

- BIO-1:** 1. To the extent practicable, construction shall be scheduled to avoid the Swainson's hawk nesting season, season (February 15 to August 31).
2. If it is not possible to schedule construction between September and February, prior to commencement of ground disturbance activities, a qualified biologist shall conduct surveys for Swainson's hawk in accordance with the Swainson's Hawk Technical Advisory Committee's *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (SWTAC 2000, Appendix C). Surveys shall be conducted within a 10-mile radius around the Project site to identify the nearest nest, which will determine the habitat mitigation ratio. If no Swainson's hawk nests are observed, no further action is necessary. CDFW shall be consulted if an active nest is found within 0.5 miles of the Project site. A copy of the survey report shall be submitted to the City of Lemoore Community Development Department.
- BIO- 2:** If an active Swainson's hawk nest is discovered at any time within 0.5 mile of active construction, a qualified biologist shall complete an assessment of the potential for current construction activities to impact the nest. The assessment shall consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to construction activities of this Project. Based on this assessment, the biologist shall determine if construction activities can proceed, and the level of nest monitoring required. Construction activities shall not occur within 500 feet of an active nest but depending upon conditions at the site this distance may be reduced. Full-time monitoring to evaluate the effects of construction activities on nesting Swainson's hawks may be required. The qualified biologist shall have the authority to stop work if it is determined that Project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nesting Swainson's hawk to disturbances and at the discretion of the qualified biologist. No avoidance would be needed if construction occurs near a known Swainson's hawk nest outside of the Swainson's hawk nesting season
- BIO-3:** Prior to the issuance of grading or building permits, the Project proponent shall



consult with the California Department of Fish and Wildlife (CDFW) regarding compensation for the loss of 156 acres of Swainson's hawk foraging habitat. Potential compensation may include a compensatory ratio of 0.5:1 up to 1:1 ratio, depending on the location of active Swainson's hawk nests. Evidence of consultation with CDFW and payment of compensation shall be submitted to the City of Lemoore Community Development Department.)

**BIO-4:** 1. To the extent practicable, construction shall be scheduled to avoid the nesting season (February 1 to September 15).

2. If it is not possible to schedule construction between September 15 and February 15, a pre-construction clearance survey for nesting birds shall be conducted by a qualified no more than 14 days prior to the start of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the impact areas, including within 250 feet in the case of raptor nests and within 100 feet for nests of all other birds. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work shall be halted or redirected to other areas until nesting and fledging are completed or the nest has failed for non-construction related reasons.

**BIO-5:** Within 14 days prior to the start of Project ground-disturbing activities, a pre-activity survey with a 500-foot buffer where land access is permitted shall be conducted by a qualified biologist knowledgeable in the identification of burrowing owl, American badger, San Joaquin kit fox (SJKF) and other special status species that are known to be in the area, and approved by the CDFW. Surveys need not be conducted for all areas at one time; they may be phased so that surveys occur within 14 days of the portion of the Project site that will be disturbed. If dens/burrows that could support any of these species are discovered during the pre-activity surveys, the avoidance buffers outlined below shall be established. No work would occur within these buffers unless the biologist approves and monitors the activity. If no listed or special status species is observed during the preconstruction clearance survey, no further action is necessary.

Burrowing Owl (active burrows)

- Non-breeding season: September 1 – January 31 – 160 feet
- Breeding season: February 1 – August 31 – 250 feet

#### American Badger/SJKF

- Potential or Atypical den – 50 feet
- Known den – 100 feet
- Natal or pupping den – 500 feet, unless otherwise specified by CDFW.

If burrowing owl are found within these recommended buffers and avoidance is not possible, burrow exclusion shall be conducted by qualified biologists and only during the non-breeding season, before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance. Replacement of occupied burrows with artificial burrows shall occur at a ratio of one burrow collapsed to one artificial burrow constructed (1:1) to mitigate for evicting burrowing and the loss of burrows. Burrowing owl may attempt to colonize or re-colonize an area that will be impacted; thus, ongoing surveillance shall occur at excluded burrows at a rate that is sufficient to detect burrowing owl if they return.

If, during construction activities, a live burrowing owl, American badger, or SJKF is encountered, all construction activity should stop in the affected area until the animal leaves of its own volition. The special-status species should be avoided by construction activities and construction workers and allowed to leave the Project Site without harassment

**BIO-6:** Prior to the initiation of construction activities, all construction personnel should attend a Worker Environmental Awareness Training program developed by a qualified biologist. Any personnel associated with construction that did not attend the initial training shall be trained by the authorized biologist prior to working on the project site. Any employee responsible for the operations and maintenance or decommissioning of the project facilities shall also attend the Worker Environmental Awareness Training program prior to starting work on the project and on an annual basis.

The Program shall be developed and presented by the project qualified biologist(s) or designee approved by the qualified biologist(s). The program shall include information on the life histories of special-status species with potential to occur on the Project, their legal status, course of action should these species be encountered on-site,

and avoidance and minimization measures to protect these species. It shall include the components described below:

- a. Information on the life history and identification of special-status species that may occur or that may be affected by Project activities. The program shall also discuss the legal protection status of each such species, the definition of “take” under the Federal Endangered Species Act and California Endangered Species Act, measures the Project proponent/operator shall implement to protect the species, reporting requirements, specific measures for workers to avoid take of special-status plant and wildlife species, and penalties for violation of the requirements outlined in the California Environmental Quality Act mitigation measures and agency permit requirements.
- b. An acknowledgement form signed by each worker indicating that the Worker Environmental Awareness Training and Education program has been completed shall be kept on file at the construction site.
- c. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the Worker Environmental Awareness Training and Education program, and signed acknowledgement forms shall be submitted to the City of Lemoore Community Development Department.
- d. A sticker shall be placed on hard hats indicating that the worker has completed the Worker Environmental Awareness Training and Education program. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the Worker Environmental Awareness Training and Education Program and are wearing hard hats with the required sticker.
- e. The construction crews and contractor(s) shall be responsible for preventing unauthorized impacts from project activities to sensitive biological resources that are outside the areas defined as subject to impacts by Project permits. Unauthorized impacts may result in project stoppage, and/or fines depending on the impact and coordination with the California Department of Fish and Wildlife and/or U.S. Fish and Wildlife Service

**Impact 3.3-2:** *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service, or have a substantial adverse effect on federally or state-protected wetlands (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

**Less than Significant Impact with Mitigation.** An unnamed irrigation ditch lies within 50 feet of the southeastern corner of the Project site. There are no other bodies of water on or near the immediate vicinity of the Project site.

The Project will require a 50-foot easement for irrigation water to Lemoore Canal & Irrigation District Company as the above-ground canal along a portion of the western and southern boundary will be abandoned and relocated into an underground pipe through the Project site. The irrigation ditch is distributional from the Lemoore Canal to the east, which distributes water from the Kings River to the north.<sup>11</sup> A formal delineation of wetlands or water features that may be impacted by the Project was not conducted during the reconnaissance survey of the Project. As such, a formal field delineation of waters of the State and waters of the U.S. would determine whether permits would be required from the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), or California Department of Fish and Wildlife (CDFW) for development within this area. BIO-7 requires a delineation of the drainage and determination of jurisdiction prior to the issuance of grading permits. If the drainage is jurisdictional, additional permitting with the appropriate regulatory agencies is also required prior to construction activities. With implementation of BIO-7, impacts of the Project to waters and wetlands would be *less than significant*.

The Project site does not support any sensitive natural communities and does not overlap critical habitat, current or proposed. Therefore, the Project would have a *less than significant impact* on sensitive natural communities.

#### **Mitigation Measures:**

**BIO-7:** Prior to issuance of any grading or building permit, the Project proponent/developer shall submit a final Delineation report to the City of Lemoore. A copy of this report shall also be provided to the Regional Water Quality Control Board (RWQCB),

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<sup>11</sup> Biological Resource Evaluation for the Lemoore Residential Development Project. Prepared by Colibri Ecological Consulting, LLC. December 2020. Page 23.

California Department of Fish & Wildlife (CDFW) and U.S. Army Corps of Engineers (USACE) (as applicable). The report shall include information as shown below as a plan if necessary and shall outline compliance to the following:

1. Delineation of all jurisdictional features at the project site. Potential jurisdictional features within the project boundary identified in the jurisdictional delineation report may be shown in plan form.
2. If the Project has a potential to directly or indirectly impact jurisdictional aquatic resources, a formal aquatic resource delineation of these areas shall be performed by a qualified professional to determine the extent of agency jurisdiction and permits/authorizations from the appropriate regulating agencies (RWQCB, CDFW and USACE) shall be obtained prior to disturbance to jurisdictional features.

If it is determined that drainage is jurisdictional and cannot be avoided, the Project proponent shall obtain a Section 401 Waters Quality Certification from the RWQCB, a Section 404 permit from USACE and a Lake and Streambed Alteration Agreement from the CDFW, if required prior to impacting any waters.

As part of these authorizations, compensatory mitigation may be required by the regulating agencies to offset the loss of aquatic resources. If so, and as part of the permit application process, a qualified professional shall draft a Mitigation and Monitoring Plan to address implementation and monitoring requirements under the permit to ensure that the Project would result in no net loss of habitat functions and values. The Plan shall contain, at a minimum, mitigation goals and objectives, mitigation location, a discussion of actions to be implemented to mitigate the impact, monitoring methods and performance criteria, extent of monitoring to be conducted, actions to be taken in the event that the mitigation is not successful, and reporting requirements. The Plan shall be approved by the appropriate regulating agencies and compensatory mitigation shall take place either on site or at an appropriate off-site location.

3. Any material/spoils generated from project activities containing hazardous materials shall be located away from jurisdictional areas or special-status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate. Protection measures should follow project-specific criteria as developed in a Stormwater Pollution Prevention and Protection Plan (SWPPP).

4. Equipment containing hazardous liquid materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and at least 50 feet outside the delineated boundary of jurisdictional water features.
5. Any spillage of material shall be stopped if it can be done safely. The contaminated area shall be cleaned, and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative shall be notified.

**Impact 3.3-3:** *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery site; (e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance or conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

**Less Than Significant Impact with Mitigation.** The Project site is surrounded by development and is highly disturbed. Although the Project is located within the Pacific Flyway, it is very small in comparison to the Flyway, which covers all of California. The Project is low-lying and is not expected to impact avian migratory movements within the Flyway.

The Project is not located within a mapped wildlife movement corridor or linkage. As noted previously, the above-ground canal along a portion of the western and southern boundary will be impacted by the Project. Local irrigation canals and ditches may be used by local wildlife to travel through the vicinity. To reduce impacts to biological resources, BIO-1 through BIO-6 will be implemented.

The irrigation ditch offers wildlife a corridor for movement to or from the site. However, there is no other body of water in the immediate vicinity of the Project site, which precludes amphibians, fishes and crustaceans. Due to the disturbed nature of the site and consistent vegetation removal, nesting capabilities of protected birds, including migratory birds, is considered severely limited. However unlikely, migratory birds, including tricolor and yellow headed blackbirds, could nest on or near the Project site. Such species include, but are not limited to, mourning dove (*Zenaida macroura*), red-tailed hawk (*Buteo jamaicensis*), and California scrubjays (*Aphelocoma californica*). Implementation of Mitigation Measures BIO-4 through BIO-6 will ensure that Project related impacts remain *less than significant*.

The Project is not within the boundaries of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. There would be no impact.

**Mitigation Measures:**

Implementation of BIO-4 through BIO-6.

**Cumulative Impacts**

**Cumulative impacts would be significant and unavoidable even with implementation of mitigation.** Cumulative impacts for a project would be significant if the incremental effects of the individual project are considerable when combined with the effects of past projects, other current projects, and probable future projects. As described above, the Project impacts would be less than significant with implementation of Mitigation Measures BIO-1 through BIO-7.

The geographic area for considering cumulative impacts to biological resources is the western portion of the San Joaquin Valley. Development in Kings County and the San Joaquin Valley has resulted in a decline of many plant and animal species. Implementation of the Project in addition to the other projects underway or proposed within Lemoore and Kings County would impact transient wildlife species, including burrowing owls, Swainson's hawk, other raptors, and San Joaquin kit foxes. The Project site contains habitat that support insects, rodents and small birds that provide a prey base for raptors and terrestrial wildlife. In addition, based on the literature review and database search completed for the project, the region is known to support a diversity of special-status species, some of which are expected to utilize the Project site on a transient basis, if at all. Additionally, the Project will eliminate 156 acres of cropland that is utilized by Swainson's hawk as foraging habitat. Although the Project will provide mitigation to reduce impacts to Swainson's hawk with implementation of BIO-1 through BIO-3, the proposed Project, in combination with all identified cumulative projects, could result in a cumulatively considerable contribution to a significant cumulative impact.

Given the number of present, and reasonably foreseeable future development projects in the western San Joaquin valley, the Project, when combined with these projects, would result in a significant and unavoidable cumulative loss of foraging habitat for special-status species. Cumulative impacts are *significant and unavoidable even with implementation of mitigation*.

## 3.4 Cultural Resources

This section of the DEIR identifies potential impacts of the proposed Project on cultural, archaeological and historical resources.

Cultural resources include prehistoric-era archaeological sites, historic-era archaeological sites, Native American traditional cultural properties, sites of religious and cultural significance, and historical buildings, structures, objects, and sites. The importance of any single cultural resource is defined by the context in which it was first created, current public opinion and modern yet evolving analysis. From the analytical perspective temporal and geographic considerations help to define the historical context of the Project area.

A Cultural Resources Survey was prepared for the Project and is the basis for analysis for the discussion herein (see Appendix E). Tribal consultations pursuant to SB 18 and AB 52 are addressed in Section 3.15 – Tribal Cultural Resources.

### **Environmental Setting**

#### Environmental Background

The study area is located at an elevation of 230 feet above mean sea level on the open flats of the San Joaquin Valley north of the City of Lemoore, Kings County, California. Currently this region can be characterized as a dry open valley bottom now utilized for suburban or agricultural uses. The study area is north of the former shoreline of Tulare Lake, at roughly 200 feet above mean sea level. Prior to reclamation and channelization, the region would have been a low-lying, water-rich area characterized by streams, sloughs, marshes, and swamps. Occasionally inundated by floodwaters, in many years portions of this region would have been swampy during the winter rainy season and marsh land during other parts of the year. Historical and recent land-use has changed the vegetation that was once present within and near the Project area. The immediate Project location historically most likely fell within the Valley Grassland community, however, with Riparian Woodlands present along streams and freshwater marshes common in the area (Appendix E).

#### Ethnographic Background

Penutian-speaking Yokuts tribal groups occupied the southern San Joaquin Valley region and much of the nearby Sierra Nevada. Ethnographic information about the Yokuts was collected primarily by Powers (Appendix E). For a variety of historical reasons, existing research information emphasizes the central Yokuts tribes who occupied both the valley and particularly



the foothills of the Sierra. The northernmost tribes suffered from the influx of Euro-Americans during the Gold Rush and their populations were in substantial decline by the time ethnographic studies began in the early twentieth century. In contrast, the southernmost tribes were partially removed by the Spanish to missions and eventually absorbed into multi-tribal communities on the Sebastian Indian Reservation (on Tejon Ranch), and later the Tule River Reservation and Santa Rosa Rancheria to the north. The result is an unfortunate scarcity of ethnographic detail on southern Valley tribes, especially in relation to the rich information collected from the central foothills tribes where native speakers of the Yokuts dialects are still found. Regardless, the general details of indigenous life-ways were similar across the broad expanse of Yokuts territory, particularly in terms of environmentally influenced subsistence and adaptation and with regard to religion and belief, which were similar everywhere.

This scarcity of specific detail is particularly apparent in terms of southern valley tribal group distribution. Latta places the north shore of Tulare Lake east of Fish Slough in Nutúnutu territory, with the closest village being Wiu nearer the Mussel Slough inlet. Kroeber however, indicates that Nutúnutu territory did not include the north shore of Tulare Lake, but that the north shore, including Fish Slough, was Tachi territory. The village of Wiu remains near the inlet of Cottonwood Creek and Mussel Slough.

The Yokuts settlement pattern was largely consistent, regardless of specific tribe involved. Winter villages were typically located along lakeshores and major stream courses (as these existed circa AD 1800), with dispersal phase family camps located at elevated spots on the valley floor and near gathering areas in the foothills.

Most Yokuts groups, again regardless of specific tribal affiliation, were organized as a recognized and distinct tribelet; a circumstance that almost certainly pertained to the tribal groups noted above. Tribelets were land-owning groups organized around a central village and linked by shared territory and descent from a common ancestor. The population of most tribelets ranged from about 150 to 500 peoples.

Each tribelet was headed by a chief who was assisted by a variety of assistants, the most important of whom was the winatum, a herald or messenger and assistant chief. A shaman also served as religious officer. While shamans did not have any direct political authority, as Gayton (1930) has illustrated, they maintained substantial influence within their tribelet.

Shamanism is a religious system common to most Native American tribes. It involves a direct and personal relationship between the individual and the supernatural world enacted by entering a trance or hallucinatory state (usually based on the ingestion of psychotropic plants, such as

jimsonweed or more typically native tobacco). Shamans were considered individuals with an unusual degree of supernatural power, serving as healers or curers, diviners, and controllers of natural phenomena (such as rain or thunder). Shamans also produced the rock art of this region, depicting the visions they experienced in vision quests believed to represent their spirit helpers and events in the supernatural realm (Appendix E).

The centrality of shamanism to the religious and spiritual life of the Yokuts was demonstrated by the role of shamans in the yearly ceremonial round. The ritual round, performed the same each year, started in the spring with the jimsonweed ceremony, followed by rattlesnake dance and (where appropriate) first salmon ceremony. After returning from seed camps, fall rituals began in the late summer with the mourning ceremony, followed by first seed and acorn rites and then bear dance. In each case, shamans served as ceremonial officials responsible for specific dances involving a display of their supernatural powers

Subsistence practices varied from tribelet to tribelet based on the environment of residence. Throughout Native California, and Yokuts territory in general, the acorn was a primary dietary component, along with a variety of gathered seeds. Valley tribes augmented this resource with lacustrine and riverine foods, especially fish and wildfowl. As with many Native California tribes, the settlement and subsistence rounds included the winter aggregation into a few large villages, where stored resources (like acorns) served as staples, followed by dispersal into smaller camps, often occupied by extended families, where seasonally available resources would be gathered and consumed.

Although population estimates vary and population size was greatly affected by the introduction of Euro-American diseases and social disruption, the Yokuts were one of the largest, most successful groups in Native California. Cook estimates that the Yokuts region contained 27 percent of the aboriginal population in the state at the time of contact; other estimates are even higher. Many Yokuts people continue to reside in the southern San Joaquin Valley today, including at the nearby Santa Rosa Rancheria.

### Archival Records Search

An archival records search conducted by the staff of the Southern San Joaquin Valley Information Center (IC), California State University Bakersfield, on April 5, 2021. The records search was completed to determine: (i) if prehistoric or historical archaeological sites had previously been recorded within the study areas; (ii) if the Project area had been systematically surveyed by archaeologists prior to the initiation of this field study; and/or (iii) whether the general area within which the Project lies was known to contain archaeological sites and to thereby be

archaeologically sensitive. Records examined included archaeological site files and maps, the NRHP, Historic Property Data File, California Inventory of Historic Resources, and the California Points of Historic Interest.

The records search indicated that a very small portion of the southwest corner of the study area was adjacent to a portion of an earlier linear survey. However, the Project parcel itself had not been previously surveyed and no resources had been documented within it. No other studies had been conducted within 0.5 mi. of the study area. One previously recorded resource, a segment of the Lemoore Canal, has been documented within the search radius.

### Field Survey

An intensive Phase I cultural resources survey for the Project study area was conducted by ASM Associate Archaeologist Robert Azpitarte, B.A., with the assistance of ASM Assistant Archaeologists Stacey Escamilla, M.A., and Maggie Lemus, B.A. The survey was conducted on April 26, 2021, with good to excellent surface visibility. The field methods employed included intensive pedestrian examination of the ground surface for evidence of archaeological sites in the form of artifacts, surface features (e.g., bedrock mortars, historical mining equipment), and archaeological indicators (e.g., organically enriched midden soil, burnt animal bone); the identification and location of any discovered sites, should they have been present; tabulation and recording of surface diagnostic artifacts; site sketch mapping; preliminary evaluation of site integrity; and site recording, following the California Office of Historic Preservation Instructions for Recording Historic Resources, using DPR 523 forms. No cultural resources were identified within the Project area as a result of the intensive pedestrian survey.

## **Regulatory Setting**

### Federal Regulations

#### *National Historic Preservation Act (1966)*

The National Historic Preservation Act (NHPA) is the most prominent federal law dealing with historic preservation. The NHPA established guidelines to “preserve important historic, cultural, and natural aspects of our national heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice.” The NHPA includes regulations specifically for federal land-holding agencies, but also includes regulations (Section 106) which pertain to all projects that are funded, permitted, or approved by any federal agency and which have the potential to affect cultural resources. All projects that are subject to NEPA are also subject

to compliance with Section 106 of the NHPA and the NEPA requirements concerning cultural resources can be addressed through compliance with Section 106 of the NHPA process.

Provisions of NHPA establish a National Register of Historic Places (The National Register) maintained by the National Park Service, the Advisory Council on Historic Preservation, State Offices of Historic Preservation, and grants-in-aid programs. At the federal level, the Office of Historic Preservation (OHP) carries out reviews under Section 106 of the National Historic Preservation of 1966, as amended.

### State of California Regulations

In the State of California, the process of reviewing projects and decisions that may impact cultural resources including historic, archaeological, and paleontological resources is conducted under several different federal, state, and local laws. CEQA requires that public agencies consider the effects of their actions on historical resources eligible for listing on the California Register of Historical Resources.

Additionally, California Public Resources Code 5024 requires consultation with OHP when a project may impact historical resources located on State-owned land. California State law (SB 18) requires cities and counties to notify and consult with California Native American Tribes about proposed local land use planning decisions for the purpose of protecting Traditional Tribal Cultural Places (“cultural places”).

### *California Register of Historic Resources (CRHR)*

California State law also provides for the protection of cultural resources by requiring evaluations of the significance of prehistoric and historic resources identified in CEQA documents. Under CEQA, a cultural resource is considered an important historical resource if it meets any of the criteria found in Section 15064.5(a) of the CEQA Guidelines. Criteria identified in the CEQA Guidelines are similar to those described under the NHPA. The State Historic Preservation Office (SHPO) maintains the CRHR. Historic properties listed, or formally designated for eligibility to be listed, on The National Register are automatically listed on the CRHR. State Landmarks and Points of Interest are also automatically listed.

The CRHR can also include properties designated under local preservation ordinances or identified through local historical resource surveys.

*Health and Safety Code, Section 7050.5*

Section 7050.5 of the California Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission (NAHC). CEQA Guidelines (Public Resources Code Section 5097) specify the procedures to be followed in case of the discovery of human remains on non-federal land. The disposition of Native American burials falls within the jurisdiction of the NAHC.

*California Government Code 65352.3-5, Local Government – Tribal Consultation California Government Code Sections 65092, 65351, 65352, 65352.3 and 65352.4, formally known as Senate Bill (SB) 18.*

These regulations regulate the consultation with California Native American tribes having traditional lands located within the jurisdiction of applicable cities and counties. The intent of the underlying legislation was to provide all California Native American tribes that are on the contact list maintained by the Native American Heritage Commission, an opportunity to consult with specific local governments for the purpose of preserving and protecting their sacred places. Such consultations apply to the preparation, adoption and amendment of general plans.

*California Historical Resources Information System (CHRIS)*

The California Historical Resources Information System (CHRIS) is a statewide system for managing information on the full range of historical resources identified in California. CHRIS is a cooperative partnership between the citizens of California, historic preservation professionals, twelve Information Centers, and various agencies. This system bears the following responsibilities: integrate newly recorded sites and information on known resources into the California Historical Resources Inventory; furnish information on known resources and surveys to governments, institutions, and individuals who have a justifiable need to know; and supply a list of consultants who are qualified to do work within their area.

Typically, the initial step in addressing cultural resources in the project review process involves contacting the appropriate Information Center to conduct a record search. A record search should identify any previously recorded historical resources and previous archaeological studies within the project area, as well as provide recommendations for further work, if necessary. Depending on the nature and location of the project, the project proponent or lead agency may be required to contact appropriate Native American representatives to aid in the identification of traditional cultural properties.

If known cultural resources are present within the Project area, or if the Project area has not been previously investigated for the presence of such resources, the Information Center may recommend a survey for historical, archaeological, and paleontological sites. Cultural resources that may be adversely affected by an undertaking should be evaluated for significance. For archaeological sites, a significance evaluation typically involves conducting test excavations. For historical sites or standing structures, historical research should be conducted and an architectural evaluation may be warranted. If significant, the resource should be protected from adverse impacts. Data recovery excavations may be warranted in the case of unavoidable damage to archaeological sites. If human burials are present, the appropriate coroner's office should be contacted. A professional archaeologist and appropriate Native American representatives should also be consulted.

When an initial study identifies the existence, or the probable likelihood, of Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission as provided in Public Resources Code 5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the Native American Heritage Commission.

#### *California Environmental Quality Act (CEQA)*

CEQA is applicable to discretionary actions by state or local lead agencies. Under CEQA, lead agencies must analyze impacts to cultural resources. Significant impacts under CEQA occur when "historically significant" or "unique" cultural resources are adversely affected, which occurs when such resources could be altered or destroyed through project implementation. Historically significant cultural resources are defined by eligibility for or by listing in the California Register of Historical Resources (CRHR). In practice, the federal NRHP criteria for significance applied under Section 106 are generally (although not entirely) consistent with CRHR criteria (see PRC § 5024.1, Title 14 CCR, Section 4852 and § 15064.5(a)(3)).

#### *Assembly Bill (AB) 52*

AB 52, which was approved in September 2014 and became effective on July 1, 2015, requires that CEQA lead agencies consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of a proposed project, if requested by the tribe. A provision of the bill, chaptered in CEQA Section 21086.21, also specifies that a project with an

effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment.

Defined in Section 21074(a) of the Public Resources Code, TCRs are:

1. Sites, features, places, cultural landscapes, sacred places and objects with cultural value to a California Native American tribe that are either of the following:
  - a. Included or determined to be eligible for inclusion in the California Register of Historical Resources; or
  - b. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

TCRs are further defined under Section 21074 as follows:

- a. A cultural landscape that meets the criteria of subdivision (a) is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape; and
- b. A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a “non-unique archaeological resource” as defined in subdivision (h) of Section 21083.2 may also be a TCR if it conforms with the criteria of subdivision (a).

Mitigation measures for TCRs must be developed in consultation with the affected California Native American tribe pursuant to newly chaptered Section 21080.3.2, or according to Section 21084.3. Section 21084.3 identifies mitigation measures that include avoidance and preservation of TCRs and treating TRCs with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource.

#### *Senate Bill 18*

SB 18 (Statutes of 2004, Chapter 905), which went into effect January 1, 2005, requires local governments (city and county) to consult with Native American tribes before making certain

planning decisions and to provide notice to tribes at certain key points in the planning process. The intent is to “provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places” (Governor’s Office of Planning and Research, 2005).

The purpose of involving tribes at these early planning stages is to allow consideration of cultural places in the context of broad local land use policy, before individual site-specific, project-level, land use designations are made by a local government. The consultation requirements of SB 18 apply to general plan or specific plan processes proposed on or after March 1, 2005.

According to the Tribal Consultation Guidelines: Supplement to General Plan Guidelines (Governor’s Office of Planning and Research, 2005), the following are the contact and notification responsibilities of local governments:

- Prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes (on the contact list maintained by the NAHC) of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to, cultural places located on land within the local government’s jurisdiction that is affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe (Government Code Section 65352.3).
- Prior to the adoption or substantial amendment of a general plan or specific plan, a local government must refer the proposed action to those tribes that are on the NAHC contact list and have traditional lands located within the city or county’s jurisdiction. The referral must allow a 45-day comment period (Government Code Section 65352). Notice must be sent regardless of whether prior consultation has taken place. Such notice does not initiate a new consultation process.
- Local government must send a notice of a public hearing, at least 10 days prior to the hearing, to tribes who have filed a written request for such notice (Government Code Section 65092).



## Local Regulations

### *City of Lemoore General Plan, 2030*

The following lists goals and policies from the City of Lemoore General Plan pertaining to cultural resources that are applicable to the proposed Project.

**COS-G-11** Identify and preserve the archaeological and historic resources that are found within the Lemoore Planning Area.

**COS-I-33** Require that new development analyze and avoid potential impacts to archaeological, paleontological, and historic resources by:

- Requiring a records review for development proposed in areas that are considered archaeologically or paleontologically sensitive;
- Determining the potential effects of development and construction on archeological or paleontological resources (as required by CEQA);
- Requiring pre-construction surveys and monitoring during any ground disturbance for all development in areas of historical and archaeological sensitivity; and
- Implementing appropriate measures to avoid the identified impacts, as conditions of project approval.

*In the event that historical, archaeological, or paleontological resources are accidentally discovered during construction, grading activity in the immediate area shall cease and materials and their surroundings shall not be altered or collected. A qualified archaeologist or paleontologist must make an immediate evaluation and avoidance measures or appropriate mitigation should be completed, according to CEQA Guidelines. The State Office of Historic Preservation has issued recommendations for the preparation of Archeological Resource Management Reports that will be used as guidelines.*

**COS-I-34** If, prior to grading or construction activity, an area is determined to be sensitive for paleontological resources, retain a qualified paleontologist to recommend appropriate actions. Appropriate action may include avoidance, preservation in place, excavation, documentation, and/or data recovery, and shall always include preparation of a written report

documenting the find and describing steps taken to evaluate and protect significant resources.

## Thresholds of Significance

In accordance with Appendix G to the State CEQA Guidelines, the project would have a significant impact on cultural resources if it would cause any of the following conditions to occur:

- Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5; or
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5; or
- Disturb any human remains, including those interred outside of dedicated cemeteries.

Under CEQA, significant cultural resources are those archaeological resources and historical properties that:

- Are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Are associated with the lives of persons important in our past;
- Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or
- Have yielded, or may be likely to yield, information important in prehistory or history.

Unique resources under CEQA, in slight contrast, are those that represent:

An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC § 21083.2(g)).

Preservation in place is the preferred approach under CEQA to mitigating adverse impacts to significant or unique cultural resources.

## Impacts and Mitigation Measures

**Impact 3.4-1:** *Cause a substantial adverse change in the significance of a historical or archaeological resource pursuant to §15064.5?*

**Less Than Significant With Mitigation.** As stated previously, according to the records search, a very small portion of the southwest corner of the study area was adjacent to a portion of an earlier linear survey, resulting in one previously recorded resource within the study area, a segment of the Lemoore Canal. However, the Project will not impact the Canal. The Project parcel itself had not been previously surveyed and no resources had been documented within it. No other studies had been conducted within 0.5 mi. of the study area. The intensive field survey performed on behalf of the Project did not result in the identification of cultural resources.

Additionally, the study area was evaluated by Caltrans in 2010 and was identified as having "Low to Moderately Low" sensitivity for subsurface deposits (Appendix E). Given its low sensitivity for buried deposits according to this analysis, it is therefore unlikely that the Project study area would contain subsurface archaeological deposits.

Although construction and operation would occur on previously disturbed land, unknown historical resources may be discovered during ground-disturbing activities. In order to account for unanticipated discoveries and the potential to impact previously undocumented or unknown resources, the following mitigation measures are recommended. With the implementation of Mitigation Measures CUL-1 through CUL-3, impacts under this criterion would be less than significant with mitigation.

### Mitigation Measures:

**CUL-1:** Prior to any ground disturbance, a surface inspection of the site shall be conducted by a Tribal Monitor. The Tribal Cultural Staff shall monitor the site during grading activities. The Tribal Staff shall provide pre-project-related activities briefings to supervisory personnel and any excavation contractor, which will include information on potential cultural material finds, and any excavation contractor, which will include information on potential cultural material finds, and on the procedures, to be enacted if resources are found. Prior to any ground disturbance,

the applicant shall offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground-disturbing activities. Tribal participation would be dependent upon the availability and interest of the tribe.

**CUL-2:** In the event that historical or archaeological cultural resources are discovered during project-related activities or decommissioning, operations shall stop within 100 feet of the find, and a qualified archeologist shall determine whether the resource requires further study. The qualified archeologist shall determine the measures that shall be implemented to protect the discovered resources including, but not limited to, excavation of the finds and evaluation of the finds and evaluation of the finds in accordance with § 15064.5 of the CEQA Guidelines. Measures may include avoidance, preservation in-place, recordation, additional archaeological resting, and data recovery, among other options. Any previously undiscovered resources found during project-related activities within the project area shall be recorded on appropriate Department of Parks and Recreation forms and evaluated for significance. No further ground disturbance shall occur in the immediate vicinity of the discovery until approved by the qualified archaeologist.

The Lead Agency, along with other relevant or tribal officials, shall be contacted upon the discovery of cultural resources to begin coordination on the disposition of the find(s). Treatment of any significant cultural resources shall be undertaken with the approval of the Lead Agency.

**CUL-3:** Upon coordination with the Lead Agency, any archaeological artifacts recovered shall be donated to an appropriate tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.

**Impact 3.4-2:** *Disturb any human remains, including those interred outside of formal cemeteries?*

**Less Than Significant With Mitigation.** California Health and Safety Code Section 7050.5, CEQA Section 15064.5, and Public Resources Code Section 5097.98 mandate the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery. Specifically, California Health and Safety Code Section 7050.5 requires that in the event that human remains are discovered within a project site, disturbance of the site shall remain halted until the coroner has conducted an investigation into the circumstances, manner and cause

of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes or has reason to believe the human remains to be those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. Although soil-disturbing activities associated with development in accordance with the proposed project could result in the discovery of human remains, compliance with existing law would ensure that impacts to human remains would not be significant.

Project development would occur on existing disturbed lands; however, further disturbance could potentially uncover human remains. This would be a potentially significant impact. However, Mitigation Measure CUL-4 included herein will reduce the impact to a *less than significant* level.

#### **Mitigation Measures:**

**CUL-4:** If human remains are discovered during project-related activities or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987) shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of discovery of human remains, at the direction of the County Coroner.

#### **Cumulative Impacts**

**Less Than Cumulatively Considerable.** The geographic area for considering cumulative impacts to cultural resources is all of Kings County. Development in Kings County and the San Joaquin Valley has likely resulted in the loss or degradation of historic and/or archaeological resources. As discussed above, implementation of mitigation measures will ensure that Project implementation avoids and/or minimizes a cumulative loss of these resources if they are found during Project activities and would reduce impacts associated with cumulative development to a less than significant level. As such, the proposed projects impact to cultural and tribal resources would be *less than cumulatively considerable*.

## 3.5 Energy

This section of the DEIR analyzes the Project's potential impacts on energy resources. The information and analysis presented in this Section are based on the Air Quality and Greenhouse Gas / Energy Analysis Report (AQGGA) prepared for this Project (Mitchell Air Quality Consulting, which is included in Appendix B of this document.

### **Environmental Setting**

#### Electricity

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of system components, including substations and transformers that lower transmission line power (voltage) to a level appropriate for on-site distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Conveyance of electricity through transmission lines is typically responsive to market demands.

#### *Energy Usage*

Energy usage is typically quantified using the British Thermal Unit (BTU). Total energy consumption in California was 7,967 trillion BTU's in 2018 (the most recent year for which this specific data is available), which equates to an average of 202 million BTU's per capita.<sup>1</sup> Of California's total energy usage, the breakdown by sector is 40 percent transportation, 23 percent industrial, 19 percent commercial, and 18 percent residential.<sup>2</sup> Electricity and natural gas in California are generally consumed by stationary users such as residences and commercial and industrial facilities, whereas petroleum consumption is generally accounted for by transportation-related energy use.

While BTUs measure total energy usage, electricity is generally measured in kilowatt-hours (kWh) which is the standard billing unit for energy delivered to consumers by electrical utilities.

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<sup>1</sup> U.S. Energy Information Administration, California State Profile and Energy Estimates. <https://www.eia.gov/state/print.php?sid=CA>. Accessed February 2021.

<sup>2</sup> Ibid.

The electricity consumption attributable to Kings County from 2009 to 2019 is shown in Table 3.5-1. As indicated, energy consumption in Kings County varied approximately 22 percent over the last 10 years.

**Table 3.5-1  
Electricity Consumption in Kings County 2009 – 2019<sup>3</sup>**

<b>Year</b>	<b>Electricity Consumption (in millions of kilowatt hours)</b>
2009	1,585
2010	1,452
2011	1,423
2012	1,680
2013	1,785
2014	1,817
2015	1,774
2016	1,779
2017	1,498
2018	1,758
2019	1,583

### Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs, mainly located outside the State, and delivered through high-pressure transmission pipelines. The natural gas transportation system is a nationwide network, and, therefore, resource availability is typically not an issue. Natural gas provides almost one-third of the state's total energy requirements and is used in electricity generation, space heating, cooking, water heating, industrial processes, and as a transportation fuel.

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<sup>3</sup> California Energy Commission. Energy Reports. Electricity Consumption by County. <https://ecdms.energy.ca.gov/elecbycounty.aspx>. Accessed February 2021.

Natural gas is provided to the Project area by Southern California Gas. The natural gas consumption attributable to Kings County from 2009 to 2019 is provided in Table 3.5-2, Natural Gas Consumption in Kings County 2009-2019. Natural gas consumption in Kings County varied 9% over the 10-year span.

**Table 3.5-2  
Natural Gas Consumption in Kings County 2009 – 2019<sup>4</sup>**

<b>Year</b>	<b>Natural Gas Consumption (in millions of therms)</b>
2009	68
2010	69
2011	71
2012	68
2013	70
2014	66
2015	67
2016	67
2017	64
2018	70
2019	69

### Transportation Energy

According to the U.S. Energy Administration, transportation accounted for 40 percent of California’s total energy consumption in 2018.<sup>5</sup> In 2019, California consumed 15.4 billion gallons

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<sup>4</sup> California Energy Commission. Energy Reports. Gas Consumption by County. <http://www.ecdms.energy.ca.gov/gasbycounty.aspx> Accessed February 2021.

<sup>5</sup> U.S. Energy Information Administration, California State Profile and Energy Estimates. <https://www.eia.gov/state/print.php?sid=CA>. Accessed February 2021.



of gasoline (including aviation gasoline) and 3.0 billion gallons of diesel fuel.<sup>6</sup> More motor vehicles are registered, and more vehicle miles are traveled in California than in any other state.<sup>7</sup>

According to the Board of Equalization (BOE), statewide taxable sales figures indicate a total of 15,471 million gallons of gasoline and 1,777 million gallons of diesel fuel were sold in 2018.<sup>8</sup> Although exact estimates are not available by County, retail fuel outlet survey data indicates Kings County accounted for approximately 0.50 percent and 0.51 percent of total statewide gasoline and diesel sales, respectively, in 2019.<sup>9</sup>

## Regulatory Setting

### Federal Regulations

#### *Federal Energy Policy and Conservation Act*

In 1975, Congress enacted the Energy and Policy Conservation Act, which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration (NHTSA) is responsible for establishing additional vehicle standards.

#### *Energy Policy Act of 2005*

This Act addresses energy efficiency; renewable energy requirement; oil, natural gas and coal; alternative-fuel use; tribal energy, nuclear security; vehicles and vehicle fuels, hydropower and geothermal energy, and climate change technology. The Act provides revised annual energy reduction goals (two percent per year beginning in 2006), revised renewable energy purchase goals, federal procurement of Energy Star or Federal Energy Management Program-designated products, federal green building standards, and fuel cell vehicle and hydrogen energy system research/demonstration.

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<sup>6</sup> California Department of Tax and Fee Administration. June 2020 – Motor Vehicle Fuel 10 Year Reports and Taxable Diesel Gallons 10 Year Report. <https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm>. Accessed February 2021.

<sup>7</sup> U.S. Energy Information Administration. California Profile Analysis. Updated January 16, 2020. <https://www.eia.gov/state/analysis.php?sid=CA>. Accessed February 2021.

<sup>8</sup> California Energy Commission. California Retail Fuel Outlet Annual Reporting (CEC-A15) Results. <https://www.energy.ca.gov/media/3874>. Accessed February 2021.

<sup>9</sup> California Energy Commission. California Retail Fuel Outlet Annual Reporting (CEC-A15) Results. <https://www.energy.ca.gov/media/3874>. Accessed February 2021.

*Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)*

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) was enacted to promote the development of intermodal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs), such as Kings CAG, were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values that were to guide transportation decisions in that metropolitan area. The planning process for specific projects would then address these policies. Another requirement was to consider the consistency of transportation planning with federal, State, and local energy goals. Through this requirement, energy consumption was expected to become a decision criterion, along with cost and other values that determine the best transportation solution.

*Energy Independence and Security Act of 2007*

The Energy Independence and Security Act of 2007 (EISA) set increased Corporate Average Fuel Economy (CAFE) standards for motor vehicles and includes the following provisions related to energy efficiency:

- Renewable fuel standards (RFS)
- Appliance and lighting efficiency standards
- Building energy efficiency

EISA requires increasing levels of renewable fuels to replace petroleum. The EPA is responsible for developing and implementing regulations to ensure transportation fuel sold into the U.S. contains a minimum volume of renewable fuel.

The RFS program regulations were developed in collaboration with refiners, renewable fuel products, and other stakeholders and were created under the Energy Policy Act of 2005 and was expanded and extended by the 2007 EISA. The RFS program established the first renewable fuel volume mandate in the United States. As required under the act, the original RFS program required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under EISA, the RFS program was expanded in several key ways that laid the foundation for achieving significant reductions of GHG emissions through the use of renewable fuels, for reducing imported petroleum, and for encouraging the development and expansion of the nation's renewable fuels sector. The EISA-updated program is referred to as RFS2 and includes the following:

- EISA expanded the RFS program to include diesel, in addition to gasoline:
  - EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022;
  - EISA established new categories of renewable fuel and set separate volume requirements for each one; and
- EISA was required by the EPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.<sup>10</sup>

Additional provisions of the EISA address energy savings in government and public institutions, promoting research for alternate energy, additional research in carbon capture, international energy programs, and the creation of “green jobs.”

#### *Federal Vehicle Standards*

In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011; and, in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, President Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of carbon dioxide (CO<sub>2</sub>) in model year 2025, on an average industry fleetwide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014 – 2018. The standards for CO<sub>2</sub> emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG

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<sup>10</sup> U.S. EPA. Renewable Fuel Standard Program. Overview for Renewable Fuel Standard. <https://www.epa.gov/renewable-fuel-standard-program/overview-renewable-fuel-standard>. Accessed February 2021.

emissions and fuel consumption for the affected vehicles by 6 to 23 percent over the 2010 baselines.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018-2027 for certain trailers, and model years 2021-2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO<sub>2</sub> emissions by approximately 1.1 billion metric tons (MT) and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program.<sup>11</sup>

In August 2018, The USEPA and NHTSA released a notice of proposed rulemaking called Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (SAFE Vehicles Rule). This rule would modify the existing CAFÉ standards and tailpipe carbon dioxide emissions standards for passenger cars and light trucks, and establish new standards covering model years 2021-2026. SAFE standards are expected to uphold model year 2020 standards through 2026.<sup>12</sup>

### State of California Regulations

#### *Integrated Energy Policy Report*

Senate Bill 138 (Bowen Chapter 568, Statutes of 2002) requires the California Energy Commission to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public and safety (Public Resources Code §25301(a)).

The 2019 Integrated Energy Policy Report<sup>13</sup> (IEPR) was adopted in February 2020, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2019 IEPR focuses on a variety of topics such as including the environmental

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<sup>11</sup> U.S. Department of Transportation. Briefing Room. EPA and DOT Finalize Greenhouse Gas and Fuel Efficiency Standards for Heavy-Duty Trucks. <https://www.transportation.gov/briefing-room/epa-and-dot-finalize-greenhouse-gas-and-fuel-efficiency-standards-heavy-duty-trucks>. Accessed February 2021.

<sup>12</sup> U.S. Department of Transportation. SAFE. The Safer Affordable Fuel-Efficient 'SAFE' Vehicles Rule. [https://www.nhtsa.gov/corporate-average-fuel-economy/safe#:~:text=The%20Safer%20Affordable%20Fuel%2DEfficient%20\(SAFE\)%20Vehicles%20Rule%20proposed,model%20years%202021%20through%202026](https://www.nhtsa.gov/corporate-average-fuel-economy/safe#:~:text=The%20Safer%20Affordable%20Fuel%2DEfficient%20(SAFE)%20Vehicles%20Rule%20proposed,model%20years%202021%20through%202026). Accessed February 2021.

<sup>13</sup> California Energy Commission. 2019 Integrated Energy Policy Report Update. <https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2019-integrated-energy-policy-report>. Accessed February 2021.

performance of the electricity generation system, landscape-scale planning, transportation fuel supply reliability issues, and the California Energy Demand Forecast.

#### *State of California Energy Plan*

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

#### *California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24)*

California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce energy consumption in California. Although not originally intended to reduce GHG emissions, increased energy efficiency and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to this standard, which are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). The purpose of the CALGreen Code is to “improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) planning and design; (2) energy efficiency; (3) water efficiency and conservation; (4) material conservation and resource efficiency; and (5) environmental air quality.” The CALGreen Code is not intended to substitute or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC).

CALGreen contains both mandatory and voluntary measures. For nonresidential land uses, there are 39 mandatory measures including, but not limited to, exterior light pollution reduction, wastewater reduction by 20 percent, and commissioning of projects over 10,000 square feet. Two tiers of voluntary measures apply to nonresidential land uses, for a total of 36 additional elective measures.

California’s Building Energy Efficiency Standards (Title 24) are updated on an approximately three-year cycle. Starting in 2020, the 2019 standards improve upon existing standards, focusing on three key areas: proposing new requirements for installation of solar photovoltaics for newly constructed low-rise residential buildings; updating current ventilation and Indoor Air Quality (IAQ) requirements; and extending Title 24 Part 6 to apply to healthcare facilities. The 2019 Building Energy Efficiency Standards are approximately 53 percent more efficient than the 2016 Title 24 Energy Standards for residential development and approximately 30 percent more efficient for nonresidential development.

*Warrant-Alquist Energy Resources Conservation and Development Act*

The Warren-Alquist Energy Resources Conservation and Development Act (Warren-Alquist Act), initially passed in 1974 and amended since, created the CEC, the State’s primary energy and planning agency. The seven responsibilities of the Commission are: forecasting future energy needs, promoting energy efficiency and conservation through setting standards, supporting energy related research, developing renewable energy resources, advancing alternative and renewable transportation fuels and technologies, certifying thermal power plants 50 megawatts or larger, and planning for and directing State response to energy emergencies. The State Energy Commission regulates energy resources by incentivizing research into energy supply and demand dynamics to reduce the rate of growth of energy consumption. Additionally, the Warren-Alquist Act acknowledges the need for renewable energy resources and encourages the Commission to explore renewable energy options that would be in line with environmental and public safety goals.

*Executive Order B-30-15*

Executive Order B-30-15, 2030 Carbon Target and Adaptation, issued by Governor Brown in April 2015, set a target of reducing GHG emissions by 40 percent below 1990 levels in 2030. To achieve this ambitious target, Governor Brown identified five key goals for reducing GHG emissions in California through 2030:

- Increase the amount of renewable electricity provided state-wide to 50 percent;
- Double energy efficiency savings achieved in existing buildings and make heating fuels cleaner;
- Reduce petroleum use in cars and trucks by up to 50 percent;
- Reduce emissions of short-lived climate pollutants; and
- Manage farms, rangelands, forests, and wetlands to increasingly store carbon.

*Senate Bill (SB) 375 (Sustainable Communities and Climate Protection Act)*

In January 2009, California SB 375, known as the Sustainable Communities and Climate Protection Act, went into effect. The objective of SB 375 is to better integrate regional planning of transportation, land use, and housing to reduce sprawl and ultimately reduce GHG emissions and other air pollutants. SB 375 tasks CARB to set GHG reduction targets for each of California's 18 regional Metropolitan Planning Organizations (MPOs). Each MPO is required to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan (RTP). The SCS is a growth strategy in combination with transportation policies that will show how the MPO will meet its GHG reduction target. If the SCS cannot meet the reduction goal, an Alternative Planning Strategy may be adopted that meets the goal through alternative development, infrastructure, and transportation measures or policies.

In 2010, CARB released the proposed GHG reduction targets for the MPOs. The proposed reduction targets for the Kern COG region were five percent by year 2020 and ten percent by year 2035 through September of 2018, then six percent by 2020 and 13 percent by 2035 beginning in October of 2018.<sup>14</sup>

#### *Renewables Portfolio Standard Program*

In 2002, California established its Renewables Portfolio Standard (RPS) Program, with the goal of increasing the percentage of renewable energy in the state's electricity mix to 20 percent of retail sales by 2017. The 2003 Integrated Energy Policy Report recommended accelerating that goal to 20 percent by 2010, and the 2004 Energy Report Update further recommended increasing the target to 33 percent by 2020. The state's Energy Action Plan also supported this goal. In 2006 under Senate Bill 107, California's 20 percent by 2010 RPS goal was codified. The legislation required retail sellers of electricity to increase renewable energy purchases by at least one percent each year with a target of 20 percent renewables by 2010. Publicly owned utilities set their own RPS goals, recognizing the intent of the legislature to attain the 20 percent by 2010 target.

In 2008, Governor Schwarzenegger signed Executive Order S-14-08 requiring that "all retail sellers of electricity shall serve 33 percent of their load with renewable energy by 2020." The following year, Executive Order S-21-09 directed CARB to enact regulations to achieve the goal of 33 percent renewables by 2020.

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<sup>14</sup> California Air Resources Board. Regional Plan Targets. <https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets>. Accessed February 2021.

In 2015, Governor Brown signed Senate Bill 350 to codify ambitious climate and clean energy goals. One key provision of SB 350 is for retail sellers and publicly owned utilities to procure “half of the state’s electricity from renewable sources by 2030.”

The State’s RPS program was further strengthened by SB 100 in 2018. SB 100 revised the State’s RPS Program to require retail sellers of electricity to serve 50 percent and 60 percent of the total kilowatt-hours sold to retail end-use customers be served by renewable energy sources by 2026 and 2030, respectively, and to require that 100 percent of all electricity supplied come from renewable sources by 2045.

#### *Executive Order B-55-18*

In 2018, Governor Brown signed EO B-55-18 to achieve carbon neutrality by moving California to 100 percent clean energy by 2045. This Executive Order also includes specific measures to reduce GHG emissions via clean transportation, energy efficient buildings, directing cap-and-trade funds to disadvantaged communities, and better management of the state’s forest land.

#### *Low Carbon Fuel Standard Regulation*

CARB initially approved the Low Carbon Fuel Standard (LCFS) regulation in 2009, identifying it as one of the nine discrete early action measures in its 2008 Scoping Plan to reduce California’s GHG emissions. The LCFS regulation defines a Carbon intensity, or “CI,” reduction target (or standard) for each year, which the rule refers to as the “compliance schedule.” The LCFS regulation requires a reduction of at least 10 percent in the CI of California’s transportation fuels by 2020 and maintains that target for all subsequent years.

CARB has begun the rulemaking process for strengthening the compliance target of the LCFS through the year 2030. For a new LCFS target, the preferred scenario in its 2017 Scoping Plan Update identifies an 18 percent reduction in average transportation fuel carbon intensity, compared to a 2010 baseline, by 2030 as one of the primary measures for achieving the state’s GHG 2030 target. Achieving the SB 32 reduction goals will require the use of a low carbon transportation fuels portfolio beyond the amount expected to result from the current compliance schedule.<sup>15</sup>

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<sup>15</sup> California Air Resources Board. CARB amends Low Carbon Fuel Standard for wider impact. <https://ww2.arb.ca.gov/index.php/news/carb-amends-low-carbon-fuel-standard-wider-impact>. Accessed February 2021.



### *Advanced Clean Cars Program*

In 2012, CARB approved the Advanced Clean Cars (ACC) Program (formerly known as Pavley II) for model years 2017-2025. The components of the ACC program are the Low-Emission Vehicle (LEV) regulations and the Zero-Emission Vehicle (ZEV) regulation. The program combines the control of smog, soot, and global warming gases with requirements for greater numbers of zero-emission vehicles into a single package of standards. By 2025, new automobiles under California's Advanced Clean Car program will emit 34 percent less global warming gases and 75 percent less smog-forming emissions.

EO B-48-18, issued by Governor Brown in 2018, establishes a target to have five million ZEVs on the road in California by 2030. This Executive Order is supported by the State's 2018 ZEV Action Plan Priorities Update, which expands upon the State's 2016 ZEV Action Plan. While the 2016 plan remains in effect, the 2018 update functions as an addendum, highlighting the most important actions State agencies are taking in 2018 to implement the directives of EO B-48-18.

### *California Environmental Quality Act (CEQA)*

Section 21100(b) of the California Environmental Quality Act (CEQA) Guidelines (State CEQA Guidelines) requires that an EIR include a detailed statement setting forth mitigation measures proposed to minimize a project's significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, or unnecessary consumption of energy. Appendix F of the State CEQA Guidelines states that, in order to ensure that energy implications are considered in project decisions, the potential energy implications of a project shall be considered in an EIR, to the extent relevant and applicable to the project. Appendix F further states that a project's energy consumption and proposed conservation measures may be addressed, as relevant and applicable, in the Project Description, Environmental Setting and Impact Analysis portions of technical sections, as well as through mitigation measures and alternatives.

In accordance with the intent of Appendix F of the State CEQA Guidelines, which requires an EIR to include a discussion of the potential energy impacts of a proposed project with an emphasis on avoiding or reducing inefficient, wasteful, or unnecessary consumption of energy, this Draft EIR includes relevant information and analyses that address the energy implications of the Project. This section represents a summary of the Project's anticipated energy needs, impacts, and conservation measures.

## Local Regulations

### *City of Lemoore General Plan 2030*

The following lists goals and policies from the City of Lemoore General Plan pertaining to energy consumption and conservation.

**CD-I-58** Require new development to incorporate passive heating and natural lighting strategies if feasible and practical. These strategies should not include, but are not limited to, the following:

- Using building orientation, mass and form, including façade, roof, and choice of building materials, color, type of glazing, and insulation to minimize heat loss during winter months and heat gain during summer months;
- Designing building openings to regulate internal climate and maximize natural lighting, while keeping glare to a minimum; and
- Reducing heat-island effect of large concrete roofs and parking surfaces.

**CD-I-60** Incorporate green building standards into the Zoning Ordinance and building code to ensure a high level of energy efficiency in new development, retrofitting projects, and City facilities. These standards should include, but are not limited to, the following:

- Require the use of Energy Star® appliances and equipment in new and substantial renovations of residential development, commercial development, and City facilities;
- Require all new development incorporate green building methods to qualify for the equivalent of LEED Certified “Silver” rating or better (passive solar orientation must be a minimum component);
- Require all new residential development to be pre-wired for optional photovoltaic energy systems and/or solar water heating on south facing roofs; and
- Require all new projects that will use more than 40,000 kilowatt hours per year of electricity to install photovoltaic energy systems.

## Thresholds of Significance

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact related to energy if it will:

- Result in a wasteful, inefficient or unnecessary consumption of energy resources;
- Conflict with or obstruct state or local plans.

## Impacts and Mitigation Measures

**Impact 3.5-1:** *Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

**Less Than Significant.** Project implementation would increase the demand for electricity and natural gas within the Project area and gasoline consumption in the region during construction and operation of new land use developments.

### Construction Energy Consumption

Project construction is assumed to be completed over 16 years. Construction activities would consume energy through the operation of heavy off-road equipment, trucks, and worker traffic. Construction equipment fuel consumption for each of was based on equipment lists generated using CalEEMod default values. The fuel consumption of off-road equipment calculated in this analysis is based on the South Coast Air Quality Management District (SCAQMD) estimated fuel consumption rate of 0.05 gallon per horsepower-hour and the horsepower, usage hours, and load factors from CalEEMod model runs prepared for the Project's air quality analysis.

Based on the anticipated construction schedule and hours of use, construction equipment would result in the consumption of approximately 1,219,180 gallons of diesel fuel over the entire 16-year construction period.

Worker, vendor, and haul trips would result in approximately 3,971,682 VMT over the entire construction period. A countywide average fuel consumption of 40.0 miles per gallon (mpg) for employee vehicles and 9.8 mpg for vendor trucks were obtained from EMFAC 2017. The results indicate that construction trips would consume approximately 101,002 gallons of motor vehicle fuel.

Although the proposed Project would result in the consumption of an estimated 1.2 gallons of diesel and 101,002 gallons of motor vehicle fuels during construction, the Project is expected to achieve energy efficiencies typical for residential projects in California. Construction equipment fleet turnover and increasingly stringent State and federal regulations on engine efficiency, combined with local, State, and federal regulations limiting engine idling times and require recycling of construction debris, would further reduce the amount of transportation fuel demand during Project construction. Considering these reductions in transportation fuel use, the proposed Project would not result in the wasteful and inefficient use of energy resources during construction and impacts would be *less than significant*. Detailed modeling results are provided in Appendix B. Construction energy use is summarized in Table 3.5-3.

**Table 3.5-3  
Construction Energy Consumption**

Activity	Variable	Consumption Rate	Consumption Amount
<b>Construction Equipment Diesel Fuel Use</b>	hp-hr of equipment use per project Hours of Use	0.05 gal/hp-hr  219,200 hours	1,219,180 gallons (diesel)
<b>Construction Employee VMT</b>	VMT/Project	VMT = 3,951,324 mpg = 40.0	98,904 gallons (all fuels)
<b>Construction Vendor Truck VMT</b>	VMT/Project	VMT = 20,448 mpg = 9.75	2,097 gallons (all fuels)
<p>Notes:</p> <p>mpg = miles per gallon      VMT = vehicle miles traveled                      hp-hr = horsepower per hour                      Source of data for construction and VMT: CalEEMod 2016.3.2 Source of Kings County mpg for 2021: EMFAC 2017. Modeling results are provided in Appendix B.</p>			

### Operation Energy Consumption

Long-term energy consumption associated with the Project includes electricity and natural gas consumption by residents, electricity required for water supply, treatment, distribution, and wastewater treatment, and motor vehicle travel.

### Electricity and Natural Gas Consumption

During operations the proposed Project would consume natural gas for space heating, water heating, and cooking associated with the land uses on the Project site. The natural gas consumption was estimated using the CalEEMod default values and results. The results of the analysis indicate that the Project would consume approximately 16,178,030 thousand British thermal units (kBtu) per year of natural gas per year during operation.

In addition to the consumption of natural gas, the proposed Project would use electricity for lighting, appliances, and other uses associated with the Project. Electricity use during operations was estimated using CalEEMod default values. The results of the modeling indicate that the Project would use approximately 5,698,288 kilowatt-hours (kWh) of electricity per year. Title 24 (2019) requires the installation of solar panels in residential developments. The number of panels installed can vary due to local conditions and Project design. In addition, some Projects may use community solar instead of rooftop solar installations. Although the energy estimates assume no solar will be installed, most electricity used by the residential portions of the Project is expected to be generated by zero emission renewable sources.

As described above, the proposed Project would result in a long-term increase in demand for electricity from PG&E. However, the Project would be designed to meet the most recent Title 24 standards. Title 24 specifically establishes energy efficiency standards for residential and non-residential buildings constructed in the State of California in order to reduce energy demand and consumption. Title 24 is updated periodically to incorporate and consider new energy efficiency technologies and methodologies. Therefore, impacts from the wasteful or inefficient use of electricity or natural gas during operation of the Project would be *less than significant*.

### Water Treatment, Conveyance, and Distribution

Water used for indoor and outdoor purposes requires electricity for water treatment, conveyance, and distribution. The Project's water demand was calculated from default values for the residential development using CalEEMod. Based on this methodology, the proposed Project is estimated to use approximately 39.1 million gallons of potable water per year as well as 32.2

million gallons of water for irrigation per year. This would result in the consumption of approximately 324,540 kWh of electricity per year.

Although the proposed Project would result in electricity use from the treatment, conveyance, and distribution of water to the Project site, the Project would also require all water fixtures to be compliant with the 2019 California Green Building Standards Code and landscaping compliant with the Model Water Efficiency Landscape Ordinance (MWELo), which would reduce the amount of water used by the Project and would require compliance with regulations relating to drought conditions. Therefore, the Project would not result in the wasteful or inefficient use of electricity for water treatment, conveyance, and distribution and impacts would be *less than significant*.

#### Wastewater Service

The Project would be served by the City of Lemoore Wastewater Plant. Project wastewater generation was estimated using CalEEMod default assumptions for indoor water use required by the Project land uses. Project indoor water use of 39.1 million gallons per year would result in the use of 211,811 kWh of electricity per year. Compliance with the 2013 California Green Building Standards Code would reduce the wastewater generated by the Project. Energy used for treating Project wastewater will increasingly be generated by renewable energy sources to comply with RPS standards that apply to the energy utility serving the Project area.

Wastewater service would require an extension of sewer lines to the treatment plant. The energy added for the extension and use of these facilities combined with the Project's estimated electricity and natural gas consumption would not result in substantial new energy generation or transmission infrastructure due to the location and capacity of existing energy infrastructure near the Project site. Additionally, the Project would be constructed over about 16 years, allowing for gradual expansion of facilities. Therefore, the Project would not result in the wasteful or inefficient use of electricity for wastewater treatment, and impacts would be *less than significant*.

#### Motor Vehicle Fuel Consumption

During operation of the proposed Project, vehicle trips would be generated by the Project. The Project was modeled with CalEEMod using ITE 10th Edition vehicle trip generation rates and default trip lengths. The results show that the vehicle trips generated would result in approximately 17,822,665 VMT per year. Based on a countywide average fuel consumption of 25.79 mpg from EMFAC 2017 for all vehicle classifications for 2038, the proposed Project would result in the consumption of an estimated 691,069 gallons per year of transportation fuel. By

comparison, approximately 28.7 billion gallons of petroleum are consumed in California annually.<sup>16</sup>

Various federal and State regulations including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and Low Emission Vehicle Program would serve to reduce the Project's transportation fuel consumption progressively into the future. In addition, the Project will include bike lanes, and pedestrian infrastructure that will increase trips by walking and bicycling. Therefore, the Project would be designed to avoid the wasteful and inefficient use of transportation fuel during operations and impacts would be *less than significant*.

State and federal regulatory requirements addressing fuel efficiency are expected to increase fuel efficiency over time as older, less fuel-efficient vehicles are retired. The efficiency standards and light/heavy vehicle efficiency/hybridization programs contribute to increased fuel efficiency and therefore would reduce vehicle fuel energy consumption rates over time. The annual vehicular energy consumption calculated for the proposed Project was based on 2038 average rates for Kings County. While the Project would increase the consumption of gasoline and diesel proportionately with projected population growth, the increase would be accommodated within the projected growth as part of the energy projections for the State and the region and would not require the construction of new regional energy production facilities. Therefore, energy impacts related to fuel consumption/efficiency during Project operations would be *less than significant*.

### Impact Summary

As described above, the Project would not result in the wasteful, inefficient, or unnecessary use of energy due to Project design features that will comply with the City's design guidelines and regulations that apply to the Project, such as Title 24 Building Energy Efficiency Standards and the California Green Building Standards Code that apply to residential buildings. The installation of solar panels required by 2019 Title 24 standards is expected to offset most electricity used by Project residences. Furthermore, various federal and State regulations including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and Low Emission Vehicle Program would serve to reduce the transportation fuel demand by the Project.

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<sup>16</sup> EIA. 2020. "California State Profile and Energy Estimates – Table F16: Total Petroleum Consumption Estimates, 2017." Accessed June 2021. [https://www.eia.gov/state/seds/data.php?infile=/state/seds/sep\\_fuel/html/fuel\\_use\\_pa.html&sid=US&sid=CA](https://www.eia.gov/state/seds/data.php?infile=/state/seds/sep_fuel/html/fuel_use_pa.html&sid=US&sid=CA)

With the adherence to the increasingly stringent building and vehicle efficiency standards as well as implementation of the Project’s design features that would reduce energy consumption, the proposed Project would not contribute to a cumulative impact to the wasteful or inefficient use of energy. As such, the Project would not result in a significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation. A summary of the Project’s estimated operational energy consumption is provided in Table 3.5-4.

In summary, although project implementation would result in an increase in petroleum use during construction and operation, over time vehicles would use less petroleum due to advances in fuel economy. Given these considerations, energy consumption associated with the Project would not result in the unnecessary, inefficient, or wasteful use of energy resources. This impact would be *less than significant*.

**Table 3.5-4  
Operational Energy Consumption**

Activity	Variable	Consumption Rate	Consumption Amount
Residential Electricity	547 SFR DU	8,761 kWh/DU/Yr. SFR	SFR 4.75 MWh/Yr.
	204 MFR DU	4,678 kWh/DU/Yr. MFR	MFR 0.944 MWh/Yr.
Residential Natural Gas		26,145 kBTU/DU/Yr. SFR	SFR 13,442,900 kBTU/Yr.
		14,136 kBTU/DU/Yr. MFR	MFR 2,735,130 kBTU/Yr.
Water Supply, Treatment, and Conveyance and Wastewater Treatment	Water Use (Mgal)	71.4 Mgal/yr	324,540 kWh/year
Transportation	VMT/year mpg all Fuels	VMT/year = 17,822,665 miles mpg = 25.8	691,069 gallons/year Transportation Fuels
Notes:			



Activity	Variable	Consumption Rate	Consumption Amount
<p>mpg = miles per gallon      Mgal = million gallons      VMT = vehicle miles traveledDU = Dwelling Unit</p> <p>kW = kilowatts      kWh = kilowatt-hours      MWh = megawatt-hours      MMBTU = million British thermal units</p> <p>Source of data for energy use and VMT: CalEEMod 2016.3.2.</p> <p>Source of Kings County mpg for 2038: EMFAC 2017.</p> <p>Modeling results are provided in Appendix B.</p>			

### Mitigation Measures

None Required.

**Impact 3.5-2:** *Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

**Less Than Significant.** The City of Lemoore has not adopted local plans specifically addressing renewable energy and energy efficiency. However, the City of Lemoore 2030 General Plan includes goals and policies related to energy efficiency. The following policies are applicable to new development:

- **CD-I-58:** Require new development to incorporate passive heating and natural lighting strategies to the extent feasible and practical. These strategies should include, but are not limited to, the following:
  - Using building orientation, mass and form, including façade, roof, and choice of building materials, color, type of glazing, and insulation to minimize heat loss during winter months and heat gain during the summer months;
  - Designing building openings to regulate internal climate and maximize natural lighting, while keeping glare to a minimum; and
  - Reducing heat-island effect of large concrete roofs and parking surfaces.
  
- **CD-I-60:** Incorporate green building standards into the Zoning Ordinance and building code to ensure a high level of energy efficiency in new development, retrofitting projects, and City facilities. These standards should include, but are not limited to, the following:
  - Require the use of Energy Star® appliances and equipment in new and substantial renovations of residential development, commercial development, and City facilities;

- Require all new City facilities and new residential development incorporate green building methods to qualify for the equivalent of LEED Certified “Silver” rating or better (passive solar orientation must be a minimum component);
- Require all new residential development to be pre-wired for optional photovoltaic roof energy systems and/or solar water heating on south facing roofs; and
- Require all new projects that will use more than 40,000 kilowatt hours per year of electricity to install photovoltaic energy systems.

The City of Lemoore 2030 General Plan was adopted in 2008. Since that time, Title 24 Building Energy Efficiency Standards have been revised on multiple occasions to increase the energy efficiency of buildings in California. The standards include provisions for windows, insulation, and lighting that have substantially increased the energy efficiency of residential and non-residential structures with the goal of producing all zero net energy buildings by 2030. Therefore, compliance with Title 24 would allow projects to be consistent with policies CD-I-59 and CD-I-60. The CalGreen Code adds additional sustainability requirements to development projects and will further support project consistency with these energy related policies. Therefore, the Project would not conflict with or obstruct the local plan for renewable energy or energy efficiency.

The Project was reviewed for consistency with State of California energy plans. The ARB 2008 Scoping Plan required by AB 32 and the ARB 2017 Scoping Plan provide the State’s strategy for achieving legislated GHG reduction targets. Although the primary purpose of the Scoping Plans is to reduce GHG emissions, the strategies to achieve the GHG reduction targets rely on the use of increasing amounts of renewable fuels under the LCFS and RPS, and energy efficiency with updates to Title 24 and the CalGreen Code. The 2019 California Energy Efficiency Action Plan addresses issues pertaining to energy efficiency in California’s buildings, industrial, and agricultural sectors. Buildings constructed to implement the Project will meet the latest efficiency standards. Vehicles and equipment will meet the latest fuel efficiency standards and use fuels subject to the LCFS.

The Project is consistent with applicable plans and policies and would not result in wasteful or inefficient use of nonrenewable energy sources; therefore, impacts would be *less than significant*.

### **Mitigation Measures**

None Required.

## Cumulative Impacts

**Less Than Cumulatively Considerable.** Development associated with buildout of the proposed Project would require the consumption of electricity, natural gas, and vehicle fuel resources to accommodate growth. As discussed above, new development and land use turnover would be required to comply with Statewide mandatory energy requirements outlined in Title 24, Part 6, of the California Code of Regulations (the CALGreen Code), which could decrease estimated electricity and natural gas consumption in new and retrofitted structures. In addition, cumulative projects would be required to meet or exceed the Title 24 building standards, as applicable, further reducing the inefficient use of energy. Future development would also be required to meet even more stringent requirements, including the objectives set forth in the AB 32 Scoping Plan, which seek to make all newly constructed residential homes produce a sustainable amount of renewable energy through the use of on-site photovoltaic solar systems. Furthermore, various federal and state regulations, including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and Low Emission Vehicle Program, would serve to reduce the transportation fuel demand of cumulative projects. Furthermore, energy consumed by development in the Project area would continue to be subject to the regulations described in the Regulatory Setting of this Section. For these reasons, the electrical and natural gas energy that would be consumed by the Project is not considered unnecessary, inefficient, or wasteful. Impacts are *less than cumulatively considerable*.

## 3.6 Geology/Soils

This section of the DEIR identifies potential impacts of implementing the proposed Project on geology and soils. The analysis in this section is largely based on publicly available information.

### Environmental Setting

#### Geologic Setting

The Lemoore Planning Area lies just east of the trough of California’s Central Valley. The Central Valley stretches 500 miles in a northwest to southeast direction and averages about 40 miles in width between the Coast Ranges in the west and the Sierra Nevada in the east. The whole region is characterized by flat-lying sedimentary rocks overlain by alluvial soils up to 200 feet deep near the Sacramento River.<sup>1</sup>

#### Topography

The Project is located at an elevation of 230 feet above mean sea level on the open flats of the San Joaquin Valley. Currently, this region can be characterized as a dry, open valley bottom now utilized for suburban or agricultural uses. The Project site is north of the former shoreline of Tulare Lake, at roughly 200 feet above mean sea level. Prior to reclamation and channelization, the region would have been a low-lying, water-rich area characterized by streams, sloughs, marshes, and swamps. Occasionally inundated by floodwaters, in many years portions of this region would have been swampy during the winter rainy season and marsh land during other parts of the year. Historical and recent land-use has changed the vegetation that was once present within and near the Project area. The immediate Project location historically most likely fell within the Valley Grassland community, however, with Riparian Woodlands present along streams and freshwater marshes common in the area.<sup>2</sup>

#### Soils

Soil properties have a significant bearing on land planning and development. Sixteen soil types have been mapped by the U.S. Department of Agriculture in the Lemoore area including urban land and water. Due to the range of soil types located in the Planning Area—with soil properties

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<sup>1</sup> City of Lemoore General Plan, 2030. Chapter 8: Safety and Noise. Page 8-1. [https://lemoore.com/wp-content/uploads/2018/01/lemoore\\_gp\\_ch8\\_safety\\_noise\\_3\\_20\\_2012.pdf](https://lemoore.com/wp-content/uploads/2018/01/lemoore_gp_ch8_safety_noise_3_20_2012.pdf). Accessed June 2021.

<sup>2</sup> Phase I Survey, Lacey Ranch Project, Lemoore, Kings County, California. Prepared by ASM Affiliates, Inc. May 2021. Appendix C. Page 5.

resulting in cutbanks caves, flooding, shrink-swells (expansive soils, described below), excess wetness, excess salt, excess sodium or droughty – various building site development restrictions exist in the Planning Area and affect land development costs. On average, Kimberlina and Nord soil types have the most favorable properties for development while Gepford, Goldberg, Pitco, and Vanguard soils have the least favorable properties. Soils with only slight or moderate soil restrictions comprise 8,900 acres or 73 percent of the Lemoore Planning Area. These soils are concentrated on the eastern portion of the Planning Area. Much of the west side contains soils with more severe building site development restrictions. None of the soils in the Planning Area comprise a significant direct health or safety hazard to residents.<sup>3</sup>

The Project site is underlain by a mix of Nord complex and Whitewolf coarse sandy loam. It occupies flat and level terrain (0–1% slopes) at an elevation of 212–220 feet above mean sea level.<sup>4</sup>

### *Expansive Soils*

Expansive soils possess a “shrink-swell” characteristic. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying. Structural damage may occur over a long period of time, usually the result of inadequate soil and foundation engineering, or the placement of structures directly on expansive soils. Several portions of the Planning Area have soil with high to moderate shrink-swell potential.<sup>5</sup>

### Faults

There are no known active seismic faults in Kings County or its immediate vicinity. Beyond surface rupture along the fault zone, potential hazards related to major earthquakes include ground shaking and related secondary ground failures. The primary earthquake hazard affecting the area is ground shaking as opposed to surface rupture or ground failure. According to a 1974 5-County Seismic Study, Kings County is in an area where amplification of shaking that would affect low- to medium-rise structures is relatively high. The vast majority of deaths during

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<sup>3</sup> City of Lemoore General Plan, 2030. Chapter 7: Conservation and Open Space. Pages 7-6 and 7-7. [https://lemoore.com/wp-content/uploads/2018/01/lemoore\\_gp\\_ch7\\_conserv\\_open\\_space\\_082208\\_v2.pdf](https://lemoore.com/wp-content/uploads/2018/01/lemoore_gp_ch7_conserv_open_space_082208_v2.pdf). Accessed June 2021.

<sup>4</sup> Biological Resource Evaluation for the Lemoore Residential Development Project. Prepared by Colibri Ecological Consulting, LLC. December 2020. Page 11.

<sup>5</sup> City of Lemoore General Plan, 2030. Chapter 8: Safety and Noise. Page 8-2. [https://lemoore.com/wp-content/uploads/2018/01/lemoore\\_gp\\_ch8\\_safety\\_noise\\_3\\_20\\_2012.pdf](https://lemoore.com/wp-content/uploads/2018/01/lemoore_gp_ch8_safety_noise_3_20_2012.pdf). Accessed June 2021.

earthquakes are the result of structural failure mainly due to ground shaking. Most such deaths are preventable with existing knowledge of design and construction methods.<sup>6</sup>

Ground shaking intensities are measured using the modified Mercalli Intensity Scale. Earthquakes of M5.0 or greater have occurred on fault systems in the region, including the San Andreas Fault. The closest active fault is the Nunez fault located in western Fresno County. The Nunez fault is a 4.2-km-long, north-south-trending, right-reverse, oblique-slip fault situated about 8 miles northwest of Coalinga. Surface rupture occurred along this fault in the 1983 Coalinga earthquakes, which had a magnitude of 6.7. This was followed by another earthquake with magnitude of 6.0 in 1985. The location of this fault, however, is far away from Lemoore and aftershocks during both earthquakes did not cause any damage. Secondary natural hazards associated with earthquakes result from the interaction of ground shaking with existing ground instabilities, and include liquefaction, settlement or subsidence, landslides and seiches. While some of these secondary hazards are a concern to other parts of Kings County and the 5-County Seismic Study region, none are considered of particular concern to the Lemoore Planning Area because of its distance from the major regional fault (San Andreas Fault), the lack of steep slopes, and the clay composition of area soils.<sup>7</sup>

### Asbestos

The term “asbestos” is used to describe a variety of fibrous minerals that, when airborne, can result in serious human health effects. Naturally occurring asbestos is commonly associated with ultramafic rocks and serpentinite. Ultramafic rocks, such as dunite, peridotite, and pyroxenite are igneous rocks comprised largely of iron-magnesium minerals. As they are intrusive in nature, these rocks often undergo metamorphosis, prior to their being exposed on the Earth’s surface. The metamorphic rock serpentinite is a common product of the alteration process. The Department of Conservation Division of Mines and Geology has mapped naturally occurring asbestos in Kings County. There are no mapped deposits of naturally occurring asbestos within the Project area, or in the entire City of Lemoore. The nearest deposits are located approximately 20 miles southwest of the Project site near the City of Huron.<sup>8</sup>

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<sup>6</sup> Ibid.

<sup>7</sup> Ibid. Page 8-3.

<sup>8</sup> Department of Conservation, Areas with Potential for Naturally Occurring Asbestos , map. <https://www.arcgis.com/apps/webappviewer/index.html?id=da4b648958844134adc25ff002dbee1c> Accessed June 2021.

## Paleontological Setting

Paleontological resources are the mineralized (fossilized) remains of prehistoric plant and animal life exclusive of human remains or artifacts. Fossil remains such as bones, teeth, shells, and leaves are found in geologic deposits (rock formations) where they were originally buried. Fossil remains are important as they provide indicators of the Earth's chronology and history. These limited and nonrenewable resources provide invaluable scientific and educational data and are afforded protection under CEQA. The proposed Project site has previously and is currently being used for agricultural purposes. The site has no natural streams, rivers or geologic features on or near that site which may suggest the existence of paleontological resources.

## **Regulatory Setting**

### Federal Regulations

#### *Earthquake Hazards Reduction Act*

The Earthquake Hazards Reduction Act was enacted in 1997 to “reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program.” To accomplish this, the act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by the National Earthquake Hazards Reduction Program Act (NEHRPA), which refined the description of agency responsibilities, program goals, and objectives.

NEHRP's mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improvement of building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results.

The NEHRPA designates FEMA as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities.

#### *Paleontological Resources*

A variety of federal statutes specifically address paleontological resources. They are generally applicable to a project if that project includes federally owned or federally managed lands, or

involves a federal agency license, permit, approval, or funding. The first of these, established in the United States Code (USC), is the Antiquities Act of 1906 (54 USC 320301–320303 and 18 USC 1866[b]), which calls for protection of historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest on federally administered lands, the latter of which would include fossils. The Antiquities Act establishes a permit system for the disturbance of any object of antiquity on federal land, and also sets criminal sanctions for violation of these requirements. The Antiquities Act was extended to specifically apply to paleontological resources by the Federal-Aid Highways Act of 1958. More recent federal statutes that address the preservation of paleontological resources include the National Environmental Policy Act, which requires the consideration of important natural aspects of national heritage when assessing the environmental impacts of a project (P.L. 91-190, 31 Stat. 852, 42 USC 4321–4327). The Federal Land Policy Management Act of 1976 (P.L. 94-579; 90 Stat. 2743, USC 1701–1782) requires that public lands be managed in a manner that will protect the quality of their scientific values, and Title 40 of the Code of Federal Regulations, Section 1508.2, identifies paleontological resources as a subset of scientific resources. The Paleontological Resources Preservation Act (Title VI, Subtitle D, of the Omnibus Land Management Act of 2009) is the primary piece of federal legislation.

### State Regulations

#### *Alquist-Priolo Earthquake Fault Zoning Act*

The Alquist-Priolo Earthquake Fault Zoning Act (formerly the Alquist-Priolo Special Studies Zone Act), signed into law December 1972, requires the delineation of zones along active faults in California. The purpose of the Alquist-Priolo Act is to regulate development on or near active fault traces to reduce the hazards associated with fault rupture and to prohibit the location of most structures for human occupancy across these traces.

#### *Seismic Hazards Mapping Act*

“Under the Seismic Hazards Mapping Act, the State Geologist is responsible for identifying and mapping seismic hazards zones as part of the California Geologic Survey (CGS). The CGS provides zoning maps of non-surface rupture earthquake hazards (including liquefaction and seismically induced landslides) to local governments for planning purposes. These maps are intended to protect the public from the risks associated with strong ground shaking, liquefaction, landslides or other ground failure, and other hazards caused by earthquakes. For projects within seismic hazard zones, the Seismic Hazards Mapping Act requires developers to conduct geological investigations and incorporate appropriate mitigation measures into project designs before building permits are issued.”



### *California Building Code*

Title 24, Part 2, of the California Code of Regulations, also known as the California Building Code (CBC), sets forth minimum requirements for building design and construction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. The CBC is reviewed every three years by the California Building Standards Commission. The Commission makes certain State modifications and adopts the new code edition for use throughout the State. Once the Commission votes to adopt the new code edition, it will become effective on the first of January of the upcoming year, regardless of whether local cities or counties formally adopt it.

The California Building Standards Code is a compilation of three types of building standards from three different origins:

- Building standards that have been adopted by state agencies without change from building standards contained in national model codes;
- Building standards that have been adopted and adapted from the national model code standards to meet California conditions; and
- Building standards, authorized by the California Legislature, that constitute extensive additions not covered by the model codes that have been adopted to address particular California concerns.

In the context of earthquake hazards, the California Building Standards Code's design standards have a primary objective of assuring public safety and a secondary goal of minimizing property damage and maintaining function during and following a seismic event. Recognizing that the risk of severe seismic ground motion varies from place to place, the California Building Standards Code - Seismic Code provisions will vary depending on location (Seismic Zones 0, 1, 2, 3, and 4; with 0 being the least stringent and 4 being the most stringent). The earthquake design requirements take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients, which are used to determine a Seismic Design Category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site and ranges from SDC A (very small seismic vulnerability) to SDC E/F (very high seismic vulnerability and near a major fault). Design specifications are then determined according to the SDC.

Counties and cities may modify their adoption of the California Buildings Standard Code to address local conditions. Most California cities and counties modify the State adopted version of the Building Standards Code to address local circumstances related to the local climate, topography, or geology. Since modifications cannot be less restrictive, California Building

Standards Code provides a minimum standard for protecting public health, safety and welfare that is applicable throughout the Planning Area and study area for cumulative impacts.

*Public Resources Code Section 5097.5 and Section 30244*

Other state requirements for paleontological resource management are included in Public Resources Code Section 5097.5 and Section 30244. These statutes prohibit the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to paleontological resources from developments on public (state, county, city, district) lands.

*Porter-Cologne Water Quality Control Act*

Under the Porter-Cologne Water Quality Control Act, waters of the state fall under the jurisdiction of the appropriate Regional Water Quality and Control Board (RWQCB). Under the act, the RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Projects that affect wetlands or waters must meet waste discharge requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under CWA Section 401.

*State Regional Water Quality Control Board, Stormwater General Construction Permit*

The California State Water Resources Control Board (SWRCB) allocates water rights, adjudicates water right disputes, develops statewide water protection plans, establishes water quality standards, and guides the nine RWQCBs in the major watersheds of the state. The joint authority of water allocation and water quality protection enables the SWRCB to provide comprehensive protection of California's waters.

In 1999, the state adopted the NPDES General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit) (SWRCB Order No. 2012-0006-DWQ, NPDES No. CAS000002). The Construction General Permit requires that construction sites with 1 acre or greater of soil disturbance, or less than 1 acre but part of a greater common plan of development, apply for coverage for discharges under the Construction General Permit by submitting a Notice of Intent for coverage, developing a SWPPP, and implementing BMPs to address construction site pollutants.

The SWPPP should contain a site map that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP must list the BMPs the discharger will use to protect stormwater runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program, a chemical monitoring program for “non-visible” pollutants to be implemented if there is a failure of BMPs, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP. Enrollment under the Construction General Permit is through the Stormwater Multiple Application and Report Tracking System. Additionally, the SWRCB is responsible for implementing the CWA, and issues NPDES permits to cities and counties through the individual RWQCBs.

### Local Regulations

#### *City of Lemoore General Plan, 2030*

The following lists goals and policies from the City of Lemoore 2030 General Plan pertaining to geology and soils that are applicable to the proposed Project.

- |                 |   |
|-----------------|---|
| Policy COS-I-34 | If, prior to grading or construction activity, an area is determined to be sensitive for paleontological resources, retain a qualified paleontologist to recommend appropriate actions. Appropriate action may include avoidance, preservation in place, excavation, documentation, and/or data recovery, and shall always include preparation of a written report documenting the find and describing steps taken to evaluate and protect significant resources. |
| Policy SN-G-1   | Minimize risks of property damage and personal injury posed by seismic hazards, soil hazards, and erosion.  |
| Policy SN-I-1   | Review proposed development sites at the earliest stage of the planning process to locate any potential geologic or seismic hazard.   |

*Following receipt of a development proposal, engineering staff will review the plans to determine whether a geotechnical review is required. If the review is*

*required, then the applicant will be referred to geotechnical experts for further examination.*

Policy SN-I-2 Maintain and enforce appropriate building standards and codes to avoid or reduce risks associated with geologic constraints and to ensure that all new construction is designed to meet current safety regulations.

Policy SN-I-6 Control erosion of graded areas with vegetation or other acceptable methods.

*Plant materials should not be limited to hydro seeding and mulching with annual grasses. Trees add structure to the soil and take up moisture while adding color and diversity*

## Thresholds of Significance

The thresholds of significance for this section are established by the CEQA Checklist Item.

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

- Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

The lead agency determined in the Notice of Preparation/Initial Study (NOP/IS), located in Appendix A of this EIR, that the proposed project would not result in significant impacts to some of these environmental issue areas, and that no further analysis would be required in the EIR. Thus, the following issue area is scoped out of further analysis in this EIR:

- *The project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater*

## Impacts and Mitigation Measures

**Impact 3.6-1:** *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

- i) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*
- ii) *Strong seismic ground shaking?*
- iii) *Seismic-related ground failure, including liquefaction?*
- iv) *Landslides?*

**Less Than Significant With Mitigation.** This impact analysis evaluates the proposed Project's potential to expose persons or structures to seismic hazards (fault rupture, ground shaking, ground failure, and landsliding). Each of these hazards and their potential environmental impacts are discussed below.

### Fault Rupture

The site is not located within the boundaries of an Earthquake Fault Zone for fault rupture hazard as defined by the Alquist-Priolo Earthquake Fault Zoning Act and no faults are known to pass through the property. There are no known active seismic faults in Kings County or its immediate

vicinity.<sup>9</sup> The nearest active earthquake fault zones (evidence of displacement within the past 11,700 years) are the Nunez Fault, Pond Fault, and the San Andreas Fault Zone located approximately 39 miles southwest, 51 miles southeast, and 46 miles southwest, respectively, of the Project site.<sup>10</sup> Thusly, there is no significant risk of ground rupture and therefore this impact is determined to be *less than significant*.

### Strong Ground Shaking

The closest active fault is the Nunez fault located in western Fresno County. The Nunez fault is a 4.2-km-long, north-south-trending, right-reverse, oblique-slip fault situated about 8 miles northwest of Coalinga. Surface rupture occurred along this fault in the 1983 Coalinga earthquakes, which had a magnitude of 6.7. This was followed by another earthquake with magnitude of 6.0 in 1985. The location of this fault, however, is far away from Lemoore and aftershocks during both earthquakes did not cause any damage.<sup>11</sup>

Secondary natural hazards associated with earthquakes result from the interaction of ground shaking with existing ground instabilities, and include liquefaction, settlement or subsidence, landslides and seiches. While some of these secondary hazards are a concern to other parts of Kings County and the 5-County Seismic Study region, none are considered of particular concern to the Lemoore Planning Area because of its distance from the major regional fault (San Andreas Fault), the lack of steep slopes, and the clay composition of area soils.<sup>12</sup>

Existing structures in the Planning Area could be affected by the earthquake-induced ground shaking described above, but to varying degrees based on length, intensity, and distance of the earthquake from a given building. New structures are required to adhere to current California Uniform Building Code (CUBC) standards, providing adequate design, construction and maintenance of structures to prevent exposure of people and structures to major geologic hazards. The use of flexible utility connections, building anchors, and adequately reinforced concrete can reduce the loss of life and damage to buildings for human occupancy. The

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<sup>9</sup> City of Lemoore General Plan, 2030. Chapter 8: Safety and Noise. Page 8-2. [https://lemoore.com/wp-content/uploads/2018/01/lemoore\\_gp\\_ch8\\_safety\\_noise\\_3\\_20\\_2012.pdf](https://lemoore.com/wp-content/uploads/2018/01/lemoore_gp_ch8_safety_noise_3_20_2012.pdf). Accessed June 2021.

<sup>10</sup> California Department of Conservation, California Geological Survey. Fault Activity Map of California. <https://maps.conservation.ca.gov/cgs/fam/>. Accessed June 2021.

<sup>11</sup> City of Lemoore General Plan, 2030. Chapter 8: Safety and Noise. Page 8-2 and 8-3. [https://lemoore.com/wp-content/uploads/2018/01/lemoore\\_gp\\_ch8\\_safety\\_noise\\_3\\_20\\_2012.pdf](https://lemoore.com/wp-content/uploads/2018/01/lemoore_gp_ch8_safety_noise_3_20_2012.pdf). Accessed June 2021.

<sup>12</sup> City of Lemoore General Plan, 2030. Chapter 8: Safety and Noise. [https://lemoore.com/wp-content/uploads/2018/01/lemoore\\_gp\\_ch8\\_safety\\_noise\\_3\\_20\\_2012.pdf](https://lemoore.com/wp-content/uploads/2018/01/lemoore_gp_ch8_safety_noise_3_20_2012.pdf). Accessed May 2021. Page 8-3.

requirements of Zone II of the Uniform Building Code are considered adequate for normal facilities in the Lemoore Planning Area.<sup>13</sup>

In addition, Mitigation Measure GEO-1 would require a final design-level geotechnical report evaluating soil conditions and geologic hazards, performed by a California licensed geotechnical engineer consistent with CUBC requirements. GEO-1 would also require a California geotechnical engineer be hired by the project proponent to design project facilities to withstand probable seismically induced ground shaking. All grading and construction on site would adhere to the specifications, procedures, and site conditions contained in the final design plans, which would be fully compliant with the seismic recommendations provided by the California-registered professional engineer in accordance with California and the City Building Code requirements. The required measures would encompass site preparation, foundation specifications, and protection measures for any buried metal. The final structural designs would be subject to approval and follow-up inspection by the City Building Inspection Division. Final design requirements would be provided to the on-site construction supervisor and the City Building Inspector to ensure compliance. A copy of the approved design would be submitted to the City Community Development Department.

Therefore, with foundation and structural design in accordance with the City of Lemoore General Plan, current CUBC standards and implementation of Mitigation Measure GEO-1, ground shaking impacts on the proposed Project area would be *less than significant*.

#### Seismic Related Ground Failure (including Liquefaction)

Liquefaction is a phenomenon where earthquake-induced ground vibrations increase the pore pressure in saturated, granular soils until it is equal to the confining, overburden pressure. When this occurs, the soil can completely lose its shear strength and enter a liquefied state. The possibility of liquefaction is dependent upon grain size, relative density, confining pressure, saturation of the soils, and intensity and duration of ground shaking. In order for liquefaction to occur, three criteria must be met: “low density”, coarse-grained (sandy) soils, a groundwater depth of less than about 50 feet, and a potential for seismic shaking from nearby large-magnitude earthquake. According to the Project’s Phase I ESA (See Appendix E), the depth of groundwater at the site approximately 20 feet below ground. However, due to of its distance from the major regional fault (San Andreas Fault), the lack of steep slopes, and the clay composition of area soils,

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<sup>13</sup> Ibid. 8-4.

there is a negligible risk of liquefaction occurring at the Project site during a design level seismic event.

However, the project proponent would be required to perform a design-level geotechnical report that would evaluate and address the site-specific liquefaction potential of the project; this would be required per GEO-1, prior to the issuance of any building or grading permits. The design-level geotechnical report would provide specific requirements necessary for design of the structures in relation to seismic-related ground failure, including liquefaction, as required by GEO-1. These design requirements would comply with CUBC and State of California design standards, Chapter 16, which are required by law for all new structures in the City. These design standards and codes were established to reduce the potential impacts to structures from seismic-related ground failure, including liquefaction; project impacts would be less than significant

After implementation of Mitigation Measure GEO-1, the Project's impacts would be reduced to a *less than significant* level.

### Landsliding

There are no substantial slopes on or near the Project site. Therefore, the opportunity for slope failure in response to the long-term geologic cycle of uplift, mass wasting, and difference of slopes is unlikely. Compliance with the recommendations in the City of Lemoore General Plan and all applicable seismic design standards of the California Building Standards Code would ensure that design features would not present a hazard involving landslides. After implementation of Mitigation Measure GEO-1, the Project's impacts would be reduced to a *less than significant* level.

### **Mitigation Measures**

**GEO-1:** Prior to the issuance of building or grading permits for the project, the project proponent shall conduct a full geotechnical study to evaluate soil conditions and geologic hazards on the project site and submit it to the City of Lemoore Building Division for review and approval. The project proponent shall retain a California registered and licensed geotechnical engineer to design the project facilities to withstand probable seismically induced ground shaking at the site. All grading and construction on site shall adhere to the specifications, procedures, and site conditions contained in the final design plans, which shall be fully compliant with the seismic recommendations of the California registered professional engineer.



- a. The geotechnical study must be signed by a California registered and licensed professional geotechnical engineer or engineering geologist and must include the following:
  - I. Location of fault traces and potential for surface rupture and ground shaking potential.
  - II. Maximum considered earthquake and associated ground acceleration for design.
  - III. Potential for seismically induced liquefaction, landslides, differential settlement, and unstable soils.
  - IV. Stability of any existing or proposed cut-and-fill slopes.
  - V. Identification of collapsible or expansive soils.
  - VI. Foundation material type.
  - VII. Potential for wind erosion, water erosion, sedimentation, and flooding.
  - VIII. Location and description of unprotected drainage that could be impacted by the proposed development.
  - IX. Recommendations for placement and design of facilities, foundations, and remediation of unstable ground.
- b. The project proponent shall determine the final siting of project facilities based on the results of the geotechnical study and implement recommended measures to minimize geologic hazards.
- c. The City of Lemoore Building Division shall evaluate any final facility siting design developed prior to the issuance of any building or grading permits to verify that geological constraints have been avoided or mitigated.
- d. The final structural design shall be subject to approval and follow-up inspection by the City of Lemoore Building Division. Final design requirements shall be provided to the on-site construction supervisor and the City of Lemoore Building Inspector to ensure compliance. A copy of the approved design shall be submitted to the City of Lemoore Community Development Department.

**Impact 3.6-2:** *Result in substantial soil erosion or the loss of topsoil?*

**Less Than Significant Impact With Mitigation.** The Project site is underlain by a mix of Nord complex and Whitewolf coarse sandy loam. It occupies flat and level terrain (0–1% slopes) at an elevation of 212–220 feet above mean sea level.<sup>14</sup>

Construction activities associated with the Project involves ground preparation work for the proposed development of the site. These activities could expose barren soils to sources of wind or water, resulting in the potential for erosion and sedimentation on and off the Project site.

Grading of the Project site would be minimized and would follow the existing topography of the Project site to the greatest extent feasible to limit potential erosion and maintain existing drainage patterns. The temporary and permanent site roadways would be graded and compacted prior to road construction. Any existing vegetation would be scarified and grubbed for the development of temporary and permanent access roads, and the soil surface would be smoothed, moisture conditioned, and compacted with a crown in the center and swale on the side to prepare the roadway surface. Grading, excavation, removal of vegetation cover, development of access roads, and disturbance of soils during construction activities would result in the disturbance of an area greater than one acre and would temporarily increase erosion, runoff, and sedimentation. Construction activities would also result in soil compaction and wind erosion effects that could adversely affect soils at the construction sites and staging areas.

During grading, erosion prevention measures would be implemented, including the separation of topsoil, whereby topsoil is separated and stockpiled separately from subsoil and stabilized to prevent erosion. When Project construction is complete, stripped subsoil and topsoil would be replaced as required. Other erosion and sediment control measures would include watering for dust control and soil compaction during grading and throughout construction activities.

The Applicant and/or contractor would be required to employ appropriate sediment and erosion control BMPs as part of a Stormwater Pollution Prevention Plan (SWPPP) that would be required and submitted to the Central Valley Regional Water Quality Control Board (Central Valley RWQCB) in accordance with the National Pollution Discharge Elimination System (NPDES). In addition, soil erosion and loss of topsoil would be minimized through implementation of the San Joaquin Valley Air Pollution Control District (SJVAPCD) fugitive dust control measures (See Section 3.2 – Air Quality). Once construction is complete, the Project would not result in

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<sup>14</sup> Biological Resource Evaluation for the Lemoore Residential Development Project. Prepared by Colibri Ecological Consulting, LLC. December 2020. Appendix B. Page 11.

significant soil erosion or loss of topsoil. Mitigation Measure GEO – 2 (requirement to prepare a SWPPP) will ensure that impacts remain *less than significant*.

**Mitigation Measures:**

**GEO – 2** Prior to issuing of grading or building permits, the project applicant shall submit to the City: (1) the approved Stormwater Pollution Prevention Plan (SWPPP) and (2) the Notice of Intent (NOI) to comply with the General National Pollutant Discharge Elimination System (NPDES) from the Central Valley Regional Water Quality Control Board. The requirements of the SWPPP and NPDES shall be incorporated into design specifications and construction contracts. Recommended Best Management Practices for the construction phase may include the following:

- Stockpiling and disposing of demolition debris, concrete, and soil properly;
- Protecting existing storm drain inlets and stabilizing disturbed areas;
- Implementing erosion controls;
- Properly managing construction materials;
- Managing waste, aggressively controlling litter, and implementing sediment controls; and
- Evidence of the approved SWPPP shall be submitted to the Lead Agency.

**Impact 3.6-3:** *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

**Less Than Significant Impact.** As previously discussed herein, the proposed Project would not be located within an area identified as a landslide hazard area. The proposed Project is located on relatively flat agricultural fields, and the threat of a landslide occurring on or adjacent to the Project site is considered low. Therefore, potential impacts associated with landslides would be *less than significant*.

The proposed Project would be located on soils that exhibit low to moderate potential for liquefaction during an earthquake, and the potential for lateral spreading to occur is considered low. The site would be designed in accordance with engineering design standards and structural improvement requirements to withstand the effects of soil settlement and collapsible soils. Engineered compacted fill would likely be used during construction in accordance with building code requirements, which would reduce the potential for lateral spreading of soils from Project

construction. The Geotechnical Feasibility Report will include recommendations for site preparation and fill placement related to the Project site plan.

GEO-1 requires that a design-level geotechnical report provide specific requirements necessary for design of the structures in relation to seismic-related ground failure, including liquefaction. These design requirements would comply with CUBC and State of California design standards, Chapter 16, which are required by law for all new structures in the City. These design standards and codes were established to reduce the potential impacts to structures from seismic-related ground failure, including liquefaction. Therefore, with foundation and structural design in accordance with the City of Lemoore General Plan and current CUBC standards and implementation of GEO-1, landslide, lateral spreading, subsidence, liquefaction or collapse impacts on the proposed Project area would be *less than significant*.

### **Mitigation Measures**

Implementation of GEO-1.

**Impact 3.6-4:** *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*

**Less Than Significant Impact.** As previously described, the soils present on the Project site have low to moderate potential for expansion. As discussed under Impact 3.6-1 through Impact 3.6-3 above, the proposed Project would be designed in accordance with all applicable building code requirements and structural improvement requirements, which would also address expansive soil hazards. Engineered compacted fill would likely be used during construction in accordance with building code requirements, which would reduce the potential for impacts from expansive soil on Project development.

The shrink/swell behavior of expansive soils can lead to damage of structures over time if not addressed appropriately prior to construction. However, as described above, GEO-1 requires that a design-level geotechnical report be performed by a qualified geotechnical engineer on the project site to evaluate soil conditions and geologic hazards, and that a California geotechnical engineer provide an evaluation for expansive soils and provide recommendations consistent with CUBC requirements to reduce potential adverse effects from expansive soils. All grading and construction on site would adhere to the specifications, procedures, and site conditions contained in the final design plans, which would be fully compliant with the recommendations provided by the California registered professional engineer in accordance with California and City

Building Code requirements. The required measures would encompass site preparation, such as treatment of expansive soils or replacement with engineered fill. The final designs would be subject to approval and follow-up inspection by the City Building Inspection personnel. Final design requirements would be provided to the on-site construction supervisor and the City Building Inspector to ensure compliance. Therefore, with implementation of GEO- 1 and foundation and structural design in accordance with the City of Lemoore General Plan and current CUBC standards, impacts from expansive soil on the proposed Project would be *less than significant*.

### **Mitigation Measures**

Implementation of GEO-1.

**Impact 3.6-5:** *Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?*

**Less than Significant Impact with Mitigation.** Paleontological resources are valued for the information they yield about the history of the earth and its past ecological settings. There are currently no unique geologic features located in the Project Area. The Lemoore General Plan notes that The University of California Museum of Paleontology lists 751 localities where fossils have been found in Kings County. At least one of these localities is documented to be in the Planning Area and others can be assumed. Therefore, there is the potential to encounter unidentified fossils during construction of new development.

There is a possibility that future ground-disturbing activities could cause damage to, or destruction of, previously undiscovered paleontological resources or unique geologic features. Implementation of Mitigation Measure GEO-3 would reduce potential impacts to a less-than significant level. In addition, the Lemoore General Plan policies and guidelines direct the City to require construction to stop immediately if paleontological resources are uncovered during grading or other onsite excavation activities, until appropriate mitigation is implemented. Therefore, with Mitigation Measure GEO-3, impacts would be *less than significant*.

### **Mitigation Measures**

**GEO – 3** If any paleontological resources are encountered during ground-disturbance activities, all work within 25 feet of the find shall halt until a qualified paleontologist as defined by the Society of Vertebrate Paleontology Standard Procedures for the Assessment and

Mitigation of Adverse Impacts to Paleontological Resources (2010), can evaluate the find and make recommendations regarding treatment. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. The qualified paleontologist shall contact the Natural History Museum of Los Angeles County or other appropriate facility regarding any discoveries of paleontological resources.

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

## Cumulative Impacts

**Less Than Cumulatively Considerable.** Development of the Project, with implementation of the regulatory requirements discussed above, would result in less-than-significant impacts related to fault rupture. Although the region is a seismically active area, geologic and soil conditions vary widely within a short distance, making the cumulative context for potential impacts resulting from exposing people and structures to related risks one that is more localized or even site specific. Similar to the project, other projects in the area would be required to adhere to the same California and City Building Codes that would reduce the risk to people and property to less than-significant levels. Although future seismic events cannot be predicted, adherence to all federal, state, and local programs, requirements, and policies pertaining to building safety and construction would limit the potential for loss, injury, or death. Cumulative projects would implement similar mitigation as GEO-1 for the proposed Project, which would require conducting a full geotechnical study to evaluate soil conditions and geologic hazards on the Project site, as well as retaining a California registered and licensed geotechnical engineer to design project facilities. Therefore, with implementation of mitigation measure GEO-1, the proposed project, combined with past, present, and other foreseeable development in the area,

would not result in a cumulatively significant impact by directly or indirectly causing potential substantial adverse effects, including fault rupture, strong seismic ground shaking, or seismic-related ground failure, including liquefaction and landslides.

Surficial deposits, namely erosion and sediment deposition, can be cumulative in nature, depending on the type and amount of development proposed in a given geographical area. The cumulative setting for soil erosion consists of existing, planned, proposed, and reasonably foreseeable land use conditions in the region. However, construction constraints are primarily based on specific sites within a proposed development and on the soil characteristics and topography of each site. The proposed Project will comply with these codes, standards, and requirements and GEO-2. Other cumulative projects would be required to adhere to similar requirements, thereby minimizing cumulative erosion impacts. Specifically, all planned projects in the vicinity of the Project are subject to environmental review and would be required to conform to the City General Plan and Building Code and would implement additional mitigation for seismic hazards to ensure soil stability, especially related to seismically induced erosion. With implementation of GEO-2, the Project would not contribute to any cumulative impacts related to substantial soil erosion or loss of topsoil and cumulative impacts would be less than significant.

As previously discussed, risk of on-site or off-site landslides associated with development of the project are considered negligible. In addition, the potential for liquefaction and other geologic hazards related to liquefaction, including lateral spreading, are also considered low; however, even if there were areas of shallow groundwater, liquefaction hazards are site specific and do not combine to become cumulatively considerable. Furthermore, collapse would likely be negligible in the areas surrounding the project site. However, as with the Project, cumulative projects would adhere to building code requirements and would implement mitigation similar to GEO-1, which would require a design-level geotechnical investigation that provides detailed site-specific data. With implementation of GEO-1, the Project would not contribute to any cumulative impacts related to on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. Cumulative impacts would be less than significant.

Similarly, with regard to expansive soils, the Project would implement GEO-1, which requires that a geotechnical study evaluate soil conditions and geologic hazards, to be performed by a California licensed geotechnical engineer or engineering geologist on the Project site. The geotechnical study would include evaluation of expansive soils and provide recommendations consistent with CUBC requirements to reduce potential adverse effects from expansive soils. Cumulative projects would implement similar measures to address any potential for expansive

soils. With implementation of GEO-1, the Project would not contribute to any cumulative impacts related to expansive soils. Cumulative impacts would be less than significant.

The geographic scope for cumulative effects to paleontological resources includes the southern portion of the San Joaquin Valley. Given similarities in geologic formations, this area is expected to contain similar types of paleontological resources. There is no temporal scope because direct impacts to paleontological resources are permanent. Cumulative impacts to paleontological resources in the study area could occur if other related projects, in conjunction with the proposed project, had or would have impacts on paleontological resources that, when considered together, would be significant. Development of the proposed Project, in combination with other projects in the area, has the potential to contribute to a cumulatively significant paleontological resources impact due to the potential loss of paleontological resources unique to the region. However, mitigation measure GEO-3 reduces potentially significant project impacts to paleontological resources during construction of the proposed Project.

Although Project construction has the potential to disturb paleontological resources, implementation of GEO-3 would ensure that the appropriate protocol is followed with regard to identifying and handling resources. Implementation of these mitigation measures would reduce potential impacts to paleontological resources to a less-than-significant level. With implementation of these mitigation measures, the Project would not result in significant impacts to paleontological resources. Given this minimal impact and the requirement for similar mitigation for other projects in the southern San Joaquin Valley, the proposed Project's incremental effect is not cumulatively considerable when viewed in connection with the effects of other closely related past projects, the effects of other current projects, and the effects of probable future projects; thus, cumulative impacts to paleontological resources would be less than significant.

The proposed project's incremental contribution to cumulative geologic and soil impacts would be *less than cumulatively considerable*.



## 3.7 Greenhouse Gas Emissions

This section discusses regional greenhouse gas (GHG) emissions and climate change impacts that could result from implementation of the proposed Project. This section provides a background discussion of greenhouse gases and effects of global climate change and is organized with an existing setting, regulatory setting, and impact analysis. The information and analysis presented in this Section are based on the Air Quality and Greenhouse Gas Analysis Reports (AQGGA) prepared for this Project by Mitchell Air Quality Consulting (Appendix B).

### **Environmental Setting**

#### Climate Change

Climate change is a change in the average weather of the earth that is measured by alterations in wind patterns, storms, precipitation, and temperature. These changes are assessed using historical records of temperature changes occurring in the past, such as during previous ice ages. Many of the concerns regarding climate change use this data to extrapolate a level of statistical significance, specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In its Fourth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100, given six scenarios, could range from 1.1 degrees Celsius (°C) to 6.4°C. Regardless of analytical methodology, global average temperatures and sea levels are expected to rise under all scenarios.<sup>1</sup> The report also concluded that “[w]arming of the climate system is unequivocal,” and that “[m]ost of the observed increase in global average temperatures since the mid-20<sup>th</sup> century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations.”

An individual project cannot generate enough GHG emissions to cause a discernible change in global climate. However, the project participates in the potential for global climate change by its

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<sup>1</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 43.

incremental contribution of GHGs and, when combined with the cumulative increase of all other sources of GHGs, constitute potential influences on global climate change.

*Consequences of Climate Change in California*

In California, climate change may result in consequences such as the following<sup>2</sup>:

- **Reduction in the quality and supply of water from the Sierra snowpack.** If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. This can lead to challenges in securing adequate water supplies. It can also lead to a potential reduction in hydropower.
- **Increased risk of large wildfires.** If rain increases as temperatures rise, wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30 percent toward the end of the 21<sup>st</sup> century because more winter rain will stimulate the growth of more plant “fuel” available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.
- **Reductions in the quality and quantity of certain agricultural products.** The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- **Exacerbation of air quality problems.** If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today’s conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- **A rise in sea levels resulting in the displacement of coastal businesses and residences.** During the past century, sea levels along California’s coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Elevations of this magnitude would inundate coastal areas with salt water, accelerate

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<sup>2</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 43.

coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

- **An increase in temperature and extreme weather events.** Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- **A decrease in the health and productivity of California's forests.** Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.

#### *Consequences of Climate Change in the Lemoore Area*

Figure 3.7-1 displays a chart of measured historical and projected annual average maximum temperatures in the Project area. As shown in the figure, temperatures are expected to rise in the low and high GHG emissions scenarios. The results indicate that temperatures are predicted to increase by 3.6 degrees Fahrenheit (°F) under the low emission scenario and 6.2 °F under the high emissions scenario.<sup>3</sup>

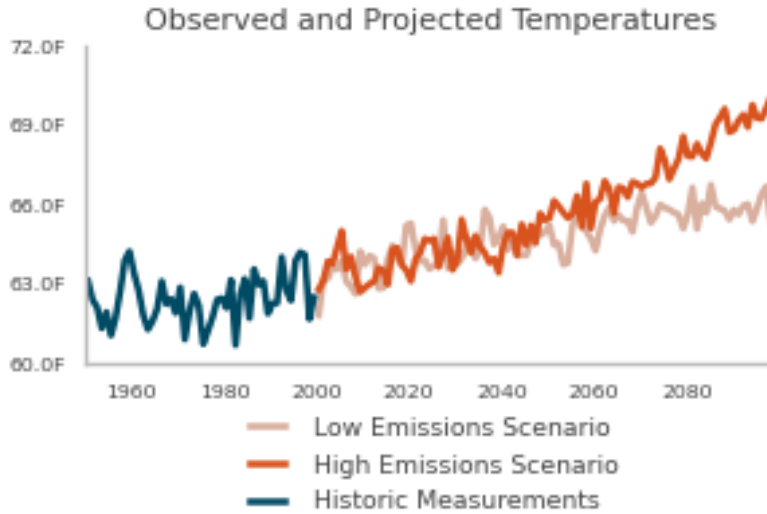
**Water Supply.** The City of Lemoore Water Department would provide water for the Project. The City relies solely on groundwater for potable water supplies. The availability of water for groundwater recharge and the rate of recharge could decline if climate change were to result in reduced snowpack in the Sierra Nevada.

**Wildfires.** The Project site is within an agricultural area on the edge of the Lemoore urban area with limited fuels that would be subject to a wildfire. Foothill and mountain areas located many miles to the west and east of the Lemoore area subject to wildfire. The potential for increased temperatures and drought conditions due to climate change would result in increased risk from wildfire in those areas.

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<sup>3</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 44.

**Figure 3.7-1  
Observed and Projected Temperatures for Climate Change in the Project Area<sup>4</sup>**



Greenhouse Gases (GHGs)

Gases that trap heat in the atmosphere are referred to as GHGs. The effect is analogous to the way a greenhouse retains heat. Common GHGs include water vapor, CO<sub>2</sub>, methane, NO<sub>x</sub>, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. Natural processes and human activities emit GHGs. The presence of GHGs in the atmosphere affects the earth’s temperature. It is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

Climate change is driven by forcings and feedbacks. Radiative forcing is the difference between the incoming energy and outgoing energy in the climate system. Positive forcing tends to warm the surface while negative forcing tends to cool it. Radiative forcing values are typically expressed in watts per square meter. A feedback is a climate process that can strengthen or weaken a forcing. For example, when ice or snow melts, it reveals darker land underneath which absorbs more radiation and causes more warming. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere. The global warming potential of a gas is essentially a measurement of the radiative forcing of a GHG compared with the reference gas, CO<sub>2</sub>.

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<sup>4</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 44.

Individual GHG compounds have varying global warming potential and atmospheric lifetimes. CO<sub>2</sub>, the reference gas for global warming potential, has a global warming potential of one. The global warming potential of a GHG is a measure of how much a given mass of a GHG is estimated to contribute to global warming. To describe how much global warming a given type and amount of GHG may cause, the carbon dioxide equivalent is used. The calculation of the carbon dioxide equivalent is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent reference gas, CO<sub>2</sub>. For example, CH<sub>4</sub>'s warming potential of 25 indicates that CH<sub>4</sub> has 25 times greater warming effect than CO<sub>2</sub> on a molecule-per-molecule basis. A carbon dioxide equivalent is the mass emissions of an individual GHG multiplied by its global warming potential. GHGs defined by Assembly Bill (AB) 32 include CO<sub>2</sub>, CH<sub>4</sub>, NO<sub>x</sub>, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. They are described in Table 3.7-1. A seventh GHG, nitrogen trifluoride, was added to Health and Safety Code section 38505(g)(7) as a GHG of concern. The global warming potential amounts are from IPCC Fourth Assessment Report (AR4). The AR4 GWP amounts are incorporated into the CalEEMod 2016.3.2 used in this analysis. Although the newer IPCC Fifth Assessment Report (AR5) includes new global warming potential amounts, the California Air Resources Board (ARB) continues to use AR4 rates for inventory purposes, including the 2018 inventory released on October 19, 2020, to ensure consistency with past inventories. Until such time as ARB updates its Scoping Plan inventories to utilize AR5 GWPs, it is appropriate to continue using AR4 GWPs for CEQA analyses, which are based on Scoping Plan consistency.

**Table 3.7-1  
Description of Greenhouse Gases<sup>5</sup>**

<b>Greenhouse Gas</b>	<b>Description and Physical Properties</b>	<b>Sources</b>
Nitrous oxide	Nitrous oxide (laughing gas) is a colorless GHG. It has a lifetime of 114 years. Its global warming potential is 298.	Microbial processes in soil and water, fuel combustion, and industrial processes.
Methane	Methane is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 25.	Methane is extracted from geological deposits (natural gas fields). Other sources are landfills, fermentation of manure, and decay of organic matter.
Carbon dioxide	Carbon dioxide (CO <sub>2</sub> ) is an odorless, colorless, natural GHG. Carbon dioxide's global warming potential is 1. The concentration	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus;

<sup>5</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 47.

Greenhouse Gas	Description and Physical Properties	Sources
	in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960.	evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Chlorofluorocarbons	These are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). Global warming potentials range from 124 to 14,800.	Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited their production in 1987.
Perfluorocarbons	Perfluorocarbons have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Global warming potentials range from 7,390 to 12,200.	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	Sulfur hexafluoride (SF <sub>6</sub> ) is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential of 22,800.	This gas is man-made and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas.
Nitrogen trifluoride	Nitrogen trifluoride (NF <sub>3</sub> ) was added to Health and Safety Code section 38505(g)(7) as a GHG of concern. It has a high global warming potential of 17,200.	This gas is used in electronics manufacture for semiconductors and liquid crystal displays.

The State has begun the process of addressing pollutants referred to as short-lived climate pollutants. Senate Bill (SB) 605, approved by the governor on September 14, 2014, required the ARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants by January 1, 2016. ARB was required to complete an emission inventory of these pollutants, identify research needs, identify existing and potential new control measures that offer co-benefits, and coordinate with other state agencies and districts to develop control measures. The Short-Lived Climate Pollutant Strategy was approved by the ARB in March

2017. The strategy calls for reductions of 50 percent from black carbon, 40 percent from methane, and 40 percent from HFCs from the 2030 Business as Usual (BAU) inventory for these pollutants.<sup>6</sup>

The short-lived climate pollutants include three main components: black carbon, fluorinated gases, and methane. Fluorinated gases and methane are described in Table 3.7-1 and are already included in the California GHG inventory. Black carbon has not been included in past GHG inventories; however, ARB will include it in its comprehensive strategy.<sup>7</sup>

Ozone is another short-lived climate pollutant that will be part of the strategy. Ozone affects evaporation rates, cloud formation, and precipitation levels. Ozone is not directly emitted, so its precursor emissions—VOC and NO<sub>x</sub> on a regional scale and CH<sub>4</sub> on a hemispheric scale—will be subject of the strategy.<sup>8</sup>

Black carbon is a component of fine particulate matter. Black carbon is formed by incomplete combustion of fossil fuels, biofuels, and biomass. Sources of black carbon within a jurisdiction may include exhaust from diesel trucks, vehicles, and equipment, as well as smoke from biogenic combustion. Biogenic combustion sources of black carbon include the burning of biofuels used for transportation, the burning of biomass for electricity generation and heating, prescribed burning of agricultural residue, and natural and unnatural wildfires. Black carbon is not a gas but an aerosol—particles or liquid droplets suspended in air. Black carbon only remains in the atmosphere for days to weeks, whereas other GHGs can remain in the atmosphere for years. Black carbon can be deposited on snow, where it absorbs sunlight, reduces sunlight reflectivity, and hastens snowmelt. Direct effects include absorbing incoming and outgoing radiation; indirectly, black carbon can also affect cloud reflectivity, precipitation, and surface dimming (cooling).

Global warming potentials for black carbon were not defined by the IPCC in its Fourth Assessment Report. The ARB has identified a global warming potential of 3,200 using a 20-year time horizon and 900 using a 100-year time horizon from the IPCC Fifth Assessment. Sources of black carbon are already regulated by ARB, and air district criteria pollutant and toxic regulations that control fine particulate emissions from diesel engines and other combustion

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<sup>6</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 47.

<sup>7</sup> Ibid. Page 48.

<sup>8</sup> Ibid.

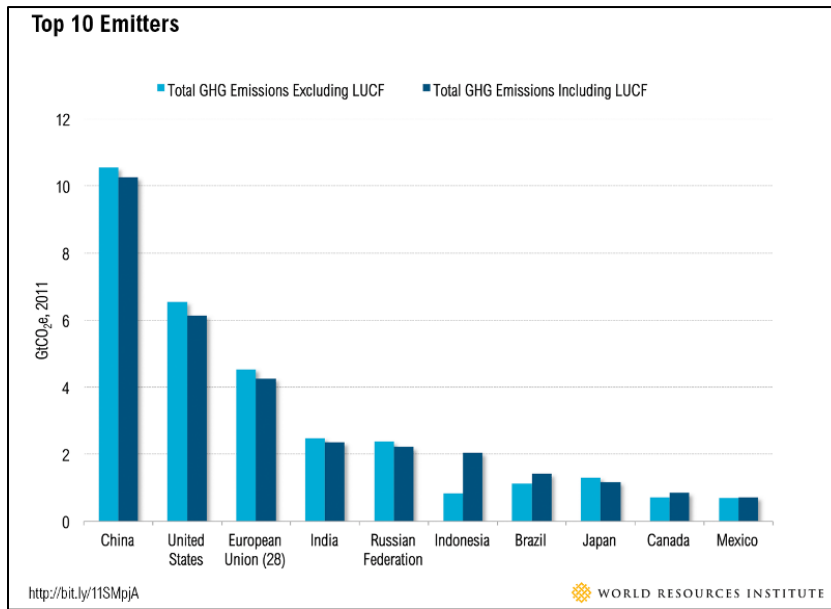
sources. Additional controls on the sources of black carbon specifically for their GHG impacts beyond those required for toxic and fine particulates are not likely to be needed.

Water vapor is also considered a GHG. Water vapor is an important component of our climate system and is not regulated. Increasing water vapor leads to warmer temperatures, which causes more water vapor to be absorbed into the air. Warming and water absorption increase in a spiraling cycle. Water vapor feedback can also amplify the warming effect of other greenhouse gases, such that the warming brought about by increased CO<sub>2</sub> allows more water vapor to enter the atmosphere.<sup>9</sup>

*Emissions Inventories*

An emissions inventory is a database that lists, by source, the amount of air pollutants discharged into the atmosphere of a geographic area during a given time period. Emissions worldwide were approximately 43,286 million metric tons of carbon dioxide equivalents (MMTCO<sub>2e</sub>) in 2012. As shown in Figure 3.7-2, China was the largest GHG emitter with over 10 billion metric tons of CO<sub>2e</sub>, and the United States was the second largest GHG emitter with over 6 billion metric tons of CO<sub>2e</sub>.<sup>10</sup>

**Figure 3.7-2  
Greenhouse Gas Emission Trends<sup>11</sup>**



<sup>9</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 42.

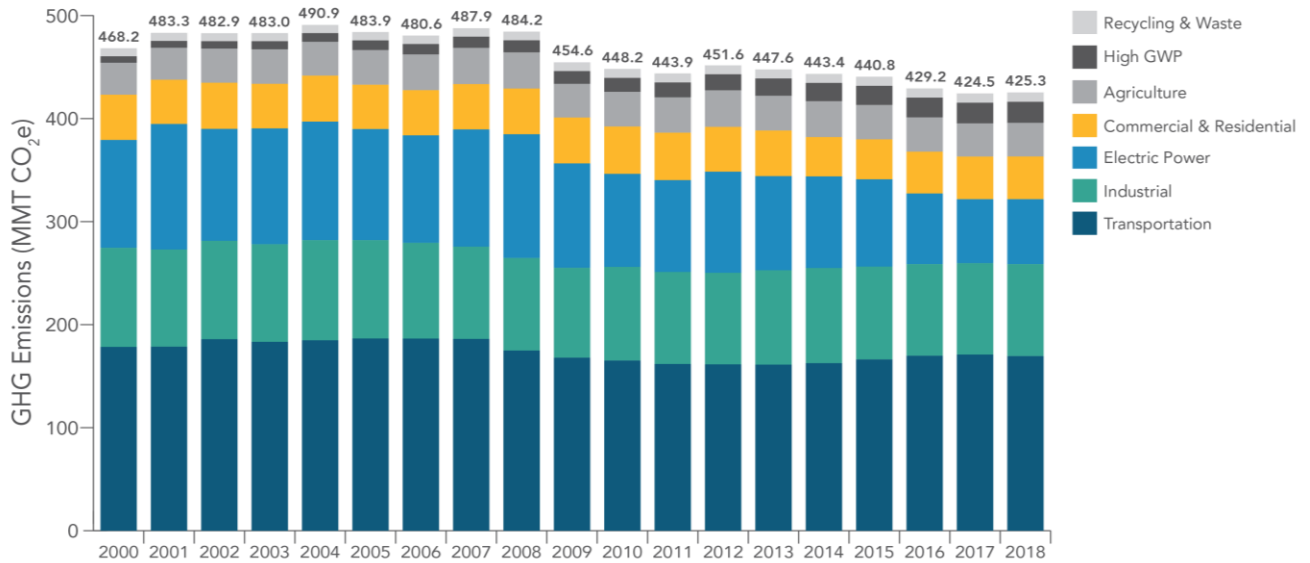
<sup>10</sup> Ibid.

<sup>11</sup> Ibid. Page 49.



Figure 3.7-3 shows the contributors of GHG emissions in California between years 2000 and 2018 by Scoping Plan category. The main contributor was transportation. The second-highest sector was industrial, which includes sources from refineries, general fuel use, oil and gas extraction, cement plants, and cogeneration heat output. ARB reported that California’s GHG emissions inventory was 425.3 MMTCO<sub>2e</sub> in 2018.<sup>12</sup>

**Figure 3.7-3  
Greenhouse Gas Emission Trends by Scoping Plan Category in California<sup>13</sup>**



*Human Health Effects of GHG Emissions*

GHG emissions from development projects would not result in concentrations that would directly impact public health. However, the cumulative effects of GHG emissions on climate change have the potential to cause adverse effects to human health.

In its report, *Global Climate Change Impacts in the U.S. (2009)*, the U.S. Global Change Research Program has analyzed the degree to which impacts on human health are expected to impact the United States. Potential effects of climate change on public health include:

<sup>12</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 49.

<sup>13</sup> Ibid.

- **Direct Temperature Effects:** Climate change may directly affect human health through increases in average temperatures, which are predicted to increase the incidence of heat waves and hot extremes.
- **Extreme Events:** Climate change may affect the frequency and severity of extreme weather events, such as hurricanes and extreme heat and floods, which can be destructive to human health and well-being.
- **Climate-Sensitive Diseases:** Climate change may increase the risk of some infectious diseases, particularly those diseases that appear in warm areas and are spread by mosquitoes and other insects, such as malaria, dengue fever, yellow fever, and encephalitis.
- **Air Quality:** Respiratory disorders may be exacerbated by warming-induced increases in the frequency of smog (ground-level ozone) events and particulate air pollution.<sup>14</sup>

Although there could be health effects resulting from changes in the climate and the consequences that can occur, inhalation of GHGs at levels currently in the atmosphere would not result in adverse health effects, with the exception of ozone and aerosols (particulate matter). The potential health effects of ozone and particulate matter are discussed in criteria pollutant analyses. At very high indoor concentrations (not at levels existing outside), carbon dioxide (CO<sub>2</sub>), methane, sulfur hexafluoride, and some chlorofluorocarbons can cause suffocation as the gases can displace oxygen.<sup>15</sup>

## Regulatory Setting

In 1988, the United Nations established the Intergovernmental Panel on Climate Change (IPCC) to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United Nations Framework Convention on Climate Change (UNFCCC) established an agreement with the goal of controlling GHG emissions, including CH<sub>4</sub>. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan consists of more than 50 voluntary programs. Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete ozone in the stratosphere (chlorofluorocarbons (CFCs), halons, carbon

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tetrachloride, and methyl chloroform) were phased out by 2000 (methyl chloroform was phased out by 2005).

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

To date, no national standards have been established for nationwide GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level. Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

### Federal Regulations

Prior to the last decade, there were no concrete federal regulations of GHGs or major planning for climate change adaptation. Since then, federal activity has increased. The following are actions regarding the federal government, GHGs, and fuel efficiency.

#### *Clean Air Act*

The Federal Clean Air Act (FCAA) does not specifically regulate GHG emissions; however, on April 2, 2007 the U.S. Supreme Court in *Massachusetts v. U.S. Environmental Protection Agency*, determined that GHGs are pollutants that can be regulated under the FCAA. The EPA adopted an endangerment finding and cause or contribute finding for GHGs on December 7, 2009. Under the endangerment finding, the Administrator found that the current and projected atmospheric concentrations of the six, key, well-mixed GHGs (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>) threaten the public health and welfare of current and future generations. Under the cause or contribute finding, the Administrator found that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare.

Based on these findings, on April 1, 2010, the EPA finalized the light-duty vehicle rule controlling GHG emissions. This rule confirmed that January 2, 2011, is the earliest date that a 2012 model year vehicle meeting these rule requirements may be sold in the United States. On May 13, 2010, the EPA

issued the final GHG Tailoring Rule. This rule set thresholds for GHG emissions that define when permits under the Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. Implementation of the federal rules is expected to reduce the level of emissions from new motor vehicles and large stationary sources.

#### *Energy Independence and Security Act of 2007*

The Energy Independence and Security Act of 2007 (December 2007), among other key measures, requires the following, which would aid in the reduction of national GHG emissions:

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020, and direct the National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks; and
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

#### *Clean Vehicles*

Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light-duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's National Highway Safety Administration announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO<sub>2</sub> per mile, equivalent to 35.5 miles per gallon; that is, if the automobile industry were to meet this CO<sub>2</sub> level solely through fuel economy improvements. Together, these standards would cut CO<sub>2</sub> emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the National Highway Safety Administration issued final rules on a second-phase joint rulemaking, establishing national standards for light-duty vehicles for model years 2017 through 2025 in

August 2012 (EPA 2012b). The new standards for model years 2017 through 2025 apply to passenger cars, light-duty trucks, and medium duty passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of CO<sub>2</sub> in model year 2025, which is equivalent to 54.5 miles per gallon if achieved exclusively through fuel economy improvements.

The EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses on September 15, 2011, which became effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that began in the 2014 model year and achieve up to a 20-percent reduction in CO<sub>2</sub> emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10-percent reduction for gasoline vehicles, and a 15-percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10-percent reduction in fuel consumption and CO<sub>2</sub> emissions from the 2014 to 2018 model years.

#### *Mandatory Reporting of Greenhouse Gases*

The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the United States, and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions are required to submit annual reports to the EPA.

#### *New Source Review*

The EPA issued a final rule on May 13, 2010 that establishes thresholds for GHGs, which will define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule “tailors” the requirements of these Clean Air Act permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the federal code of regulations, the EPA states:

This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the Clean Air Act, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to greenhouse gas sources, starting with the largest greenhouse gas emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for greenhouse gas emissions until at least April 30, 2016.

The EPA estimates that facilities responsible for nearly 70 percent of the national GHG emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation's largest GHG emitters—power plants, refineries, and cement production facilities.

#### *Clean Power Plan and New Source Performance Standards for Electric Generating Units*

On October 23, 2015, the EPA published a final rule (effective December 22, 2015) establishing the carbon pollution emission guidelines for existing stationary sources: electric utility generating units (80 FR 64510–64660), also known as the Clean Power Plan. These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO<sub>2</sub> emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: (1) fossil-fuel-fired electric utility steam-generating units and (2) stationary combustion turbines. Concurrently, the EPA published a final rule (effective October 23, 2015) establishing standards of performance for GHG emissions from new, modified, and reconstructed stationary sources: electric utility generating units (80 FR 64661–65120). The rule prescribes CO<sub>2</sub> emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units. The U.S. Supreme Court stayed implementation of the Clean Power Plan pending resolution of several lawsuits. Additionally, in March 2017, President Trump directed the EPA Administrator to review the Clean Power Plan in order to determine whether it is consistent with current executive policies concerning GHG emissions, climate change, and energy.

#### *Presidential Executive Order 13693*

Presidential Executive Order 13693, Planning for Federal Sustainability in the Next Decade, signed in 2015, seeks to maintain federal leadership in sustainability and greenhouse gas

emission reductions. Its goal is to reduce agency Scope 1 and 2 GHG emissions by at least 40 percent by 2025, foster innovation, reduce spending, and strengthen communities through increased efficiency and improved environmental performance. Sustainability goals are set for building efficiency and management, energy portfolio, water use efficiency, fleet efficiency, sustainable acquisition and supply chain greenhouse gas management, pollution prevention, and electronic stewardship.

#### *Presidential Executive Order 13783*

Presidential Executive Order 13783, Promoting Energy Independence and Economic Growth (March 28, 2017), orders all federal agencies to apply cost-benefit analyses to regulations of GHG emissions and evaluations of the social cost of carbon, nitrous oxide, and methane.

#### *Cap-and-Trade*

Cap-and-Trade refers to a policy tool where emissions are limited to a certain amount and can be traded or provides flexibility on how the emitter can comply. There is no federal GHG Cap-and-Trade program currently; however, some states have joined to create initiatives to provide a mechanism for Cap-and-Trade.

The Regional Greenhouse Gas Initiative is an effort to reduce GHGs among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps carbon dioxide emissions from power plants, auctions carbon dioxide emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Initiative began in 2008.

The Western Climate Initiative partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 15 percent below 2005 levels by 2020. The partners are California, British Columbia, Manitoba, Ontario, and Quebec. Currently only California and Quebec are participating in the Cap-and-Trade program.<sup>16</sup>

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<sup>16</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 54.

## State Regulations

### *Legislative Actions to Reduce GHGs*

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation such as the landmark AB 32 California Global Warming Solutions Act of 2006 was specifically enacted to address GHG emissions. Other legislation such as Title 24 and Title 20 energy standards were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

**AB 32.** The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. “Greenhouse gases” as defined under AB 32 include CO<sub>2</sub>, methane, NO<sub>x</sub>, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. The ARB is the state agency charged with monitoring and regulating sources of GHGs. AB 32 states the following:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

The ARB approved the 1990 GHG emissions level of 427 MMTCO<sub>2e</sub> on December 6, 2007 (ARB 2007). Therefore, to meet the State’s target, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO<sub>2e</sub>. Emissions in 2020 in a BAU scenario were estimated to be 596 MMTCO<sub>2e</sub>, which do not account for reductions from AB 32 regulations. At that rate, a 28 percent reduction was required to achieve the 427 MMTCO<sub>2e</sub> 1990 inventory. In October 2010, ARB prepared an updated 2020 forecast to account for the effects of the 2008 recession and slower forecasted growth. The 2020 inventory without the benefits of adopted



regulation is now estimated at 545 MMTCO<sub>2</sub>e. Therefore, under the updated forecast, a 21.7 percent reduction from BAU is required to achieve 1990 levels.<sup>17</sup>

**Progress in Achieving AB 32 Targets and Remaining Reductions Required.** The State has made steady progress in implementing AB 32 and achieving targets included in Executive Order S-3-05. The progress is evident in updated emission inventories prepared by ARB, which showed that the State inventory dropped below 1990 levels for the first time in 2016.<sup>18</sup> The GHG State inventories for 2017 and 2018 are also remain below the 2020 target. The 2017 Scoping Plan Update includes projections indicating that the State will meet or exceed the 2020 target with adopted regulations.<sup>19</sup>

**ARB Scoping Plan.** The ARB’s Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State’s emissions to 1990 levels by the year 2020 to comply with AB 32. The Scoping Plan identifies recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 GHG target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California’s clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State’s long-term commitment to AB 32 implementation.

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<sup>17</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 55.

<sup>18</sup> Ibid.

<sup>19</sup> Ibid.

The 2008 Scoping Plan strategy is fully implemented and will continue to be in place along with other new measures contained in the 2017 Scoping Plan to achieve later targets.

The 2008 Scoping Plan differentiates between “capped” and “uncapped” strategies. Capped strategies are subject to the proposed Cap-and-Trade program. The Scoping Plan states that the inclusion of these emissions within the Cap-and-Trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. Uncapped strategies that will not be subject to the Cap-and-Trade emissions caps and requirements are provided as a margin of safety by accounting for additional GHG emission reductions.<sup>20</sup>

**Cap-and-Trade Program.** The Cap-and-Trade Program is a key element of the Scoping Plan. It sets a statewide limit on sources responsible for 85 percent of California’s greenhouse gas emissions and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The program is designed to provide covered entities the flexibility to seek out and implement the lowest cost options to reduce emissions. The program conducted its first auction in November 2012. Compliance obligations began for power plants and large industrial sources in January 2013. Other significant milestones include linkage to Quebec’s Cap-and-Trade system in January 2014 and starting the compliance obligation for distributors of transportation fuels, natural gas, and other fuels in January 2015.<sup>21</sup> The latest auction (Joint Auction 25) was conducted in November 2020.<sup>22</sup>

The Cap-and-Trade Program provides a firm cap, ensuring that the 2020 statewide emission limit will not be exceeded. An inherent feature of the Cap-and-Trade Program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are guaranteed only on an accumulative basis. As summarized by ARB in the First Update:

The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies

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<sup>20</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 56.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid.

that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative.<sup>23</sup>

The Cap-and-Trade Program works with other direct regulatory measures and provides an economic incentive to reduce emissions. If California's direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California's direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program will be responsible for relatively more emissions reductions. Thus, the Cap-and-Trade Program assures that California will meet its 2020 GHG emissions reduction mandate.

The Cap-and-Trade Program establishes an overall limit on GHG emissions from most of the California economy—the “capped sectors.” Within the capped sectors, some of the reductions are being accomplished through direct regulations, such as improved building and appliance efficiency standards, the [Low Carbon Fuel Standard] LCFS, and the 33 percent [Renewables Portfolio Standard] RPS. Whatever additional reductions are needed to bring emissions within the cap is accomplished through price incentives posed by emissions allowance prices. Together, direct regulation and price incentives assure that emissions are brought down cost-effectively to the level of the overall cap. The Cap-and-Trade Regulation provides assurance that California's 2020 limit will be met because the regulation sets a firm limit on 85 percent of California's GHG emissions. In sum, the Cap-and-Trade Program will achieve aggregate, rather than site specific or project-level GHG emissions reductions. Also, due to the regulatory architecture adopted by ARB in AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the State's emissions forecasts and the effectiveness of direct regulatory measures.<sup>24</sup>

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<sup>23</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 56.

<sup>24</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 57.

**AB 398.** The Governor signed AB 398 on July 25, 2017 to extend the Cap-and-Trade Program to 2030. The legislation includes provisions to ensure that offsets used by sources are limited to 4 percent of their compliance obligation from 2021 through 2025 and 6 percent from 2026 through 2030. AB 398 also prevents Air Districts from adopting or implementing emission reduction rules from stationary sources that are also subject to the Cap-and-Trade Program.<sup>25</sup>

**SB 32.** The Governor signed SB 32 on September 8, 2016. SB 32 gives ARB the statutory responsibility to include the 2030 target previously contained in Executive Order B-30-15 in the next Scoping Plan update. SB 32 states that “In adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by this division, the state [air resources] board shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030.” The 2017 Climate Change Scoping Plan Update addressing the SB 32 targets was adopted on December 14, 2017. The major elements of the framework proposed to achieve the 2030 target are as follows:

1. SB 350
  - Achieve 50 percent Renewables Portfolio Standard (RPS) by 2030.
  - Doubling of energy efficiency savings by 2030.
2. Low Carbon Fuel Standard (LCFS)
  - Increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020).
3. Mobile Source Strategy (Cleaner Technology and Fuels Scenario)
  - Maintaining existing GHG standards for light- and heavy-duty vehicles.
  - Put 4.2 million zero-emission vehicles (ZEVs) on the roads.
  - Increase ZEV buses, delivery and other trucks.
4. Sustainable Freight Action Plan
  - Improve freight system efficiency.
  - Maximize use of near-zero emission vehicles and equipment powered by renewable energy.

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<sup>25</sup> Ibid.

- Deploy over 100,000 zero-emission trucks and equipment by 2030.
5. Short-Lived Climate Pollutant (SLCP) Reduction Strategy
    - Reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030.
    - Reduce emissions of black carbon 50 percent below 2013 levels by 2030.
  6. SB 375 Sustainable Communities Strategies
    - Increased stringency of 2035 targets.
  7. Post-2020 Cap-and-Trade Program
    - Declining caps, continued linkage with Québec, and linkage to Ontario, Canada.
    - ARB will look for opportunities to strengthen the program to support more air quality co-benefits, including specific program design elements. In Fall 2016, ARB staff described potential future amendments including reducing the offset usage limit, redesigning the allocation strategy to reduce free allocation to support increased technology and energy investment at covered entities and reducing allocation if the covered entity increases criteria or toxics emissions over some baseline.
  8. 20 percent reduction in greenhouse gas emissions from the refinery sector.
  9. By 2018, develop Integrated Natural and Working Lands Action Plan to secure California’s land base as a net carbon sink.

**SB 375—The Sustainable Communities and Climate Protection Act of 2008.** SB 375 was signed into law on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40 percent of the total GHG emissions in California. SB 375 states, “Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32.” SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

Concerning CEQA, SB 375—as codified in Public Resources Code Section 21159.28—states that CEQA findings determinations for certain projects are not required to reference, describe, or

discuss (1) growth-inducing impacts or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network if the project:

1. Is in an area with an approved Sustainable Communities Strategy or an alternative planning strategy that the ARB accepts as achieving the greenhouse gas emission reduction targets;
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies); and
3. Incorporates the mitigation measures required by an applicable prior environmental document.

The ARB has prepared the Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets. The update includes an increase in the 2035 target for Kings County from 10 percent to 13 percent (ARB 2017c). However, the 2018 Kings County RTP/SCS maintains targets of 5 percent by 2020 and 10 percent by 2035. The targets will be revisited in the 2022 RTP/SCS.<sup>26</sup>

**AB 1493 Pavley Regulations and Fuel Efficiency Standards.** California AB 1493, enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light-duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards are to be phased in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in an approximately 22 percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards will result in about a 30 percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation, rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.<sup>27</sup>

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<sup>26</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 59.

<sup>27</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 59.

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program referred to as LEV III or the Advanced Clean Cars program. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The new rules will reduce pollutants from gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles, and hydrogen fuel cell cars. The regulations will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.<sup>28</sup>

**SB 1368—Emission Performance Standards.** In 2006, the State Legislature adopted SB 1368, which was subsequently signed into law by the governor. SB 1368 directs the California Public Utilities Commission to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, the new law effectively prevents California’s utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. The California Public Utilities Commission adopted the regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 lbs CO<sub>2</sub> per megawatt-hour (MWh).

**SB 1078 and SBX1-2—Renewable Electricity Standards.** On September 12, 2002, Governor Gray Davis signed SB 1078, requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger also directed the ARB (Executive Order S-21-09) to adopt a regulation by July 31, 2010, requiring the State’s load serving entities to meet a 33 percent renewable energy target by 2020. The ARB

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<sup>28</sup> Ibid.

approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10-23. In 2011, the state legislature adopted this higher standard in SB X1-2. Renewable sources of electricity subject to the legislation include wind, small hydropower, solar, geothermal, biomass, and biogas.

**SB 350—Clean Energy and Pollution Reduction Act of 2015.** Signed into law on October 7, 2015, SB350 reaffirms California’s commitment to reducing its GHG emissions and addressing climate change. Key provisions include: an increase in the renewables portfolio standard (RPS), higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Provisions for a 50 percent reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill’s passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024, and 25 percent by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electricity transmission markets and improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.<sup>29</sup>

**SBX 7-7—The Water Conservation Act of 2009.** The legislation directs urban retail water suppliers to set individual 2020 per capita water use targets and begin implementing conservation measures to achieve those goals. Meeting this statewide goal of 20 percent decrease in demand will result in a reduction of almost 2 million acre-feet in urban water use in 2020.

**SB 100 California Renewable Portfolio Standard (2018).** The goal of the program is to achieve the 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. The bill approved by Governor Brown on September 10, 2018 would require that retail sellers and local publicly owned electric utilities procure a minimum

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<sup>29</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 60.



quantity of electricity products from eligible renewable energy resources so that the total kilowatt-hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030.<sup>30</sup>

#### *Executive Orders Related to GHG Emissions*

California's Executive Branch has taken several actions to reduce GHGs through the use of executive orders. Although not regulatory, they set the tone for the State and guide the actions of state agencies.

**Executive Order S-3-05.** On June 1, 2005, former California Governor Arnold Schwarzenegger announced through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce greenhouse gas emissions to 2000 levels.
- By 2020, reduce greenhouse gas emissions to 1990 levels.
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

**Executive Order S-01-07 – Low Carbon Fuel Standard.** The governor signed Executive Order S 01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the executive order established a Low Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, the ARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by California Energy Commission on

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<sup>30</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 61.

December 24, 2007) and was submitted to ARB for consideration as an “early action” item under AB 32. The ARB adopted the Low Carbon Fuel Standard on April 23, 2009.

The Low Carbon Fuel Standard was subject to legal challenge in 2011. Ultimately, ARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. The Office of Administrative Law (OAL) approved the regulation on November 16, 2015.<sup>31</sup> The regulation was last amended in 2018.

**Executive Order S-13-08.** Executive Order S-13-08 states that “climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California’s economy, to the health and welfare of its population and to its natural resources.” Pursuant to the requirements in the order, the 2009 California Climate Adaptation Strategy (California Natural Resources Agency 2009) was adopted, which is the “...first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States.” Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

**Executive Order B-30-15.** On April 29, 2015, Governor Edmund G. Brown Jr. issued an executive order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor’s executive order aligns California’s GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris late 2015. The executive order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050, and directs the ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of MMTCO<sub>2e</sub>. The executive order also requires the State’s climate adaptation plan to be updated every three years and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this executive order is not legally enforceable against local governments and the private sector. Legislation that would update

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<sup>31</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 62.

AB 32 to provide post-2020 targets was signed by the Governor in 2016. SB 32 includes a 2030 mandate matching the requirements of the Executive Order.

**Executive Orders B-55-18 Carbon Neutrality by 2045 (2018).** This Executive Order signed on September 10, 2018 sets a new statewide goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. The executive order directs ARB to work with relevant state agencies to develop a framework for implementation and accounting that tracks progress toward this goal.<sup>32</sup>

#### *California Regulations and Building Codes*

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California’s energy consumption relatively flat even with rapid population growth.

**Title 20 Appliance Efficiency Regulations.** California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4, Sections 1601–1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. Twenty-three categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the State and those designed and sold exclusively for use in recreational vehicles or other mobile equipment.<sup>33</sup>

**Title 24 Energy Efficiency Standards.** California Code of Regulations Title 24 Part 6: California’s Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California’s energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The most current 2016 Building Energy Efficiency Standards approved on January 19, 2016 went into effect on January 1, 2017.<sup>34</sup> The CEC adopted the 2019

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<sup>32</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 62.

<sup>33</sup> Ibid.

<sup>34</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 63.

Building Energy Efficiency Standards on May 9, 2018. The updated standards are effective as of January 1, 2020.<sup>35</sup>

**Title 24 California Green Building Standards Code** (California Code of Regulations Title 24, Part 11 code) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect January 1, 2011. The code is updated on a regular basis, with the most recent update consisting of the 2016 California Green Building Code Standards that became effective January 1, 2017. Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided the ordinances include a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard that buildings need to meet in order to be certified for occupancy, which is generally enforced by the local building official.

The California Green Building Standards Code (California Code of Regulations Title 24, Part 11 code) requires:

- **Short-term bicycle parking.** If a commercial project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for five percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- **Long-term bicycle parking.** For buildings with over 10 tenant-occupants, provide secure bicycle parking for five percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space (5.106.4.1.2).
- **Designated parking.** Provide designated parking in commercial projects for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- **Recycling by Occupants.** Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of nonhazardous materials for recycling. (5.410.1).
- **Construction waste.** A minimum 50-percent diversion of construction and demolition waste from landfills, increasing voluntarily to 65 and 80 percent for new homes and 80-percent for commercial projects. (5.408.1, A5.408.3.1 [nonresidential], A5.408.3.1

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<sup>35</sup> Ibid.

[residential]). All (100 percent) of trees, stumps, rocks and associated vegetation and soils resulting from land clearing shall be reused or recycled (5.408.3).

- **Wastewater reduction.** Each building shall reduce the generation of wastewater by one of the following methods:
  - The installation of water-conserving fixtures or
  - Using non-potable water systems (5.303.4).
- **Water use savings.** Twenty percent mandatory reduction in indoor water use with voluntary goal standards for 30, 35, and 40 percent reductions (5.303.2, A5303.2.3 [nonresidential]).
- **Water meters.** Separate water meters for buildings in excess of 50,000 square feet or buildings projected to consume more than 1,000 gallons per day (5.303.1).
- **Irrigation efficiency.** Moisture-sensing irrigation systems for larger landscaped areas (5.304.3).
- **Materials pollution control.** Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particleboard (5.404).
- **Building commissioning.** Mandatory inspections of energy systems (i.e., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies (5.410.2).

**Model Water Efficient Landscape Ordinance.** The Model Water Efficient Landscape Ordinance (Ordinance) was required by AB 1881 Water Conservation Act. The bill required local agencies to adopt a local landscape ordinance at least as effective in conserving water as the Model Ordinance by January 1, 2010. Reductions in water use of 20 percent consistent with (SBX-7-7) 2020 mandate are expected for the ordinance. Governor Brown’s Drought Executive Order of April 1, 2015 (EO B-29-15) directed DWR to update the ordinance through expedited regulation. The California Water Commission approved the revised ordinance on July 15, 2015, which became effective on December 15, 2015. New development projects that include landscaped areas of 500 square feet or more are subject to the ordinance. The update requires:

- More efficient irrigation systems
- Incentives for graywater usage
- Improvements in on-site stormwater capture
- Limiting the portion of landscapes that can be planted with high water use plants
- Reporting requirements for local agencies.

**SB 97 and the CEQA Guidelines Update.** Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states: “(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a).”

Section 21097 was also added to the Public Resources Code. This provided an exemption until January 1, 2010 for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, or projects funded by the Disaster Preparedness and Flood Prevention Bond Act of 2006—in stating that the failure to analyze adequately the effects of GHGs would not violate CEQA. The Natural Resources Agency completed the approval process, and the Amendments became effective on March 18, 2010. The Natural Resources Agency adopted additional amendments related to greenhouse gases in the 2019 CEQA Guidelines Update adopted on December 28, 2018.

The 2010 CEQA Amendments along with the 2018 CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

Section 15064.4(b) of the CEQA Guidelines provides direction for lead agencies for assessing the significance of impacts of GHG emissions:

- The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; or
- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project’s incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a

particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

Section 15064.4(c) states that a lead agency may use a model or methodology to estimate greenhouse gas emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.

The 2018 CEQA Guidelines include the following discussion regarding thresholds of significance:

(d) Using environmental standards as thresholds of significance promotes consistency in significance determinations and integrates environmental review with other environmental program planning and regulation. Any public agency may adopt or use an environmental standard as a threshold of significance. In adopting or using an environmental standard as a threshold of significance, a public agency shall explain how the particular requirements of that environmental standard reduce project impacts, including cumulative impacts, to a level that is less than significant, and why the environmental standard is relevant to the analysis of the project under consideration. For the purposes of this subdivision, an "environmental standard" is a rule of general application that is adopted by a public agency through a public review process and that is all of the following:

- (1) a quantitative, qualitative or performance requirement found in an ordinance, resolution, rule, regulation, order, plan or other environmental requirement;
- (2) adopted for the purpose of environmental protection;

- (3) addresses the environmental effect caused by the project; and,
- (4) applies to the project under review.

In addition, the 2018 amendments revised Appendix G Checklist questions to include a new question specifically on energy conservation.

CEQA emphasizes that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impacts analysis (see CEQA Guidelines Section 15130(f)).

#### *California Supreme Court GHG Ruling*

In a November 30, 2015 ruling, the *California Supreme Court in Center for Biological Diversity (CBD) v. California Department of Fish and Wildlife (CDFW)* on the Newhall Ranch project, concluded that whether the project was consistent with meeting statewide emission reduction goals is a legally permissible criterion of significance, but the significance finding for the project was not supported by a reasoned explanation based on substantial evidence. The Court offered potential solutions on pages 25 to 27 of the ruling to address this issue summarized below.

Specifically, the Court advised that:

- **Substantiation of Project Reductions from BAU.** A lead agency may use a BAU comparison based on the Scoping Plan's methodology if it also substantiates the reduction a particular project must achieve to comply with statewide goals. The Court suggested a lead agency could examine the "data behind the Scoping Plan's business-as-usual model" to determine the necessary project-level reductions from new land use development at the proposed location.
- **Compliance with Regulatory Programs or Performance Based Standards.** "A lead agency might assess consistency with A.B. 32's goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities. (See Final Statement of Reasons, supra, at p. 64 [greenhouse gas emissions 'may be best analyzed and mitigated at a programmatic level.'].) To the extent a project's design features comply with or exceed the regulations outlined in the Scoping Plan and adopted by the Air Resources Board or other state agencies, a lead agency could appropriately rely on their use as showing compliance with 'performance-based standards' adopted to fulfill 'a statewide . . . plan for the reduction



or mitigation of greenhouse gas emissions.’ (CEQA Guidelines § 15064.4(a)(2), (b)(3); see also id., § 15064(h)(3) [determination that impact is not cumulatively considerable may rest on compliance with previously adopted plans or regulations, including ‘plans or regulations for the reduction of greenhouse gas emissions’].)’.”

- **Compliance with GHG Reduction Plans or Climate Action Plans (CAPs).** A lead agency may utilize “geographically specific GHG emission reduction plans” such as climate action plans or greenhouse gas emission reduction plans to provide a basis for the tiering or streamlining of project-level CEQA analysis.
- **Compliance with Local Air District Thresholds.** A lead agency may rely on “existing numerical thresholds of significance for greenhouse gas emissions” adopted by, for example, local air districts.

Therefore, consistent with CEQA Guidelines Appendix G, the three factors identified in CEQA Guidelines Section 15064.4 and the recently issued Newhall Ranch opinion, the GHG impacts would be considered significant if the Project would:

- Conflict with a compliant GHG Reduction Plan if adopted by the lead agency;
- Exceed the SJVAPCD GHG Reduction Threshold; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs.

### San Joaquin Valley Air Pollution Control District Regulations

#### *Climate Change Action Plan*

On August 21, 2008, the SJVAPCD Governing Board approved a proposal called the Climate Change Action Plan (CCAP). The CCAP began with a public process bringing together stakeholders, land use agencies, environmental groups, and business groups to conduct public workshops to develop comprehensive policies for CEQA guidelines, a carbon exchange bank, and voluntary GHG emissions mitigation agreements for the Board’s consideration. The CCAP contains the following goals and actions:

- Develop GHG significance thresholds to address CEQA projects with GHG emission increases.
- Develop the San Joaquin Valley Carbon Exchange for banking and trading GHG reductions.

- Authorize use of the SJVAPCD's existing inventory reporting system to allow use for GHG reporting required by AB 32 regulations.
- Develop and administer GHG reduction agreements to mitigate proposed emission increases from new projects.
- Support climate protection measures that reduce greenhouse gas emissions as well as toxic and criteria pollutants. Oppose measures that result in a significant increase in toxic or criteria pollutant emissions in already impacted areas.

On December 17, 2009, the SJVAPCD Governing Board adopted "Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA," and the policy "District Policy—Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency." The SJVAPCD concluded that the existing science is inadequate to support quantification of the impacts that project specific GHG emissions have on global climatic change. The SJVAPCD found the effects of project-specific emissions to be cumulative, and without mitigation, their incremental contribution to global climatic change could be considered cumulatively considerable. The SJVAPCD found that this cumulative impact is best addressed by requiring all projects to reduce their GHG emissions, whether through project design elements or mitigation.<sup>36</sup>

The SJVAPCD's approach is intended to streamline the process of determining if projectspecific GHG emissions would have a significant effect. Projects exempt from the requirements of CEQA, and projects complying with an approved plan or mitigation program would be determined to have a less than significant cumulative impact. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources and must have a certified final CEQA document.

For non-exempt projects, those projects for which there is no applicable approved plan or program, or those projects not complying with an approved plan or program, the lead agency must evaluate the project against performance-based standards and would require the adoption of design elements, known as Best Performance Standards (BPS), to reduce GHG emissions. The BPS have not yet fully been established, though they must be designed to achieve a 29 percent reduction when compared with the BAU projections identified in ARB's AB 32 Scoping Plan.

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<sup>36</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 67.

BAU represents the emissions that would occur in 2020 if the average baseline emissions during the 2002–2004 period were grown to 2020 levels, without control. Thus, these standards would carry with them pre-quantified emissions reductions, eliminating the need for project-specific quantification. Therefore, projects incorporating BPS would not require specific quantification of GHG emissions, and automatically would be determined to have a less than significant cumulative impact for GHG emissions.

For development projects, BPS means, “Any combination of identified GHG emission reduction measures, including project design elements and land use decisions that reduce project-specific GHG emission reductions by at least 29 percent compared with business as usual.”

Projects not incorporating BPS would require quantification of GHG emissions and demonstration that BAU GHG emissions have been reduced or mitigated by 29 percent. As stated earlier, ARB’s adjusted inventory reduced the amount required by the State to achieve 1990 emission levels from 29 percent to 21.7 percent to account for slower growth experienced since the 2008 recession. According to SJVAPCD guidance, quantification of GHG emissions would be required for all projects for which the lead agency has determined that an environmental impact report is required, regardless of whether the project incorporates BPS. The SJVAPCD has not yet adopted BPS for development projects, so quantification of project emissions is required. No update to address SB 32 2030 targets has been accomplished.<sup>37</sup>

#### *San Joaquin Valley Carbon Exchange*

The SJVAPCD initiated work on the San Joaquin Valley Carbon Exchange in November 2008. The purpose of the carbon exchange is to quantify, verify, and track voluntary GHG emissions reductions generated within the San Joaquin Valley. However, the SJVAPCD has pursued an alternative strategy that incorporates the GHG emissions into its existing Rule 2301 – Emission Reduction Credit Offset Banking that formerly only addressed criteria pollutants. The SJVAPCD is also participating with the California Air Pollution Control Officers Association (CAPCOA), of which it is a member, in the CAPCOA Greenhouse Gas Reduction Exchange (GHG Rx). The GHG Rx is operated cooperatively by air districts that have elected to participate. Participating districts have signed a Memorandum of Understanding (MOU) with CAPCOA and agree to post only those credits that meet the Rx standards for quality. The objective is to provide a secure, low-cost, high-quality greenhouse gas exchange for credits created in California. The GHG Rx is intended to help fulfill compliance obligations or

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<sup>37</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 67.

mitigation needs of local projects subject to environmental review, reducing the uncertainty of using credits generated in distant locations. The SJVAPCD currently has no credits posted to the GHG Rx as of this writing.<sup>38</sup>

#### *Rule 2301*

While the Climate Change Action Plan indicated that the GHG emission reduction program would be called the San Joaquin Valley Carbon Exchange, the District incorporated a method to register voluntary GHG emission reductions into its existing Rule 2301 – Emission Reduction Credit Banking through amendments of the rule. Amendments to the rule were adopted on January 19, 2012. The purposes of the amendments to the rule include the following:

- Provide an administrative mechanism for sources to bank voluntary GHG emission reductions for later use.
- Provide an administrative mechanism for sources to transfer banked GHG emission reductions to others for any use.
- Define eligibility standards, quantitative procedures, and administrative practices to ensure that banked GHG emission reductions are real, permanent, quantifiable, surplus, and enforceable.

#### Kings County Association of Governments

##### *Regional Transportation Plan*

KCAG adopted the 2018 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) on August 22, 2018. The RTP/SCS is a planning document prepared in cooperation with the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), the California Department of Transportation (Caltrans), and other stakeholders, including transportation system users. The SCS portion of the plan is intended to show how integrated land use and transportation planning can lead to lower greenhouse gas (GHG) emissions from autos and light trucks. SB 375 includes the following four primary findings related to the RTP/SCS development process:

- SB 375 required the ARB to develop regional GHG emission reduction targets for cars and light trucks for each of the 18 MPOs in California, including KCAG. ARB approved targets for the San Joaquin Valley in January 2013. The target for Kings County is a per capita

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<sup>38</sup> Ibid., page 68.

reduction in GHG emissions from passenger vehicle travel of five percent by 2020 and 10 percent by 2035 relative to 2005 levels. The 2018 RTP indicates that the County continues to pursue the 5 percent reduction by 2020 and 10 percent reduction by 2035 (KCAG 2018).

- SB 375 required the preparation of an SCS. KCAG included a SCS that specifies how the GHG emission reduction target set by ARB will be achieved in the RTP. If the target cannot be met through the SCS, then an Alternative Planning Strategy (APS) shall be prepared by KCAG. Chapter 12 of the 2018 RTP/SCS includes the SCS for Kings County.
- SB 375 streamlines CEQA requirements for specific residential and mixed-use developments that are consistent with the KCAG SCS or APS (as determined by ARB) to achieve regional GHG emissions reduction target.

The ARB adopted new targets on March 22, 2018 that will take effect for the 2022 RTP/SCS cycle. For KCAG, the new targets will be 5% for 2020 and 13% for 2035.<sup>39</sup>

## Local

### City of Lemoore 2030 General Plan GHG Related Policies

The General Plan Conservation and Open Space chapter includes several policies related to GHG emissions. The policies direct the City to prepare a GHG emission inventory and a GHG emission reduction plan. The City has not yet prepared the inventory and plan.

- COS-I-38 Compile and update an inventory of greenhouse gas emissions from City operations and track related solid waste, energy, economic, and environmental data.
- COS-I-39 Support State efforts to reduce greenhouse gases and emissions through local action that will reduce motor vehicle use, support alternative forms of transportation, require energy conservation in new construction, and energy management in public buildings.

*By proposing compact development, mixed use centers, walkable neighborhoods, green building technology, and jobs-housing balance, the City will be helping to implement many of the strategies and programs in the San Joaquin Valley 2007 Ozone Plan.*

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<sup>39</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 70.

- COS-I-40 Prepare a Greenhouse Gas Emissions Reduction Plan, focusing on feasible actions the City can take to minimize the adverse impacts of Plan implementation on climate change and air quality. The Plan will include but will not be limited to:
  - An inventory of all known, or reasonably discoverable, sources of greenhouse gases (GHGs) that currently exist in the City and sources that existed in 1990. In determining what is a source of GHG emissions, the City may rely on the definition of “greenhouse gas emissions source” or “source” as defined in Section 38505 of the California Global Warming Solutions Act (“AB 32”) or its governing regulations. The inventory may include estimates of emissions drawing on available information from to state and regional air quality boards, supplemented by information obtained by the City.
  - A projected inventory of the new GHGs that can reasonably be expected to be emitted in the year 2030 due to the City’s discretionary land use decisions pursuant to the 2030 General Plan Update, as well as new GHGs emitted by the City’s internal government operations. The projected inventories will include estimates, supported by substantial evidence, of future emissions from planned land use and information from state and regional air quality boards and agencies.
  - A target for the reduction of those sources of future emissions reasonably attributable to the City’s discretionary land use decisions under the 2030 General Plan and the City’s internal government operations, and feasible GHG emission reduction measures whose purpose shall be to meet this reduction target by regulating those sources of GHG emissions reasonably attributable to the City’s discretionary land use decisions and the City’s internal government operations.

Additionally, the General Plan Community Design chapter includes several policies related to GHG emissions.

- CD-I-58 Require new development to incorporate passive heating and natural lighting strategies to the extent feasible and practical. These strategies should include, but are not limited to, the following:

- Using building orientation, mass and form, including façade, roof, and choice of building materials, color, type of glazing, and insulation to minimize heat loss during winter months and heat gain during the summer months;
  - Designing building openings to regulate internal climate and maximize natural lighting, while keeping glare to a minimum; and
  - Reducing heat-island effect of large concrete roofs and parking surfaces.
- CD-I-60 Incorporate green building standards into the Zoning Ordinance and building code to ensure a high level of energy efficiency in new development, retrofitting projects, and City facilities. These standards should include, but are not limited to, the following:
    - Require the use of Energy Star® appliances and equipment in new and substantial renovations of residential development, commercial development, and City facilities;
    - Require all new City facilities and new residential development incorporate green building methods to qualify for the equivalent of LEED Certified “Silver” rating or better (passive solar orientation must be a minimum component);
    - Require all new residential development to be pre-wired for optional photovoltaic roof energy systems and/or solar water heating on south facing roofs; and
    - Require all new projects that will use more than 40,000 kilowatt hours per year of electricity to install photovoltaic energy systems.
- CD-I-61 Adopt a Green Building Design Ordinance. Green Building Design Guidelines may include required and recommended “green” design and construction strategies including: Building Site and Form, Natural Heating or Cooling, Transportation, Building Envelope and Space Planning, Building Materials, Water Systems, Electrical Systems, HVAC Systems, Construction Management, and Commissioning.
- CD-I-62 Facilitate environmentally sensitive construction practices by:
    - Restricting use of chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and halons in mechanical equipment and building materials;
    - Promoting use of products that are durable and allow efficient end-of-life disposal (recyclable);

- Requiring subdivision applications on sites greater than five acres to submit a construction waste management plan for City approval;
- Promoting the purchase of locally or regionally available materials; and
- Promoting the use of cost-effective design and construction strategies that reduce resource and environmental impacts.

### **Waste Diversion**

With the passage of SB 1016, the Per Capita Disposal Measurement System, only per capita disposal rates are measured. Targets are based on the per capita disposal rates. The Kings Waste and Recycling Authority's disposal rate for 2019 was 4.1 pounds per person per day, which is well below the target of 4.4 pounds per person per day.<sup>40</sup>

### **Thresholds of Significance**

The significance criteria for assessing the impacts from GHG emissions are derived from the CEQA Environmental Checklist. According to the CEQA Checklist, a project causes potentially significant impacts if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

### **Impacts and Mitigation Measures**

Section 15064.4(b) of the 2021 CEQA Guidelines for GHG emissions states that a lead agency may take into account the following three considerations in assessing the significance of impacts from GHG emissions.

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<sup>40</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 71.



- Consideration #1: The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- Consideration #2: Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- Consideration #3: The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

The City of Lemoore has not yet adopted its own GHG thresholds or prepared a Greenhouse Gas Reduction Plan that can be used as a basis for determining the Project's level of significance; therefore, an alternative analysis approach is required. In the absence of a local plan, CEQA allows lead agencies to use Statewide or regional plans that reduce or mitigate the Project's incremental contribution of greenhouse gas emissions. The SJVAPCD's *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* includes thresholds based on whether the Project will reduce or mitigate GHG levels by 29 percent from BAU levels compared with 2005 levels by 2020.<sup>41</sup> The required reduction to meet the 2020 target was reduced to 21.7 percent from BAU to reflect lower growth in emissions due to the 2008 recession. First occupancy at the Project site is expected to occur in 2022 with full buildout in 2038. These dates are beyond the AB 32 2020 milestone year and the SJVAPCD has not updated its guidance to address the SB 32 2030 targets. Therefore, an approach based on consistency with State plans to

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<sup>41</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 100.

achieve 2030 targets and continued progress toward meeting the goals for 2045 and 2050 in Executive Orders signed by the Governor has been used.

The analysis prepared for the Project also includes qualitative assessments of compliance with 2008 Scoping Plan, the 2017 Scoping Plan Update, and City of Lemoore 2030 General Plan to support GHG significance findings under Impact GHG-2.

To determine significance, the analysis first quantifies project-related GHG emissions under a BAU scenario, and then compares these emissions with emissions that would occur when all project-related design features are accounted for, and when compliance with applicable regulatory measures is assumed. The standard and methodology is explained in further detail below.

**Impact 3.7-1:** *Would the project generate direct or indirect greenhouse emissions that would result in a significant impact on the environment?*

**Less Than Significant.**

*Construction*

Total GHG emissions generated during all phases of construction were combined and are presented in Table 3.7-2. The SJVAPCD does not recommend assessing the significance of construction-related emissions. However, other jurisdictions, such as the South Coast Air Quality Management District (SCAQMD) and the (Sacramento Metropolitan Air Quality Management District SMAQMD, have concluded that construction emissions should be included since they may remain in the atmosphere for years after construction is complete. In order to account for the construction emissions, amortizations of the total emissions generated during construction were based on the life of the development (residential—30 years) and added to the operational emissions.

**Table 3.7-2  
Stationary Source Greenhouse Gas Emissions<sup>42</sup>**

Phase/Year	MTCO <sub>2</sub> e per year
Phase 1 2022	577.85
Phase 1 2023	520.77
Phase 1 2024	519.68

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<sup>42</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 104.

Phase 1 2025	193.29
Phase 2 2026	695.92
Phase 2 2027	718.48
Phase 2 2028	709.68
Phase 2 2029	241.63
Phase 3 2030	502.06
Phase 3 2031	414.09
Phase 3 2032	116.78
Phase 4 2034	570.94
Phase 4 2035	438.26
Phase 4 2036	439.94
Phase 4 2037	180.79
<b>Total</b>	<b>6,840.15</b>
<b>Amortized over 30 years</b>	<b>228.01</b>
Notes: Calculation totals use unrounded numbers from CalEEMod output. MTCO <sub>2e</sub> = metric tons of carbon dioxide equivalents Source: CalEEMod output (Appendix B).	

*Operation*

Operational or long-term emissions occur over the life of the Project. Sources of emissions may include motor vehicles and trucks, energy usage, water usage, waste generation, and area sources, such as landscaping activities and residential wood burning.

**Business As Usual Operational Emissions**

Operational emissions under the BAU scenario were modeled using CalEEMod 2016.3.2. Modeling assumptions for the year 2005 were used to represent 2038 BAU conditions (without the benefit of regulations adopted to reduce GHG emissions). The SJVAPCD guidance recommends using emissions in 2002–2004 in the baseline scenario to represent conditions—as if regulations had not been adopted—to allow the effect of projected growth on achieving reduction targets to be clearly defined. CalEEMod defaults were used for Project energy usage, water usage, waste generation, and area sources (architectural coating, consumer products, and landscaping). The vehicle fleet mix was revised to reflect the residential fleet mix approved by SJVAPCD for 2038, which is when buildout of the final phase of development is expected to occur. Full assumptions and CalEEMod model outputs are provided in Appendix B.

## 2038 Operational Emissions

Operational emissions were modeled for the year 2038 using CalEEMod. CalEEMod assumes compliance with some, but not all, applicable rules and regulations regarding energy efficiency, vehicle fuel efficiency, renewable energy usage, and other GHG reduction policies, as described in the CalEEMod User's Guide.<sup>43</sup> The reductions obtained from each regulation and the source of the reduction amount used in the analysis are described below.

### *Emissions Accounting for Applicable Regulations*

The following regulations are incorporated into the CalEEMod emission factors:

- Pavley I and Pavley II (LEV III) motor vehicle emission standards
- ARB Medium and Heavy-Duty Vehicle Regulation
- 2005, 2008, 2013, and 2016 Title 24 Energy Efficiency Standards

The following regulations have not been incorporated into the CalEEMod emission factors and require alternative methods to account for emission reductions provided by the regulations:

- Renewable Portfolio Standards (RPS)
- Low Carbon Fuel Standard (LCFS)
- Green Building Code Standards (indoor water use)
- California Model Water Efficient Landscape Ordinance (Outdoor Water)

Pavley II/LEV III standards have been incorporated in the latest version of CalEEMod. ARB estimates a 3 percent reduction in 2020 and a 19 percent reduction from the vehicle categories subject to the regulation by 2030.<sup>44</sup>

The ARB GHG Regulation for Medium and Heavy-Duty Engines and Vehicles applies to trucks that will be accessing the Project site. The benefits of the regulation were incorporated into

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<sup>43</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 104.

<sup>44</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 105.

CalEEMod 2016.3.2. The ARB estimates that this regulation will reduce GHG emissions from the affected vehicles by 7.2 percent.<sup>45</sup>

The Low Carbon Fuel Standard (LCFS) is estimated to achieve a 10 percent reduction in emissions by 2020 and a 20 percent reduction by 2030<sup>46</sup>. CalEEMod does not include credit for the LCFS.

Title 24 reductions for 2013 and 2016 updates were added to CalEEMod 2016.3.2. The California Energy Commission (CEC) estimates that 2013 Title 24 standards would result in an increase in energy efficiency of 25 percent in residential buildings compared to 2008 Title 24 (CEC 2014a). An additional 28 percent reduction from the 2008 standards have been credited for compliance with 2016 Title 24. This results in a combined reduction of 46 percent.<sup>47</sup> Compliance with 2019 Title 24 is expected to reduce residential energy use by 7 percent beyond 2016 Title 24 prior to accounting for the installation of solar panels.<sup>48</sup> 2019 Title 24 requires new residential development include solar panels to generate electricity. The Project is expected to include solar panels on each single-family residential unit in quantities that meet or exceed Title 24 requirements. Apartments also have requirements for solar panels, but the amount can vary due to roof space constraints and other site considerations.

RPS is not accounted for in CalEEMod 2016.3.2. Reductions from RPS are addressed by revising the electricity emission intensity factor in CalEEMod to account for the utility RPS rate forecast for 2020<sup>49</sup>. PG&E provides emission factors for the electricity it provides to customers and projections for its energy portfolio for 2020 that is used to estimate Project emissions. No data to reflect compliance in 2030 or 2038 was included in the PG&E projections. The utilities will be required by SB 100 to increase the use of renewable energy sources to 60 percent, but details on individual utility compliance have not been determined.

Energy savings from water conservation resulting from the Green Building Code Standards for indoor water use and California Model Water Efficient Landscape Ordinance for outdoor water use are not included in CalEEMod. The Water Conservation Act of 2009 mandates a 20 percent

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<sup>45</sup> Ibid.

<sup>46</sup> Ibid.

<sup>47</sup> Ibid.

<sup>48</sup> Ibid.

<sup>49</sup> Ibid. Page 106.

reduction in urban water use that is implemented with these regulations.<sup>50</sup> Benefits of the water conservation regulations are applied in the CalEEMod mitigation component.

Reductions in emissions from solid waste are based on the City achieving the CalRecycle 75 Percent Initiative by 2020 compared with a 50 percent baseline for 2005. Reductions are taken using the CalEEMod mitigation component.

Regulations applicable to Project sources and the percent reduction anticipated from each source are shown in Table 3.7-3. The percentage reductions are only applied to the specific sources subject to the regulations. For example, the Pavley LEV Standards apply only to light duty cars and trucks.

**Table 3.7-3  
Construction Greenhouse Gas Emissions<sup>51</sup>**

<b>Regulation</b>	<b>Project Applicability</b>	<b>Reduction Source</b>	<b>Percent Reduction in 2020 and 2030</b>
Pavley Low Emission Vehicle Standards	Light-duty cars and trucks accessing the site are subject to the regulation.	CalEEMod defaults (Pavley I)	25.1 <sup>1</sup>
		Adjusted GHG emission factor (Pavley II/LEV III) in CalEEMod.	3% 2020 19.5% 2030 <sup>2</sup>
Truck and Bus Regulation	Heavy-duty trucks accessing the site for deliveries and services are subject to the regulation.	Adjusted GHG emission factors for the regulation in CalEEMod	7.2% <sup>3</sup>
Low Carbon Fuel Standard (LCFS)	Vehicles accessing the site will use fuel subject to the LCFS	CalEEMod defaults	10% 2020 20% 2030 <sup>1</sup>
Title 24 Energy Efficiency Standards	Project buildings will be constructed to meet the latest version of Title 24 (currently 2016). Reduction applies only to energy consumption subject to the regulation.	CalEEMod defaults	35% <sup>4,5</sup>

<sup>50</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 106.

<sup>51</sup> Ibid.

Regulation	Project Applicability	Reduction Source	Percent Reduction in 2020 and 2030
Green Building Code Standards	The project will include water conservation features required by the standard	CalEEMod mitigation component	20% <sup>6</sup>
Water Efficient Land Use Ordinance	The project landscaping will comply with the regulation	CalEEMod mitigation component	20% <sup>7</sup>
Renewable Portfolio Standard (RPS)	Electricity purchased for use at the project site is subject to the 33 percent RPS mandate	CalEEMod adjusted energy intensity factors with PG&E emission factors that show the company will exceed the 33 percent mandate.	54.5% <sup>8</sup>
Solid waste	The solid waste service provider will need to provide programs to increase diversion and recycling to meet the 75 percent mandate.	CalEEMod mitigation component	25% <sup>9</sup>
<p>Notes:                      Regulations are described in Section 2.3 Regulatory Environment. The source of the percentage reductions from each measure are from the following sources, see Appendix B for full reference:  <sup>1</sup> Pavley 1 + Low Carbon Fuel Standard Postprocessor Version 1.0 User's Guide (ARB 2010b)  <sup>2</sup> ARB Staff Report for LEV III Amendments (ARB 2013e)  <sup>3</sup> ARB Staff Report for GHG Regulations for Medium and Heavy-Duty Engines and Vehicles (ARB 2013f)  <sup>4</sup> California Energy Commission News Release: New Title 24 Standards Will Cut Residential Energy Use by 25 Percent, Save Water, and Reduce Greenhouse Gas Emissions (CEC 2014b)  <sup>5</sup> California Energy Commission Adoption Hearing Presentation: 2016 Buildings Energy Efficiency Standards (CEC 2015)  <sup>6</sup> 2013 California Green Building Standards Code Section 5.303.2  <sup>7</sup> California Water Plan Update 2013 (CDWR 2013)  <sup>8</sup> Based on CalEEMod default PG&amp;E rate for 2005 and PG&amp;E projected emission factor for 2020  <sup>9</sup> CalRecycle 75 Percent Initiative: Defining the Future (2016b)</p>			

In addition to rules and regulations, the Project would incorporate design features and would obtain benefits from its location and infrastructure that would reduce Project vehicle miles traveled (VMT) compared with default values. The Project would construct pedestrian infrastructure connecting to adjacent land uses. In addition, the Project would provide electrical outlets for landscaping equipment that would be used in accordance with statewide usage rates for this type of equipment. The Project is located approximately 1.2 miles from existing development in Downtown Lemoore, providing shorter-than-average trip lengths to important destinations.

Note that CalEEMod nominally treats these design elements and conditions as “mitigation measures,” despite their inclusion in the Project description. Therefore, reported operational emissions are considered to represent unmitigated Project conditions. Full assumptions and model outputs are provided in Appendix B and results of this analysis for Project buildout in 2038 are presented in Table 3.7-4.

**Table 3.7-4  
Project Operational Greenhouse Gases<sup>52</sup>**

Source	Emissions (MTCO <sub>2</sub> e per year)		
	Business as Usual	2038 (with Regulation and Design Features)	Percent Reduction
Area	1,023.51	336.60	67.11%
Energy	2,600.75	1,623.29	37.6%
Mobile	8,792.91	3,899.51	55.7%
Waste	330.69	248.02	25.0%
Water	185.08	96.27	48.0%
Amortized Construction Emissions	228.01	228.01	0.0%
<b>Total</b>	<b>13,160.93</b>	<b>6,431.69</b>	<b>51.1%</b>
Reduction from BAU		<b>6,729.24</b>	—
Percent Reduction		<b>51.1%</b>	—
Significance Threshold		<b>21.7%</b>	—
<b>Are emissions significant?</b>		<b>No</b>	
Notes: MTCO <sub>2</sub> e = metric tons of carbon dioxide equivalents The project achieves the SJVAPCD 29 percent reduction from BAU threshold and the 21.7 percent required to show consistency with AB 32 targets. Source: CalEEMod output (Appendix B).			

As shown in Table 3.7-4, the Project operations in 2038 would achieve a reduction from BAU of 51.1 percent, which exceeds the 21.7 percent reduction required by the State to achieve the 2020 target by 29.4 percent and the SJVAPCD 29.0 percent target by 21.4 percent. No new threshold has been adopted by the City of Lemoore or the SJVAPCD for the 2030 target so, in the interim, the Project must make continued progress toward the SB 32 2030 target.

<sup>52</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 108.



The Project includes design features that would result in reductions in energy use and support walking and bicycling. Measures that are part of the Project design do not require additional mitigation measures to ensure they are accomplished.

The 51.1 percent reduction from BAU is 29.4 percent beyond the average reduction required by the State from all sources to achieve the AB 32 2020 target and makes substantial progress toward the SB 32 2030 target and later Executive Order goals, and therefore addresses the concern expressed in Newhall Ranch that projects should likely do more than the average to ensure they are providing a fair share of emission reductions.

The analysis presented above does not include new strategies proposed in the 2017 Scoping Plan Update. The update was adopted in December 2017. The update provides alternatives in terms of their likelihood of implementation and ranges of reduction from the strategies. Measures already authorized by legislation are highly likely to be implemented, while measures requiring new legislation are less likely to go forward. The State is highly likely to incorporate zero net energy buildings in future updates to Title 24 and now requires solar panels in most residential development. A new round of motor vehicle fuel efficiency standards beyond 2025 when LEV III standards are at their maximum reduction level is highly likely. Changing heavy-duty trucks and off-road equipment to alternative fuels face greater technological hurdles and are less likely to provide dramatic reductions by 2030; however, the ARB recently approved the Advanced Clean Trucks regulation that requires increasing percentages of zero emission trucks between 2024 and 2035 (ARB 2020b). The development of a new Scoping Plan to address post-2030 targets would occur when new targets for 2040 and 2050 are legislated.

The 2030 emission limit is 260 MMTCO<sub>2e</sub>. The ARB estimates that the 2030 BAU (reference) Inventory will be 392 MMTCO<sub>2e</sub>—a reduction of 132 MMTCO<sub>2e</sub>, including existing policies and programs but not including known commitments that are already underway. The 2017 Scoping Plan Update includes the estimated GHG emissions by sector compared with 1990 levels that is presented in Table 3.8-5. The proposed plan would achieve the bulk of the reductions from Electric Power, Industrial fuel combustion, and Transportation. Cap-and-Trade would provide between 10 and 20 percent of the required reductions depending on the amounts achieved by the other reduction measures.

**Table 3.7-5**  
**2017 Scoping Plan Update Estimated Change in GHG Emissions by Sector<sup>53</sup>**

Scoping Plan Sector	Emissions (MMTCO <sub>2</sub> e per year)		
	1990	2030 Proposed Plan Ranges	Percent Change form 1990
Agriculture	26	24–25	-4 to -8
Residential and Commercial	44	38–40	-9 to -14
Electric Power	108	42–62	-43 to -61
High GWP	3	8–11	167 to 267
Industrial	98	77–87	-11 to -21
Recycling and Waste	7	8–9	14 to 29
Transportation (including TCU)	152	103–111	-27 to -32
Net Sink	-7	TBD	TBD
<b>Subtotal</b>	<b>431</b>	<b>300–345</b>	<b>-20 to -30</b>
Cap-and-Trade Program	N/A	40–85	N/A
<b>Total</b>	<b>431</b>	<b>260</b>	<b>-40</b>

Although 2017 Scoping Plan Update focuses on state agency actions necessary to achieve the 2030 GHG limit, the ARB considers local governments essential partners in achieving California’s goals to reduce GHG emissions. The 2030 target will require an increase in the rate of emission reductions compared to what was needed to achieve the 2020 limit, and this will require action and collaboration at all levels, including local government action to complement and support State-level actions. For individual projects, the 2017 Scoping Plan Update suggests that all new land use development implement all feasible measures to reduce GHG emissions. The Scoping Plan does not define all feasible measures or attribute an amount of reductions required from new development beyond compliance with regulations. When requiring mitigation of a project’s fair share of a cumulative impact, the Lead Agency must show the nexus between the project contribution and its fair share of mitigation to reduce the impact to less than cumulatively considerable. A threshold based on local support and collaboration with State actions as described in the 2017 Scoping Plan Update does not lend itself to a quantitative determination of fair share. Requiring developers and future residents of the development to fully mitigate

<sup>53</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 109.

emissions without accounting for compliance with regulations would result in double mitigation, first by the developer and then by the residents purchasing electricity, fuel, and vehicles compliant with regulations in effect at the time of purchase and beyond that would violate constitutional nexus requirements.

In conclusion, the Project would achieve reductions of 29.4 percent beyond the ARB 2020 21.7 percent target and 21.4 percent beyond the SJVAPCD 29 percent reduction from BAU requirements from adopted regulations and on-site design features. No new threshold has been adopted by the City for the SB 32 2030 target; however, the reductions from BAU by 2038 are substantial with existing regulations and Project design features. Based on this progress and the strong likelihood that the measures included in the 2017 Scoping Plan Update will be implemented, it is reasonable to conclude that the Project is consistent with the 2017 Scoping Plan and will contribute a reasonable fair-share contribution to achieving the 2030 target. The fair share may very well be achieved through compliance with increasingly stringent State regulations that apply to new development, such as Title 24 and CALGreen; regulations on energy production, fuels, and motor vehicles that apply to both new and existing development; and voluntary actions to improve energy efficiency in existing development. In addition, compliance with the VMT targets adopted to comply with SB 375 and implemented through the RTP/SCS may be considered to adequately address GHG emissions from passenger cars and light-duty trucks. As shown in Table 3.7-5, the State strategy relies on the Cap-and-Trade Program to make up any shortfalls that may occur from the other regulatory strategies. The costs of Cap-and-Trade emission reductions will ultimately be passed on to the consumers of fuels, electricity, and products produced by regulated industries, which include future residents of development projects and other purchasers of products and services. Therefore, the impact in terms of Considerations #1 and #2 would be *less than significant*.

**Mitigation Measures:**

None Required.

**Impact 3.7-2:** *Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

**Less Than Significant.** The following analysis assesses the Project's compliance with Consideration #3 regarding consistency with adopted plans to reduce GHG emissions. The City of Lemoore 2030 General Plan was adopted in May 2008. The Project's consistency with applicable GHG policies from the GHG Reduction Plan policies is assessed below.

The Project is also assessed for its consistency with ARB's adopted Scoping Plans. This would be achieved with an assessment of the Project's compliance with Scoping Plan measures contained in the 2008 Scoping Plan and the 2017 Scoping Plan Update.

### *General Plan Compliance*

The City of Lemoore 2030 General Plan was adopted in May 2008. The General Plan contains a number of goals or policies that relate directly to climate change and some of the policies in the Air Quality and Circulation Element of the General Plan would likely reduce GHG emissions as well as the other criteria pollutant emissions, because they attempt to reduce VMT and increase energy efficiency. As shown in Table 3.7-6, the Project is consistent with the feasible and applicable policies.

**Table 3.7-6  
Consistency with General Plan Policies<sup>54</sup>**

General Plan Policy	Project Consistency
<p><b>COS-I-38</b> Compile and update an inventory of greenhouse gas emissions from City operations and track related solid waste, energy, economic, and environmental data.</p>	<p><b>Not applicable.</b> This measure applies to the City and not individual projects.</p>
<p><b>COS-I-39</b> Support State efforts to reduce greenhouse gases and emissions through local action that will reduce motor vehicle use, support alternative forms of transportation, require energy conservation in new construction, and energy management in public buildings.</p>	<p><b>Consistent.</b> The Project supports State efforts through compliance with adopted GHG regulations on building construction and vehicles that will access the site.</p>
<p><b>COS-I-40</b> Prepare a Greenhouse Gas Emissions Reduction Plan, focusing on feasible actions the City can take to minimize the adverse impacts of Plan implementation on climate change and air quality. The Plan will include but will not be limited to:</p> <ul style="list-style-type: none"> <li>• An inventory of all known, or reasonably discoverable, sources of greenhouse gases (GHGs) that currently exist in the City and sources that existed in 1990. In determining what is a source of GHG emissions, the City may rely on the definition of "greenhouse gas emissions source" or "source" as defined in Section 38505 of the California Global Warming Solutions Act ("AB 32") or its governing</li> </ul>	<p><b>Not applicable.</b> This measure applies to the City. No plan has been adopted that would require project compliance.</p>

General Plan Policy	Project Consistency
<p>regulations. The inventory may include estimates of emissions drawing on available information from to state and regional air quality boards, supplemented by information obtained by the City.</p> <ul style="list-style-type: none"> <li>• A projected inventory of the new GHGs that can reasonably be expected to be emitted in the year 2030 due to the City's discretionary land use decisions pursuant to the 2030 General Plan Update, as well as new GHGs emitted by the City's internal government operations. The projected inventories will include estimates, supported by substantial evidence, of future emissions from planned land use and information from state and regional air quality boards and agencies.</li> </ul>	

<sup>54</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 111.

General Plan Policy	Project Consistency
<p><b>COS-I-38</b> Compile and update an inventory of greenhouse gas emissions from City operations and track related solid waste, energy, economic, and environmental data.</p>	<p><b>Not applicable.</b> This measure applies to the City and not individual projects.</p>
<p><b>COS-I-39</b> Support State efforts to reduce greenhouse gases and emissions through local action that will reduce motor vehicle use, support alternative forms of transportation, require energy conservation in new construction, and energy management in public buildings.</p>	<p><b>Consistent.</b> The Project supports State efforts through compliance with adopted GHG regulations on building construction and vehicles that will access the site.</p>
<p><b>COS-I-40</b> Prepare a Greenhouse Gas Emissions Reduction Plan, focusing on feasible actions the City can take to minimize the adverse impacts of Plan implementation on climate change and air quality. The Plan will include but will not be limited to:</p> <ul style="list-style-type: none"> <li>• An inventory of all known, or reasonably discoverable, sources of greenhouse gases (GHGs) that currently exist in the City and sources that existed in 1990. In determining what is a source of GHG emissions, the City may rely on the definition of "greenhouse gas emissions source" or "source" as defined in Section 38505 of the California Global Warming Solutions Act ("AB 32") or its governing</li> </ul>	<p><b>Not applicable.</b> This measure applies to the City. No plan has been adopted that would require project compliance.</p>

General Plan Policy	Project Consistency
<ul style="list-style-type: none"> <li>• A target for the reduction of those sources of future emissions reasonably attributable to the City's discretionary land use decisions under the 2030 General Plan and the City's internal government operations, and feasible GHG emission reduction measures whose purpose shall be to meet this reduction target by regulating those sources of GHG emissions reasonably attributable to the City's discretionary land use decisions and the City's internal government operations.</li> </ul>	
<p><b>CD-I-58</b> Require new development to incorporate passive heating and natural lighting strategies to the extent feasible and practical. These strategies should include, but are not limited to, the following:</p> <ul style="list-style-type: none"> <li>• Using building orientation, mass and form, including façade, roof, and choice of building materials, color, type of glazing, and insulation to minimize heat loss during winter months and heat gain during the summer months;</li> <li>• Designing building openings to regulate internal climate and maximize natural lighting, while keeping glare to a minimum; and</li> </ul>	<p><b>Consistent.</b> The Project will comply with Title 24 Building Energy Efficiency Standards that require new homes to be increasingly energy efficient. As the project is built out, new versions of Title 24 will come into effect that would determine the appropriate measures for new construction.</p>

General Plan Policy	Project Consistency
<p><b>COS-I-38</b> Compile and update an inventory of greenhouse gas emissions from City operations and track related solid waste, energy, economic, and environmental data.</p>	<p><b>Not applicable.</b> This measure applies to the City and not individual projects.</p>
<p><b>COS-I-39</b> Support State efforts to reduce greenhouse gases and emissions through local action that will reduce motor vehicle use, support alternative forms of transportation, require energy conservation in new construction, and energy management in public buildings.</p>	<p><b>Consistent.</b> The Project supports State efforts through compliance with adopted GHG regulations on building construction and vehicles that will access the site.</p>
<p><b>COS-I-40</b> Prepare a Greenhouse Gas Emissions Reduction Plan, focusing on feasible actions the City can take to minimize the adverse impacts of Plan implementation on climate change and air quality. The Plan will include but will not be limited to:</p> <ul style="list-style-type: none"> <li>• An inventory of all known, or reasonably discoverable, sources of greenhouse gases (GHGs) that currently exist in the City and sources that existed in 1990. In determining what is a source of GHG emissions, the City may rely on the definition of "greenhouse gas emissions source" or "source" as defined in Section 38505 of the California Global Warming Solutions Act ("AB 32") or its governing</li> </ul>	<p><b>Not applicable.</b> This measure applies to the City. No plan has been adopted that would require project compliance.</p>

General Plan Policy	Project Consistency
<ul style="list-style-type: none"> <li>• Reducing heat-island effect of large concrete roofs and parking surfaces.</li> </ul>	
<p><b>CD-I-60</b> Incorporate green building standards into the Zoning Ordinance and building code to ensure a high level of energy efficiency in new development, retrofitting projects, and City facilities. These standards should include, but are not limited to, the following:</p> <ul style="list-style-type: none"> <li>• Require the use of Energy Star® appliances and equipment in new and substantial renovations of residential development, commercial development, and City facilities;</li> <li>• Require all new City facilities and new residential development incorporate green building methods to qualify for the equivalent of LEED Certified "Silver" rating or better (passive solar orientation must be a minimum component);</li> <li>• Require all new residential development to be pre-wired for optional photovoltaic roof energy systems and/or solar water heating on south facing roofs; and</li> </ul>	<p><b>Consistent.</b> Since the General Plan was adopted, updates to the Title 24 Energy Efficiency Standards and the CalGreen Code sustainability measures exceed the energy efficiency requirements envisioned by this measure. Solar panels are now required for all single-family development and some multi-family development. With Title 24 updates planned every three years, it is not practical to continuously update the building code to meet or exceed Energy Star and LEED Silver requirements.</p>

General Plan Policy	Project Consistency
<p><b>COS-I-38</b> Compile and update an inventory of greenhouse gas emissions from City operations and track related solid waste, energy, economic, and environmental data.</p>	<p><b>Not applicable.</b> This measure applies to the City and not individual projects.</p>
<p><b>COS-I-39</b> Support State efforts to reduce greenhouse gases and emissions through local action that will reduce motor vehicle use, support alternative forms of transportation, require energy conservation in new construction, and energy management in public buildings.</p>	<p><b>Consistent.</b> The Project supports State efforts through compliance with adopted GHG regulations on building construction and vehicles that will access the site.</p>
<p><b>COS-I-40</b> Prepare a Greenhouse Gas Emissions Reduction Plan, focusing on feasible actions the City can take to minimize the adverse impacts of Plan implementation on climate change and air quality. The Plan will include but will not be limited to:</p> <ul style="list-style-type: none"> <li>• An inventory of all known, or reasonably discoverable, sources of greenhouse gases (GHGs) that currently exist in the City and sources that existed in 1990. In determining what is a source of GHG emissions, the City may rely on the definition of "greenhouse gas emissions source" or "source" as defined in Section 38505 of the California Global Warming Solutions Act ("AB 32") or its governing</li> </ul>	<p><b>Not applicable.</b> This measure applies to the City. No plan has been adopted that would require project compliance.</p>

General Plan Policy	Project Consistency
<ul style="list-style-type: none"> <li>• Require all new projects that will use more than 40,000 kilowatt hours per year of electricity to install photovoltaic energy systems.</li> </ul>	
<p><b>CD-I-61</b> Adopt a Green Building Design Ordinance. Green Building Design Guidelines may include required and recommended "green" design and construction strategies including: Building Site and Form, Natural Heating or Cooling, Transportation, Building Envelope and Space Planning, Building Materials, Water Systems, Electrical Systems, HVAC Systems, Construction Management, and Commissioning.</p>	<p><b>Not applicable.</b> This measure applies to the City. A Green Building Design Ordinance has not been adopted; however, Title 24 Energy Efficiency Standards and the CalGreen Code fulfill this measure.</p>
<p><b>CD-I-62</b> Facilitate environmentally sensitive construction practices by:</p> <ul style="list-style-type: none"> <li>• Restricting use of chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and halons in mechanical equipment and building materials;</li> <li>• Promoting use of products that are durable and allow efficient end-of-life disposal (recyclable);</li> </ul>	<p><b>Consistent.</b> The Project will implement construction recycling mandates through compliance with the CalGreen Code. CFCs are now restricted by the ARB Refrigerant Management Program. No large systems using refrigerants are used in residential development. Homes are constructed with materials that are primarily locally and regionally available to the extent possible.</p>



General Plan Policy	Project Consistency
<p><b>COS-I-38</b> Compile and update an inventory of greenhouse gas emissions from City operations and track related solid waste, energy, economic, and environmental data.</p>	<p><b>Not applicable.</b> This measure applies to the City and not individual projects.</p>
<p><b>COS-I-39</b> Support State efforts to reduce greenhouse gases and emissions through local action that will reduce motor vehicle use, support alternative forms of transportation, require energy conservation in new construction, and energy management in public buildings.</p>	<p><b>Consistent.</b> The Project supports State efforts through compliance with adopted GHG regulations on building construction and vehicles that will access the site.</p>
<p><b>COS-I-40</b> Prepare a Greenhouse Gas Emissions Reduction Plan, focusing on feasible actions the City can take to minimize the adverse impacts of Plan implementation on climate change and air quality. The Plan will include but will not be limited to:</p> <ul style="list-style-type: none"> <li>• An inventory of all known, or reasonably discoverable, sources of greenhouse gases (GHGs) that currently exist in the City and sources that existed in 1990. In determining what is a source of GHG emissions, the City may rely on the definition of "greenhouse gas emissions source" or "source" as defined in Section 38505 of the California Global Warming Solutions Act ("AB 32") or its governing</li> </ul>	<p><b>Not applicable.</b> This measure applies to the City. No plan has been adopted that would require project compliance.</p>

General Plan Policy	Project Consistency
<ul style="list-style-type: none"> <li>• Requiring subdivision applications on sites greater than five acres to submit a construction waste management plan for City approval;</li> <li>• Promoting the purchase of locally or regionally available materials; and</li> <li>• Promoting the use of cost-effective design and construction strategies that reduce resource and environmental impacts.</li> </ul>	

***Consistency with AB 32 Scoping Plan***

The Scoping Plan contains a variety of strategies to reduce the State’s emissions. As shown in Table 3.8-7, the Project is consistent with most of the strategies, while others are not applicable to the Project. As discussed earlier, the 2017 Scoping Plan Update strategies primarily rely on increasing the stringency of existing regulations with which the Project would continue to comply, support through the Project’s design, and implementation of the General Plan goals and policies. Although, the Project will begin construction after the 2020 target year, many of the

measures will continue to be implemented and strengthened to meet the 2030 target required by SB 32.

In summary, the Project incorporates a number of features that would minimize GHG emissions. These features are consistent with project-level strategies identified by the ARB's Scoping Plan and the City of Lemoore 2030 General Plan. The Project promotes the goals of the Scoping Plan through implementation of design measures that reduce energy consumption, water consumption, and reduction in VMT.

#### Consistency with California's Post 2020 Targets

The State's executive branch adopted several Executive Orders related to GHG emissions. Executive Orders S-3-05 and B-30-15 are two examples. Executive Order S-3-05 sets goals to reduce emissions to 1990 levels by 2020 and 80 percent below 1990 levels by 2050. The goal of Executive Order S-3-05 to reduce GHG emissions to 1990 levels by 2020 was codified by AB 32. The Project, as analyzed above, is consistent with AB 32. Therefore, the Project does not conflict with this component of Executive Order S-3-05. Executive Order B-30-15 establishes an interim goal to reduce GHG emissions to 40 percent below 1990 levels by 2030.

The 2030 goal was codified under SB 32 and is now addressed by the 2017 Scoping Plan Update. The new plan provides a strategy that is capable of reaching the SB 32 target if the measures included in the plan are implemented and achieve reductions within the ranges expected. Under the 2017 Scoping Plan Update, local government plays a supporting role through its land use authority and control over local transportation infrastructure. The Plan Update includes reductions from implementation of SB 375 that applies to VMT from passenger vehicles. Kings County targets for SB 375 are a 5 percent reduction by 2020 and a 10 percent reduction by 2035. SB 375 is implemented with the KCAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The RTP/SCS envisions an increase in development density that would encourage fewer and shorter trips and more trips by transit, walking, and bicycling in amounts sufficient to achieve the SB 375 targets.

Now that the 2017 Scoping Plan has been adopted, new methodologies and threshold approaches are required to determine the fair-share contributions County development projects would need to make to achieve the 2030 target. In the meantime, however, the discussion under "Consistency with SB 32" below addresses the consistency of the proposed Project with SB 32, which provides the statutory underpinning of the 2017 Scoping Plan. The SB 32 target requires GHG emissions to be reduced by 40 percent from 1990 levels. No consensus has been reached around the State on a new quantitative target for new development based on consistency with the SB 32 target.

**Table 3.7-7  
Project Consistency with Scoping Plan<sup>55</sup>**

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
Transportation	California Cap-and-Trade Program Linked to Western Climate Initiative	Regulation for the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanism October 20, 2015 (CCR 95800)	<b>Consistent.</b> The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers. However, the regulation indirectly affects people who use the products and services produced by these industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period.
	California Light-Duty Vehicle Greenhouse Gas Standards	Pavley I 2005 Regulations to Control GHG Emissions from Motor Vehicles  2012 LEV III Amendments to the California Greenhouse Gas and Criteria Pollutant Exhaust and Evaporative Emission Standards	<b>Consistent.</b> This measure applies to all new vehicles starting with model year 2012. The project would not conflict with its implementation as it would apply to all new passenger vehicles purchased in California. Passenger vehicles, model year 2012 and later, associated with construction and operation of the project would be required to comply with the Pavley emissions standards.

<sup>55</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 115.

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
	Low Carbon Fuel Standard.	2009 readopted in 2015. Regulations to Achieve Greenhouse Gas Emission Reductions Subarticle 7. Low Carbon Fuel Standard CCR 95480	<b>Consistent.</b> This measure applies to transportation fuels utilized by vehicles in California. The Project would not conflict with implementation of this measure. Motor vehicles associated with construction and operation of the project would utilize low carbon transportation fuels as required under this measure.
	Regional Transportation-Related Greenhouse Gas Targets.	SB 375. Cal. Public Resources Code §§ 21155, 21155.1, 21155.2, 21159.28	<b>Consistent.</b> The Project will provide residential development in the region that is consistent with the increased development densities promoted in the 2018 Regional Transportation Plan/Sustainable Communities Strategy (SCS). The project is not within an SCS priority area and so is not subject to requirements applicable to those areas.
	Goods Movement	Goods Movement Action Plan January 2007.	<b>Not applicable.</b> The Project does not propose any changes to maritime, rail, or intermodal facilities or forms of transportation.
	Medium/Heavy-Duty Vehicles	2010 Amendments to the Truck and Bus Regulation, the Drayage Truck Regulation and the Tractor-Trailer Greenhouse Gas Regulation	<b>Consistent.</b> This measure applies to medium and heavy-duty vehicles that operate in the State. The project would not conflict with implementation of this measure. Medium and heavy-duty vehicles associated with construction and operation of the project would be required to comply with the requirements of this regulation.
	High Speed Rail	Funded under SB 862	<b>Not applicable.</b> This is a Statewide measure that cannot be implemented by a project applicant or lead agency.
Electricity and Natural Gas	Energy Efficiency	Title 20 Appliance Efficiency Regulation	<b>Consistent.</b> The Project would not conflict with implementation of this measure. The project will comply with the latest energy efficiency standards and incorporate applicable energy
Title 24 Part 6 Energy Efficiency Standards for Residential and Non-Residential Building			

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
		Title 24 Part 11 California Green Building Code Standards	efficiency features designed to reduce project energy consumption.
	Renewable Portfolio Standard/Renewable Electricity Standard.	2010 Regulation to Implement the Renewable Electricity Standard (33% 2020)	<b>Consistent.</b> PG&E obtained 33 percent of its power supply from renewable sources such as solar and geothermal in 2017, and about 70 percent of the electricity it delivers is carbon-free, including nuclear and large hydroelectric facilities. The owners of residences within the project would purchase power that consists of a greater percentage of renewable sources and could install renewable solar power systems that will assist the utility in achieving exceeding the renewable mandate.
		SB 350 Clean Energy and Pollution Reduction Act of 2015 (50% 2030)	
Million Solar Roofs Program	Tax incentive program	<b>Consistent.</b> This measure is intended to increase solar throughout California by means of a variety of electricity providers and existing solar programs. Projects within the plan area will be able to take advantage of incentives that are in place at the time of construction. The project includes installation of solar panels.	
Water	Water	Title 24 Part 11 California Green Building Code Standards	<b>Consistent.</b> The Project will comply with the California Green Building Standards Code, which requires a 20 percent reduction in indoor water use. The Project will also comply with the MWELO as required by the City's development code and water ordinance.
		SBX 7-7—The Water Conservation Act of 2009	
		Model Water Efficient Landscape Ordinance [MWELO]	
Green Buildings	Green Building Strategy	Title 24 Part 11 California Green Building Code Standards	<b>Consistent.</b> The State will increase the use of green building practices. The project would implement required green building strategies through existing regulation that requires the project to comply with various CALGreen requirements. The project includes sustainability design features that support the Green Building Strategy.
Industry	Industrial Emissions	2010 ARB Mandatory Reporting Regulation	<b>Not Applicable.</b> The project is not an industrial land use.

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
Recycling and Waste Management	Recycling and Waste	Title 24 Part 11 California Green Building Code Standards	<b>Consistent.</b> The Project would not conflict with implementation of these measures. The project is required to achieve the recycling mandates via compliance with the CALGreen code. The project would utilize City of Lemoore recycling services.
		AB 341 Statewide 75 Percent Diversion Goal	
Forests	Sustainable Forests	Cap-and-Trade Offset Projects	<b>Not applicable.</b> The Project site is in an area designated for urban uses. No forested lands exist on-site.
High Global Warming Potential	High Global Warming Potential Gases	ARB Refrigerant Management Program CCR 95380	<b>Not applicable.</b> The regulations are applicable to refrigerants used by large air conditioning systems and large commercial and industrial refrigerators and cold storage system. Homes do not use large systems subject to the refrigerant management regulations adopted by ARB.
Agriculture	Agriculture	Cap-and-Trade Offset Projects for Livestock and Rice Cultivation	<b>Not applicable.</b> The Project site is proposed for urban development. No grazing, feedlot, or other agricultural activities that generate manure occur currently exist on-site or are proposed to be implemented by the project.

Source of ARB Scoping Plan Reduction Measures: California Air Resources Board 2008.

The Executive Order S-3-05 2050 target has not been codified by legislation. Studies have shown that, in order to meet the 2050 target, aggressive pursuit of technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, will be required. Because of the technological shifts required and the unknown parameters of the regulatory framework in 2050, quantitatively analyzing the Project's impacts further relative to the 2050 goal is speculative for purposes of CEQA.<sup>56</sup>

The ARB recognized that AB 32 established an emissions reduction trajectory that will allow California to achieve the more stringent 2050 target: "These [greenhouse gas emission reduction] measures also put the State on a path to meet the long-term 2050 goal of reducing California's GHG emissions to 80 percent below 1990 levels. This trajectory is consistent with the reductions that are needed globally to stabilize the climate." In addition, ARB's First Update "lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050," and many of the emission reduction strategies recommended by ARB would serve to reduce the proposed Project's post-2020 emissions level to the extent applicable by law:

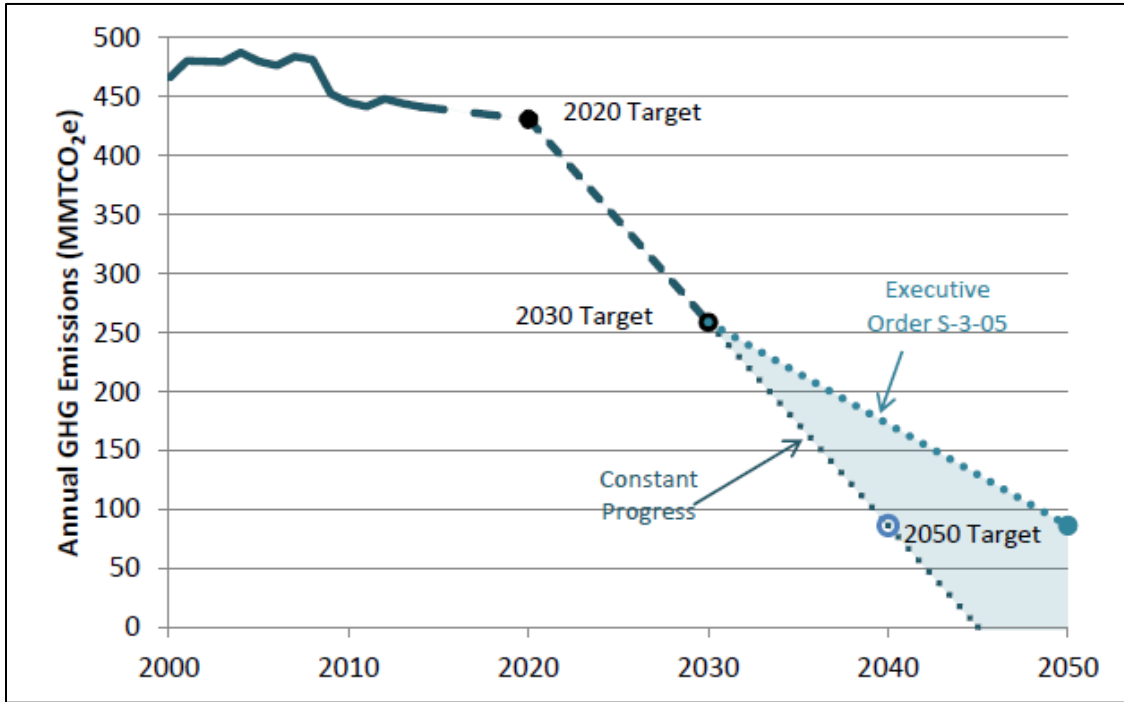
- **Energy Sector:** Continued improvements in California's appliance and building energy efficiency programs and initiatives, such as the State's zero net energy building goals, would serve to reduce the proposed Project's emissions level. Additionally, further additions to California's renewable resource portfolio would favorably influence the proposed Project's emissions level.
- **Transportation Sector:** Anticipated deployment of improved vehicle efficiency, zero emission technologies, lower carbon fuels, and improvement of existing transportation systems all will serve to reduce the proposed Project's emissions level.
- **Water Sector:** The proposed Project's emissions level will be reduced as a result of further desired enhancements to water conservation technologies.
- **Waste Management Sector:** Plans to further improve recycling, reuse and reduction of solid waste will beneficially reduce the proposed Project's emissions level.

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<sup>56</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 119.

For the reasons described above, the Project’s post-2020 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets. The trajectory required to achieve the post-2020 targets is shown in Figure 3.7-4.

**Figure 3.7-4  
California's Path to Achieving the 2050 Target<sup>57</sup>**



In his January 2015 inaugural address, Governor Brown expressed a commitment to achieve “three ambitious goals” that he would like to see accomplished by 2030 to reduce the State’s GHG emissions:

- Increasing the State’s Renewable Portfolio Standard from 33 percent in 2020 to 50 percent in 2030;
- Cutting the petroleum use in cars and trucks in half; and
- Doubling the efficiency of existing buildings and making heating fuels cleaner.

These expressions of executive branch policy may be manifested in adopted legislative or regulatory action through the state agencies and departments responsible for achieving the

<sup>57</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 120.



State’s environmental policy objectives, particularly those relating to global climate change.<sup>58</sup> Further, recent studies show that the State’s existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the studies could allow the State to meet the 2050 target.<sup>59</sup>

Given the proportional contribution of mobile source-related GHG emissions to the State’s inventory, recent studies also show that relatively new trends—such as the increasing importance of web-based shopping, the emergence of different driving patterns by the “millennial” generation, and the increasing effect of web-based applications on transportation choices—are beginning to substantially influence transportation choices and the energy used by transportation modes. These factors have changed the direction of transportation trends in recent years and will require the creation of new models to effectively analyze future transportation patterns and the corresponding effect on GHG emissions. For the reasons described above, the proposed Project’s post-2020 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets.

### Consistency with SB 32

The 2017 Climate Change Scoping Plan includes the strategy that the State intends to pursue to achieve the 2030 targets of Executive Order S-3-05 and SB 32. The 2017 Scoping Plan includes the following summary of its overall strategy for reaching the 2030 target:

- SB 350
  - Achieve 50 percent Renewables Portfolio Standard (RPS) by 2030 (Now 60 percent per SB 100).
  - Doubling of energy efficiency savings by 2030.
- Low Carbon Fuel Standard (LCFS)

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<sup>58</sup> Ibid. Page 121.

<sup>59</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 121.

- Increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020) (Now 20 percent in 2030).
- Mobile Source Strategy (Cleaner Technology and Fuels Scenario)
  - Maintaining existing GHG standards for light- and heavy-duty vehicles.
  - Put 4.2 million zero-emission vehicles (ZEVs) on the roads.
  - Increase ZEV buses, delivery and other trucks.
- Sustainable Freight Action Plan
  - Improve freight system efficiency.
  - Maximize use of near-zero emission vehicles and equipment powered by renewable energy.
  - Deploy over 100,000 zero-emission trucks and equipment by 2030.
- Short-Lived Climate Pollutant (SLCP) Reduction Strategy
  - Reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030.
  - Reduce emissions of black carbon 50 percent below 2013 levels by 2030.
- SB 375 Sustainable Communities Strategies
  - Increased stringency of 2035 targets.
- Post-2020 Cap-and-Trade Program
  - Declining caps, continued linkage with Québec, and linkage to Ontario, Canada.
  - ARB will look for opportunities to strengthen the program to support more air quality co-benefits, including specific program design elements. In Fall 2016, ARB staff described potential future amendments including reducing the offset usage limit, redesigning the allocation strategy to reduce free allocation to support increased technology and energy investment at covered entities and reducing allocation if the covered entity increases criteria or toxics emissions over some baseline.

- By 2018, develop Integrated Natural and Working Lands Action Plan to secure California’s land base as a net carbon sink.

Table 3.7-8 provides an analysis of the Project’s consistency with the 2017 Scoping Plan Update

**Table 3.7-8  
Consistency with SB 32 2017 Scoping Plan Update<sup>60</sup>**

Scoping Plan Measure	Project Consistency
<b>SB 350 50% Renewable Mandate.</b> Utilities subject to the legislation will be required to increase their renewable energy mix from 33% in 2020 to 50% in 2030.	<b>Consistent:</b> The project will purchase electricity from a utility subject to the SB 350 Renewable Mandate.
<b>SB 350 Double Building Energy Efficiency by 2030.</b> This is equivalent to a 20 percent reduction from 2014 building energy usage compared to current projected 2030 levels	<b>Not Applicable.</b> This measure applies to existing buildings. New structures are required to comply with Title 24 Energy Efficiency Standards that are expected to increase in stringency until residential housing achieves zero net energy.
<b>Low Carbon Fuel Standard.</b> This measure requires fuel providers to meet an 18 percent reduction in carbon content by 2030.	<b>Consistent.</b> Vehicles accessing the project site will use fuel containing lower carbon content as the fuel standard is implemented.
<b>Mobile Source Strategy (Cleaner Technology and Fuels Scenario).</b> Vehicle manufacturers will be required to meet existing regulations mandated by the LEV III and Heavy-Duty Vehicle programs. The strategy includes a goal of having 4.2 million ZEVs on the road by 2030 and increasing numbers of ZEV trucks and buses.	<b>Consistent.</b> Project residents can be expected to purchase increasing numbers of more fuel efficient and zero emission cars and trucks each year. The 2016 CALGreen Code requires electrical service in new single-family housing to be EV charger-ready. Home deliveries will be made by increasing numbers of ZEV delivery trucks.
<b>Sustainable Freight Action Plan</b> The plan's target is to improve freight system efficiency 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030. This would be achieved	<b>Not Applicable.</b> The measure applies to owners and operators of trucks and freight operations. However, home deliveries are expected to be made by increasing number of ZEV delivery trucks.

<sup>60</sup> Air Quality and Greenhouse Gas Analysis Report for the Lacey Ranch Area Master Plan. Prepared by Mitchell Air Quality Consulting. See Appendix B, page 122.

Scoping Plan Measure	Project Consistency
<p>by deploying over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030.</p>	
<p><b>Short-Lived Climate Pollutant (SLCP) Reduction Strategy.</b> The strategy requires the reduction of SLCPs by 40 percent from 2013 levels by 2030 and the reduction of black carbon by 50 percent from 2013 levels by 2030.</p>	<p><b>Consistent.</b> The Project will include only natural gas hearths that produce very little black carbon compared to woodburning fireplaces and heaters.</p>
<p><b>SB 375 Sustainable Communities Strategies.</b> Requires Regional Transportation Plans to include a sustainable community strategy for reduction of per capita vehicle miles traveled.</p>	<p><b>Consistent.</b> The Project will provide residential development in the region that is consistent with the Regional Transportation Plan/Sustainable Communities Strategy (SCS) strategy to increase development densities to reduce VMT. The project is not within an SCS priority area and so is not subject to requirements applicable to those areas.</p>
<p><b>Post-2020 Cap-and-Trade Program.</b> The Post 2020 Cap-and-Trade Program continues the existing program for another 10 years. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers.</p>	<p><b>Consistent.</b> The post-2020 Cap-and-Trade Program indirectly affects people who use the products and services produced by the regulated industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not</p>

Scoping Plan Measure	Project Consistency
	directly covered at large sources in the program's first compliance period.
<p><b>Natural and Working Lands Action Plan.</b> The ARB is working in coordination with several other agencies at the federal, state, and local levels, stakeholders, and with the public, to develop measures as outlined in the Scoping Plan Update and the governor's Executive Order B-30-15 to reduce GHG emissions and to cultivate net carbon sequestration potential for California's natural and working land.</p>	<p><b>Not Applicable.</b> The Project is residential development and will not be considered natural or working lands.</p>

Regarding goals for 2050 under Executive Order S-3-05, at this time it is not possible to quantify the emissions savings from future regulatory measures, as they have not yet been developed; nevertheless, it can be anticipated that operation of the Project would comply with whatever measures are enacted that state lawmakers decide would lead to an 80 percent reduction below 1990 levels by 2050. In its 2008 Scoping Plan, ARB acknowledged that the “measures needed to meet the 2050 are too far in the future to define in detail.” In the First Scoping Plan Update; however, ARB generally described the type of activities required to achieve the 2050 target: “energy demand reduction through efficiency and activity changes; large scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately.” The 2017 Scoping Plan provides an intermediate target that is intended to achieve reasonable progress toward the 2050 target.

As demonstrated in the impact analysis above, the Project would achieve a 51.1 percent reduction from the BAU inventory by 2038 with only adopted regulations and Project design features; therefore, the Project would not significantly hinder or delay the State’s ability to meet the reduction targets contained in AB 32 or SB 32 or conflict with implementation of the Scoping Plan. The Project promotes the goals of the Scoping Plan through implementation of design measures that reduce energy consumption, water consumption, and reduction in VMT. Therefore, the Project does not conflict with any plans to reduce GHG emissions. The impact would be less than significant.

Accordingly, taking into account the proposed Project's emissions, Project design features, and the progress being made by the State towards reducing emissions in key sectors such as transportation, industry, and electricity, the Project would be consistent with State GHG Plans and would further the State's goals of reducing GHG emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050, and does not obstruct their attainment. Impacts are *less than significant*.

**Mitigation Measures:**

None Required.

**Cumulative Impacts**

**Less Than Cumulatively Considerable.** The State of California, through AB 32, has acknowledged that GHG emissions are a Statewide impact. The adopted CEQA Guidelines provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and global climate change impacts. Although the Project is expected to emit GHGs, the emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change. The resultant consequences of that climate change can cause adverse environmental effects. A project's GHG emissions typically would be very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change. The State has mandated a goal of reducing Statewide emissions to 1990 levels by 2020 and reducing Statewide emissions to 40% below 1990 levels by 2030, even though Statewide population and commerce are predicted to continue to expand. In order to achieve this goal, CARB is in the process of establishing and implementing regulations to reduce Statewide GHG emissions. Currently, there are no applicable CARB, SJVAPCD, or the City significance thresholds or specific reduction targets, and no approved policy or guidance to assist in determining significance at the project or cumulative levels. However, as discussed above, while the City has not developed a quantified threshold of significance for GHG emissions, a project found to contribute to a net decrease in GHG emissions and found to be consistent with the adopted implementation of the CARB Climate Change Scoping Plan is presumed to have less than significant GHG impacts.

Emission generated by the Project combined with past, present, and reasonably probable future projects could contribute to this impact. The California Governor's Office of Planning and Research acknowledges that although climate change is cumulative in nature, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment.

CEQA Guidelines Section 15130 notes that sometimes the only feasible mitigation for cumulative impacts may be to adopt ordinances or regulations rather than impose conditions on a project-by-project basis. Global climate change is this type of issue. GHG impacts are considered to be exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA, 2008). Causes and effects are not just regional or Statewide, they are worldwide. Because the project's operational GHG emissions would be offset and no mitigation is required, any other feasible reductions would be accomplished through CARB regulations adopted pursuant to AB 32. Cumulative impacts of the Project on global climate change would be less than significant.

As discussed above, the proposed Project would not generate significant GHG emissions and would be consistent with GHG reduction plans. Therefore, the proposed Project's incremental contribution would be *less than cumulatively considerable*.

## 3.8 Hazards and Hazardous Materials

This section of the DEIR identifies potential impacts of the proposed Project pertaining to hazards and hazardous materials, proximity to airports/schools, and assessment of wildfire risk. A *Phase I Environmental Site Assessment* was prepared by Partner Engineering and Science, Inc. for the Project (See Appendix F).

### Environmental Setting

#### Project Site

The proposed Project site is currently agricultural land. On-site operations consist of the cultivation of alfalfa. In addition to the on-site agricultural land, the subject property is also improved with a diesel-powered irrigation well with an associated 10,000-gallon diesel aboveground storage tank (AST), two electrically powered irrigation wells, a lift pump, an irrigation canal, and unpaved roads the surround and bisect the parcel.

According to available historical sources, the subject property was formerly undeveloped land as early as 1927; developed with residential and agricultural uses in 1950 to 1954; and has been developed as agricultural land from at least 1950 to the present.<sup>1</sup>

The immediately surrounding properties consist of rural residences and agricultural land to the north across West Lacey Boulevard; single-family residences to the south; an orchard to the east; and a City of Lemoore municipal well and 18th Avenue to the west, beyond which is an orchard and a rural residence.

#### Hazardous Materials

A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either (1) cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating irreversible illness; or (2) pose a substantial present or potential hazard to human health and safety, or the environment when improperly treated, stored, transported, or disposed of.

Hazardous materials include a variety of substances such as lubricants, herbicides and pesticides, solvents, gasoline, household cleaning products, refrigerants, and radioactive substances. Some

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<sup>1</sup> Phase I ESA (March 2019), *Partner Engineering and Science, Inc.*, page i.



are common to industrial and commercial process, while others are commonly used in households. A hazardous waste is simply the spent or used hazardous material that requires disposal. Improper transport, storage, handling, use and disposal of hazardous wastes can have significant impacts on the environment and human health.

### Hazardous Sites

The Cortese List is a planning document used by the State, local agencies, and landowners to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to develop at least annually an updated Cortese List. The California Department of Toxic Substances Control (DTSC) and the State Water Resources Control Board (SWRCB) are responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List.

DTSC maintains the *Envirostor Data Management System*, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup information. This site cleanup information includes: Federal Superfund Sites (NPL), State Response Sites, Voluntary Cleanup Sites, School Cleanup Sites, Corrective Action Sites, Tiered Permit Sites, and Evaluation / Investigation Sites. The hazardous waste facilities include: Permitted–Operating, Post–Closure Permitted, and Historical Non–Operating. According to the DTSC, there no active cleanup sites within an 8-mile radius of the proposed Project site.<sup>2</sup> The nearest closed or inactive cleanup is located at Cinnamon Elementary School, approximately one mile south of the Project site. The school is listed as inactive and no action has been required as of 1999.

GeoTracker is the SWRCB’s data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense, Site Cleanup Program) as well as permitted facilities such as operating USTs and land disposal sites. There are four locations within one mile of the proposed Project site that are listed in the GeoTracker database for Leaking Underground Storage Tanks (LUST).<sup>3</sup> Three of the four locations have undergone LUST cleanup and the State has closed each case. The fourth site is open and undergoing verification monitoring as of 1/8/2020. That site is located at

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<sup>2</sup> California Department of Toxic Substances Control. Envirostor Database. <https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=lemoore+ca>. Accessed June 2021.

<sup>3</sup> California Water Resource Control Board. GeoTracker Database. <https://geotracker.waterboards.ca.gov/map/>. Accessed June 2021.

1104-1290 N. Lemoore Avenue, Lemoore, CA 93245. This was the location of two dry cleaning facilities. As a result of past operations and practices associated with the dry cleaning activities, the site is actively being monitored and reviewed by the State Water Resources Control Board. However, due to distance and intervening land uses from the Project, the site does not pose a risk to the Project.

### Wildfire Hazards

In California, responsibility for wildfire prevention and suppression is shared by federal, state and local agencies. Federal agencies are responsible for federal lands in Federal Responsibility Areas. The State of California has determined that some non-federal lands in unincorporated areas with watershed value are of statewide interest and have classified those lands as State Responsibility Areas (SRA), which are managed by CAL FIRE. All incorporated areas and other unincorporated lands are classified as Local Responsibility Areas (LRA). While nearly all of California is subject to some degree of wildfire hazard, there are specific features that make certain areas more hazardous. CAL FIRE is required by law to map areas of significant fire hazards based on fuels, terrain, weather and other relevant factors (Public Resources Code [PRC] 4201-4204 and California Government Code 51175-89). As described above, the primary factors that increase an area's susceptibility to fire hazards include slope, vegetation type and condition, and atmospheric conditions. CAL FIRE maps fire hazards based on zones, referred to as Fire Hazard Severity Zones. CAL FIRE maps three SRA zones: 1) Moderate Fire Hazard Severity Zones; 2) High Fire Hazard Severity Zones; and 3) Very High Fire Hazard Severity Zones. Only the Very High Fire Hazard Severity Zones are mapped for the LRA. Each of the zones influence how people construct buildings and protect property to reduce risk associated with wildland fires. Under state regulations, areas within very high fire hazard risk zones must comply with specific building and vegetation management requirements intended to reduce property damage and loss of life within these areas. According to LRA mapping, only a very small portion of land within Kings County, located in the far southwest corner, is designated as a Very High Fire Hazard Severity Zone.<sup>4</sup> Additionally, according to CAL FIRE, the nearest SRA mapped land is on the west side of State Route 33, approximately 30 miles to the southwest of the site at its nearest point.<sup>5</sup>

### Airports

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<sup>4</sup> California State Geportal. California Fire Hazard Severity Zone Viewer. <https://gis.data.ca.gov/datasets/789d5286736248f69c4515c04f58f414>. Accessed June 2021.

<sup>5</sup> California Department of Forestry and Fire Protection. Fire Hazard Severity Zones Maps. Kings County. [https://osfm.fire.ca.gov/media/6470/fhszs\\_map16.jpg](https://osfm.fire.ca.gov/media/6470/fhszs_map16.jpg). Accessed June 2021.

The nearest public airport is the Hanford Municipal Airport in Hanford, approximately eight miles east of the Project site. The nearest private airport is the Swanson Ranch NR 2 Airport, approximately 8.6 miles to the northwest. Swanson Ranch NR 1 Airport is approximately 10 miles to the northeast. The Lemoore Naval Air Station (NAS) Boundary is approximately nine miles to the west of the Project site.

### Schools

Meadow Lane Elementary School is part of the Lemoore Union Elementary School District and has an enrollment of over 650 TK-6 students.<sup>6</sup> It is located approximately 0.15 miles south of the Project site.

### King County Emergency Operations Plan (EOP)

The County of Kings Emergency Operations Plan (EOP) establishes an Emergency Management Organization and assigns functions and tasks consistent with California's Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS). It provides for the integration and coordination of planning efforts of multiple jurisdictions within Kings County. This plan was developed for each County department, local special districts with emergency services responsibilities, and in coordination with the cities in Kings County. The content is based upon guidance approved and provided by the California Governor's Office of Emergency Services (Cal OES) and the Federal Emergency Management Agency (FEMA). The intent of the EOP is to provide direction on how to respond to an emergency from the onset, through an extended response, and into the recovery process. Once adopted, this plan is an extension of the California Emergency Plan. It will be reviewed and tested periodically and revised as necessary to meet changing conditions.<sup>7</sup>

The County of Kings Emergency Operations Plan (EOP) addresses the County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents and national security emergencies in or affecting the County of Kings. This plan does not apply to normal day-to-day emergencies or the established departmental procedures used to cope with such emergencies. Rather, this plan focuses on operational concepts and would be

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<sup>6</sup> Meadow Lane Elementary, About. <https://www.luesd.k12.ca.us/o/ml/page/our-school>. Accessed June 2021.

<sup>7</sup> County of Kings Office of Emergency Management, Emergency Operations Plan, 2015. Page 3. <https://www.countyofkings.com/home/showpublisheddocument/15207/63616531556680000>. Accessed June 2021.

implemented relative to large-scale disasters, which can pose major threats to life, property and the environment requiring unusual emergency responses.<sup>8</sup>

#### *Standardized Emergency Management System (SEMS)*

The standardized emergency management system (SEMS) is a structure for coordination between the government and local emergency response organizations. It provides and facilitates the flow of emergency information and resources within and between the organizational levels of field response, local government, operational areas, regions and state management. SEMS facilitates priority setting, integrated coordination, effective flow of resources and information between all stakeholders. SEMS incorporates the use of the Incidental Command System (ICS), Master Mutual Aid Agreement (MMAA), Operational Area (OA) concept and multi-agency and interagency coordination. State agencies and local government units are to use SEMS in order to become eligible for reimbursement costs led by the state's disaster assistance program.

## **Regulatory Setting**

### Federal Regulations

#### *Toxic Substances Control Act*

Established in 1976 and amended on December 31, 2002, the Toxic Substances Control Act (TSCA) (15 United States Code [USC] Section 2601-2692) grants the EPA power to require proper reporting, record-keeping, and testing requirements related to chemical substances and/or mixtures. Specifically, the TSCA addresses the production, importation, use, and disposal of specific chemicals, including polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paints (LBP). The TSCA establishes the EPA's authority to require the notification of the use of chemicals, require testing, maintain a TSCA inventory, and require those importing chemicals under Sections 12(b) and 13 to comply with certification and/or other reporting requirements. This federal legislation also phased out the use of asbestos-containing materials in new building materials and sets requirements for the use, handling, and disposal of asbestos-containing materials. Disposal standards for lead-based paint wastes are also detailed in the TSCA.

#### *The Emergency Planning and Community Right-To-Know Act*

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<sup>8</sup> Ibid. Page 7.

The Emergency Planning and Community Right-to-Know Act (also known as Title III of the Federal Superfund Amendments and Reauthorization Act, or “SARA III”) (42 United States Code 11001 et seq.), was established by the EPA to allow for emergency planning at the State and local level regarding chemical emergencies, to provide notification of emergency release of chemicals, and to address community right-to-know regarding hazardous and toxic chemicals. SARA III was designed to increase community access and knowledge about chemical hazards as well as facilitate the creation and implementation of State/Native American tribe emergency response commissions, responsible for coordinating certain emergency response activities and for appointing local emergency planning committees (LEPCs). Section 1910.1200(c) Title 29 of the CFR defines “chemicals or hazardous materials” for the purposes of SARA III.

#### *Hazardous Materials Transportation Act*

The Hazardous Materials Transportation Act of 1975 (HMTA) as amended, is the major federal transportation-related statute affecting the transportation of hazardous material in commerce. The objective of the HMTA according to the policy stated by Congress is "... to improve the regulatory and enforcement authority of the Secretary of Transportation to protect the Nation adequately against risks to life and property which are inherent in the transportation of hazardous materials in commerce." The HMTA empowers the Secretary of Transportation to designate as hazardous material any "particular quantity or form" of a material that "may pose an unreasonable risk to health and safety or property."

Regulations apply to "... any person who transports, or causes to be transported or shipped, a hazardous material; or who manufactures, fabricates, marks, maintains, reconditions, repairs, or tests a package or container which is represented, marked, certified, or sold by such person for use in the transportation in commerce of certain hazardous materials."<sup>9</sup>

#### *Superfund*

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), commonly referred to as “Superfund”, was enacted on December 11, 1980. The purpose of CERCLA was to provide authorities with the ability to respond to uncontrolled releases of hazardous substances from inactive hazardous waste sites that endanger public health and the environment. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at such sites, and established a trust fund to provide for cleanup when no responsible party could be

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<sup>9</sup> United States Department of Labor. Occupational Safety and Health Administration. Transporting Hazardous Materials. [https://www.osha.gov/SLTC/trucking\\_industry/transportinghazardousmaterials.html](https://www.osha.gov/SLTC/trucking_industry/transportinghazardousmaterials.html). Accessed June 2021.

identified. Additionally, CERCLA provided for the revision and republishing of the National Contingency Plan (NCP) that provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also provides for the National Priorities List, a list of national priorities among releases or threatened releases throughout the United States for the purpose of taking remedial action.

Superfund Amendments and Reauthorization Act SARA amended CERCLA on October 17, 1986. This amendment increased the size of the Hazardous Response Trust Fund to \$8.5 billion, expanded EPA's response authority, strengthened enforcement activities at Superfund sites; and broadened the application of the law to include federal facilities. In addition, new provisions were added to the law that dealt with emergency planning and community right to know. SARA also required EPA to revise the Hazard Ranking System to ensure that the system accurately assesses the relative degree of risk to human health and the environment posed by sites and facilities subject to review for listing on the National Priorities List.

#### *Federal Emergency Management Act (FEMA)*

The National Flood Insurance Act (1968) makes available federally subsidized flood insurance to owners of flood-prone properties. To facilitate identifying areas with flood potential, Federal Emergency Management Agency (FEMA) has developed Flood Insurance Rate Maps (FIRM) that can be used for planning purposes.

#### *Resource Conservation and Recovery Act (RCRA)*

The Resource Conservation and Recovery Act (RCRA) provides the EPA with the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. The Federal Hazardous and Solid Waste Amendments (HSWA) are the 1984 amendments to RCRA that focus on waste minimization and phasing out land disposal of hazardous waste as well as corrective action for releases. Some of the other mandates of this law include increased enforcement authority for EPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank program.

#### State of California Regulations

##### *California Environmental Protection Agency (Cal/EPA) Department of Toxic Substance Control (DTSC)*

Cal/EPA has regulatory responsibility under Title 22 of the California Code of Regulations (CCR)

for administration of the state and federal Superfund programs for the management and cleanup of hazardous materials. The DTSC is responsible for regulating hazardous waste facilities and overseeing the cleanup of hazardous waste sites in California. The Hazardous Waste Management Program (HWMP) regulates hazardous waste through its permitting, enforcement and Unified Program activities. HWMP maintains the EPA authorization to implement the RCRA program in California, and develops regulations, policies, guidance and technical assistance/training to assure the safe storage, treatment, transportation and disposal of hazardous wastes. The State Regulatory Programs Division of DTSC oversees the technical implementation of the state's Unified Program, which is a consolidation of six environmental programs at the local level and conducts triennial reviews of Unified Program agencies to ensure that their programs are consistent statewide and conform to standards.

*Hazardous Substance Account Act (1984), California Health and Safety Code Section 25300 ET SEQ (HSAA)*

This act, known as the California Superfund, has three purposes: 1) to respond to releases of hazardous substances; 2) to compensate for damages caused by such releases; and 3) to pay the state's 10 percent share in CERCLA cleanups. Contaminated sites that fail to score above a certain threshold level in the EPA's ranking system may be placed on the California Superfund list of hazardous wastes requiring cleanup.

*California Code of Regulations*

Title 3 of the CCR pertains to the application of pesticides and related chemicals. Parties applying regulated substances must continuously evaluate application equipment, the weather, the treated lands and all surrounding properties. Title 3 prohibits any application that would:

- Contaminate persons not involved in the application
- Damage non---target crops or animals or any other public or private property
- Contaminate public or private property or create health hazards on said property

Title 8 of the CCR establishes California Occupational Safety and Health Administration (Cal OSHA) requirements related to public and worker protection. Topics addressed in Title 8 include materials exposure limits, equipment requirements, protective clothing, hazardous materials, and accident prevention. Construction safety and exposure standards for lead and asbestos are set forth in Title 8.

Title 14 of the CCR establishes minimum standards for solid waste handling and disposal.

Title 17 of the CCR establishes regulations relating to the use and disturbance of materials containing naturally occurring asbestos.

Title 19 of the CCR establishes a variety of emergency fire response, fire prevention, and construction and construction materials standards.

Title 22 of the CCR sets forth definitions of hazardous waste and special waste. The section also identifies hazardous waste criteria and establishes regulations pertaining to the storage, transport, and disposal of hazardous waste.

Title 26 of the CCR is a medley of State regulations pertaining to hazardous materials and waste that are presented in other regulatory sections. Title 26 mandates specific management criteria related to hazardous materials identification, packaging, and disposal. In addition, Title 26 establishes requirements for hazardous materials transport, containment, treatment, and disposal. Finally, staff training standards are set forth in Title 26.

Title 27 of the CCR sets forth a variety of regulations relating to the construction, operation and maintenance of the State's landfills. The title establishes a landfill classification system and categories of waste. Each class of landfill is constructed to contain specific types of waste (household, inert, special, and hazardous).

#### *California Fire Code*

The California Fire Code (CFC) is Part 9 of Title 24, California Code of Regulations, also referred to as the California Building Standards Code. The CFC incorporates the 2009 International Fire Code of the International Code Council with necessary California amendments. The purpose of the CFC is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety and general welfare from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operations.

#### *California Health and Safety Code*

Division 11 of the Health and Safety Code establishes regulations related to a variety of explosive substances and devices, including high explosives and fireworks. Section 12000 et seq. establishes regulations related to explosives and explosive devices, including permitting, handling, storage, and transport (in quantities greater than 1,000 pounds).

Division 12 establishes requirements for buildings used by the public, including essential services



buildings, earthquake hazard mitigation technologies, school buildings, and postsecondary buildings.

Division 20 of the Health and Safety Code establishes DTSC authority and sets forth hazardous waste and underground storage tank regulations. In addition, the division creates a State superfund framework that mirrors the Federal program.

Division 26 of the Health and Safety Code establishes California Air Resources Board (CARB) authority. The division designates CARB as the air pollution control agency per Federal regulations and charges the Board with meeting Clean Air Act requirements.

*California Health and Safety Code and UBC Section 13000 et seq.*

State fire regulations are set forth in §13000 *et seq.* of the California Health and Safety Code, which is divided into “Fires and Fire Protection” and “Buildings Used by the Public.” The regulations provide for the enforcement of the UBC and mandate the abatement of fire hazards. The code establishes broadly applicable regulations, such as standards for buildings and fire protection devices, in addition to regulations for specific land uses, such as childcare facilities and high-rise structures.

*California Vehicle Code §31600 (Transportation of Explosives)*

Establishes requirements related to the transportation of explosives in quantities greater than 1,000 pounds, including licensing and route identification.

*Cal/EPA Cortese List*

The provisions in Government Code Section 65962.5 are commonly referred to as the "Cortese List" (after the Legislator who authored the legislation that enacted it). The list, or a site's presence on the list, has bearing on the local permitting process as well as on compliance with the California Environmental Quality Act (CEQA). The Cortese List identifies the following:

- Hazardous Waste and Substance Sites
- Cease and desist order Sites
- Waste Constituents above Hazardous Waste Levels outside the Waste Management Unit Sites
- Leaking Underground Tank (LUST) Cleanup Sites
- Other Cleanup Sites
- Land Disposal Sites

- Military Sites
- WDR Sites
- Permitted Underground Storage Tank (UST) Facilities Sites
- Monitoring Wells Sites
- DTSC Cleanup Sites
- DTSC Hazardous Waste Permit Sites

Local Regulations

*City of Lemoore General Plan, 2030*

The following lists goals and policies from the Safety and Noise Chapter of the City of Lemoore 2030 General Plan pertaining to hazards and hazardous materials that are applicable to the proposed Project.

Goal SN-G-3            Protect Lemoore’s residents and businesses from potential wildfire hazards.

Policy SN-I-13        Ensure Fire Department personnel are trained in wildfire prevention, response and evacuation procedures.

Policy SN-I-15        Enforce the Uniform Fire Code through the approval of construction plans and final occupancy permits.

Goal SN-G-4            Protect Lemoore’s ecology and residents from harm resulting from the improper production, use, storage, disposal, or transportation of hazardous materials.

Policy SN-I-21        Promote the reduction, recycling and safe disposal of household and business hazardous wastes through public education and awareness.

*The City will: 1) Educate the public on the types of household and business hazardous wastes and their proper disposal methods, 2) Provide information on the Kings Waste and Recycling Authority collection programs, including drop-off points and collection dates, and 3) Encourage citizen reporting of unlawful dumping activity. The City currently handles e-waste and battery and oil recycling.*

*Kings County Environmental Health Services*

The Kings County Environmental Health Department implements the Hazardous Waste Program throughout Kings County. The purpose of this program is to ensure that all hazardous waste generated in Kings County businesses are properly handled, recycled, treated, stored and disposed. Environmental Health staff inspects facilities that generate hazardous waste, investigates reports of illegal hazardous waste disposal, and responds to emergency spills of hazardous chemicals. Environmental Health staff also participates in public education programs to inform industries and residents about the laws and regulations relating to the safe disposal of hazardous waste.

Facilities that store, use or handle hazardous materials above reportable amounts are required to prepare and file a Hazardous Materials Business Plan for the safe storage and use of chemicals. In the event of an emergency, firefighters, health officials, planners, public safety officers, health care providers and others rely on the Business Plan. Implementation of the Business Plan should prevent or reduce damage to the health and safety of people and the environment when a hazardous material is released.

#### *San Joaquin Valley Air Pollution Control District*

The San Joaquin Valley Air District (SJVAPCD) is a public health agency whose mission is to improve the health and quality of life for all Valley residents through efficient, effective and entrepreneurial air quality-management strategies. SJVAPCD's ten core values include: protection of public health; active and effective air pollution control efforts with minimal disruption to the Valley's economic prosperity; outstanding customer service; ingenuity and innovation; accountability to the public; open and transparent public process; recognition of the uniqueness of the Valley; continuous improvement; effective and efficient use of public funds; and respect for the opinions and interests of all Valley residents.<sup>10</sup> To achieve these core values the SJVAPCD has adopted air quality plans pursuant to the California CAA and a comprehensive list of rules to limit air quality impacts. The air plans currently in effect in the SJVAB and specific rules that apply to the proposed Project are listed and described further below.

The SJVAPCD is responsible for controlling emissions primarily from stationary sources. The SJVAPCD, in coordination with the eight countywide transportation agencies, is also responsible for developing, updating, and implementing air quality attainment plans for

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<sup>10</sup> San Joaquin Valley Air Pollution Control District. About the District. [https://www.valleyair.org/General\\_info/aboutdist.htm#Mission](https://www.valleyair.org/General_info/aboutdist.htm#Mission). Accessed June 2021.

the SJVAB. The SJVAPCD also regulates asbestos demolition and other hazardous materials handling.

#### *Certified Unified Program Agency (CUPA)*

The California Environmental Protection Agency designates specific local agencies as Certified Unified Program Agencies (CUPA), typically at the county level. In Kings County, the Environmental Health Services Division is responsible for the County's Certified Unified Program Agency (CUPA) programs. Each designated CUPA is responsible for the implementation of six statewide programs within its jurisdiction. These programs include:

- Underground storage of hazardous substances (USTs)
- Hazardous Materials Business Plan (HMP) requirements
- Hazardous Waste Generator requirements
- California Accidental Release Prevention (Cal---ARP) program
- Uniform Fire Code hazardous materials management plan
- Above Ground Storage Tanks (Spill Prevention Control and Countermeasures Plan only)

Implementation of these programs involves:

- Permitting and inspection of regulated facilities
- Providing educational guidance and notice of changing requirements stipulated in State or Federal laws and regulations
- Investigations of complaints regarding spills or unauthorized releases
- Administrative enforcement actions levied against facilities that have violated applicable laws and regulations

## **Thresholds of Significance**

The thresholds of significance for this section are established by the CEQA Checklist Item.

- Create a significant hazard through transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials?
- 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?

- Emit hazardous emissions within one-quarter mile of an existing or proposed school?
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?
- Located within an airport land use plan?
- Interfere with an adopted emergency response plan or emergency evacuation plan?
- 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 wildland?

The Lead Agency determined in the Notice of Preparation/Initial Study (NOP/IS), located in Appendix A of this EIR, that the proposed Project would not result in significant impacts to some of these environmental issue areas, and that no further analysis would be required in the EIR. Thus, the following issue areas are scoped out of further analysis in this EIR:

Implementation of the Project would generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste? Specifically, would the project exceed the following qualitative threshold:

The presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors:

- i. Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; and
- ii. Are associated with design, layout, and management of project operations; and
- iii. Disseminate widely from the property; and
- iv. Cause detrimental effects on the public health or well-being of the majority of the surrounding population.

## Impacts and Mitigation Measures

**Impact 3.8-1:** *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

**Less Than Significant Impact With Mitigation.** This impact is associated with hazards caused by the routine transport, use, or disposal of hazardous materials or through reasonably

foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

#### *Construction*

Proposed Project construction activities may involve the use and transport of hazardous materials. These materials may include fuels, oils, mechanical fluids, and other chemicals used during construction. Transportation, storage, use, and disposal of hazardous materials during construction activities would be required to comply with applicable federal, State, and local statutes and regulations. Compliance would ensure that human health and the environment are not exposed to hazardous materials. In addition, the Project would be required to comply with GEO-2, which ensures the Project adhere to the National Pollutant Discharge Elimination System (NPDES) permit program through the submission and implementation of a Stormwater Pollution Prevention Plan during construction activities to prevent contaminated runoff from leaving the Project site. Therefore, no significant impacts would occur during construction activities.

#### *Operation*

The operational phase of the proposed Project would occur after construction is completed and residents move in to occupy the structures on a day-to-day basis. The proposed Project includes land uses that are considered compatible with the surrounding uses, including single and multi-family residential uses, open space and natural drainage areas. None of these land uses routinely transport, use, or dispose of hazardous materials, or present a reasonably foreseeable release of hazardous materials, with the exception of common residential grade hazardous materials such as cleaners, paint, petroleum products, etc. The proposed Project would not create a significant hazard through the routine transport, use, or disposal of hazardous materials, nor would a significant hazard to the public or to the environment through the reasonably foreseeable upset and accidental conditions involving the likely release of hazardous materials into the environment occur.

Compliance with all federal, State and local regulations, and the City of Lemoore 2030 General Plan Implementing Policies SN-I-18 through SN-I-21 in the Safety and Noise Element would ensure that the Project would not cause an adverse effect on the environment with respect to the use, storage, or disposal of general household and commercial hazardous substances generated from future development or uses.

Therefore, the proposed Project will not create a significant hazard to the public or the environment and any impacts would be *less than significant*.

**Mitigation Measures:**

Implementation of GEO-2.

**Impact 8.8-2:** *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

**Less Than Significant Impact With Mitigation.** As previously noted, a Phase I ESA was prepared for the Project (See Appendix F). The results of the Phase I ESA are summarized as follows:

Recognized Environmental Conditions

A recognized environmental condition (REC) refers to the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: due to release to the environment; under conditions indicative of a release to the environment; or under conditions that pose a material threat of a future release to the environment.

Controlled Recognized Environmental Conditions

A controlled recognized environmental condition (CREC) refers to a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls. No CRECs were identified on the Project site.<sup>11</sup>

Historical Recognized Environmental Conditions

A historical recognized environmental condition (HREC) refers to a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use

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<sup>11</sup> Ibid, page ii.

criteria established by a regulatory authority, without subjecting the property to any required controls. No HREC's were identified on the Project site.<sup>12</sup>

### Environmental Issues

An environmental issue refers to environmental concerns identified by the Phase I ESA, which do not qualify as RECs; however, warrant further discussion. The following was identified during the course of the Phase I assessment:

- According to information obtained from the California Department of Conservation-Geologic Energy Management Division (CalGEM) Well Finder Database, a plugged and abandoned oil/gas well is located on the subject property. According to records available from the CalGEM Well Finder Database, the well, identified as Kreyenhagen 23-35, was drilled to a depth of 9,090 feet bgs on April 1, 1964 and was subsequently abandoned in on May 16, 1964. Review of the CalGEM records indicates that no oil or gas was encountered during the development of the well.

The presence of the well on the subject property represent a potential for environmental concerns if 1) drill cuttings (muds) were stored on the subject property and 2) emission of methane and hydrogen sulfide gases are likely to impact the subject property. During oil well drilling of this type, it was common practice to deposit the drill cuttings in a large excavation near the location of the well, commonly referred to as drilling mud pits. The drill cuttings could potentially contain elevated levels of crude oil, petroleum hydrocarbons, and metals. An additional issue of concern with oil/gas wells is the potential emission of methane and hydrogen sulfide gases. These gases can migrate through geologic materials and/or through pathways such as old oil wells, fissures, and fractures in underlying geologic formations. The emitted gases have the potential to accumulate within building interiors or basements and adversely affect human health. However, due to the fact that the well did not produce oil or gas, potential emissions of methane and hydrogen sulfide gases are not expected to represent a significant environmental concern at this time. However, the likely presence of drilling mud pits in connection with the wells is considered a REC, as they represent conditions indicative of a release to the environment. It should be noted that the owner/operator of the well would likely be responsible for any future well abandonment activities, including any subsurface

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<sup>12</sup> Ibid, page iii.



investigations and/or remediation related to potential contamination associated with drilling mud pits on the subject property. CalGEM may require the re-abandonment of the wells to current abandonment guidelines should future development on the subject property “prevent or impede access to the well for purposes of remedying a currently perceived future problem” (Appendix F).<sup>13</sup>

- During the February 27, 2019 site reconnaissance, a diesel-powered irrigation well connected to an approximately 10,000-gallon diesel AST was observed within the central portion of the subject property. The AST was observed to be placed over the unpaved ground surface absent secondary containment. A minor release of apparent diesel fuel was observed on the unpaved ground surface beneath a valve on the northern end of the AST. This area of staining was limited in extent and is considered a *de minimis* condition. Heavy oily surface staining from apparent lubrication oil was observed beneath and around the associated diesel engine on the southern side of the AST, and around the irrigation well pump. The vertical extent of the staining in these areas could not be determined. However, lubrication oil does not typically migrate easily in the subsurface and is not expected to have migrated to significant depth. Based on this information, the staining observed around the AST, engine, and well pump is considered a *de minimis* condition.
- The subject property has been utilized for agricultural purposes since at least 1950. There is a potential that agricultural related chemicals such as pesticides, herbicides, and fertilizers, may have been used and stored on-site. Agricultural chemicals in use today are commonly selected using a licensed pest control advisor and are reported to the Agricultural Commissioner. It is unknown if environmentally persistent pesticides and/or herbicides were historically applied to the crops grown on the subject property. However, there is a low potential for soil contamination at concentrations in excess of regulatory thresholds as a result of the past use of persistent pesticides/herbicides from normal crop application. Furthermore, no specific areas of concern for agricultural chemical use have been identified during the course of this assessment. Based on these factors, the previous

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<sup>13</sup> Phase I ESA (March 2019), *Partner Engineering and Science, Inc.*, page ii.

agricultural use of the subject property is not expected to represent a significant environmental concern at this time.<sup>14</sup>

After implementation of Mitigation Measure HAZ-1 through HAZ-3, the Project's impacts would be reduced to a *less than significant* level.

**Mitigation Measures:**

- HAZ – 1** Prior to the issuance of grading or building permits, the Project proponent or contractor shall:
- i. Provide a site plan that clearly delineates the locations of all known oil wells and the 10-foot no-build radius around each well. A copy of the map shall be submitted to the California Department of Conservation, Geologic Energy Management Division (CalGEM), and the City of Lemoore Community Development Department.
- HAZ – 2** In the event that other abandoned or unrecorded wells are uncovered or damaged during excavation or grading activities, all work shall cease in the vicinity of the well, and the California Department of Conservation, Geologic Energy Management Division (CalGEM), shall be contacted for requirements and approval; copies of said approvals shall be submitted to the City of Lemoore Community Development Department. CalGEM, may determine that remedial plugging operations may be required
- HAZ-3** As a best management practice, prior to the issuance of grading permits, the areas of surface staining located near the diesel AST and engine shall be excavated, drummed, and removed from the subject property for proper off-site disposal. Additionally, secondary containment shall be provided for the diesel AST in order to prevent an accidental release from adversely impacting the subject property. Evidence of compliance shall be submitted to the City of Lemoore Community Development Department.

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<sup>14</sup> Phase I ESA (March 2019), *Partner Engineering and Science, Inc.*, page iii.

**Impact 3.8-3:** *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

**Less Than Significant Impact.** Meadow Lane Elementary School is within ¼ mile of the proposed Project site.

As noted in Chapter 3.2 *Air Quality*, Project construction would involve the use of diesel-fueled vehicles and equipment that emit DPM, which is considered a TAC. The SJVAPCD's 2015 GAMAQI does not currently recommend analysis of TAC emissions from Project construction activities, but instead focuses on projects with operational emissions that would expose sensitive receptors over a typical lifetime of 70 years. Residential projects produce limited amounts of TAC emissions during operation and thus have not been subject to Project TAC analysis. Most emissions from construction activities occur during the grading and site preparation phases that occur over the first three months of construction of individual tracts and do not overlap with Project operations. The Project would not exceed SJVAPCD localized emission daily screening levels for any criteria pollutant. The Project is not a significant source of TAC emissions during construction or operation. Therefore, the Project would not result in significant impacts to sensitive receptors

Based on the proposed Project description of a residential development, it is not reasonably foreseeable that the proposed Project will cause a significant impact by emitting hazardous waste or bringing hazardous materials within one-quarter mile of an existing or proposed school. Residential developments typically do not generate, store, or dispose of significant quantities of hazardous materials. Such uses also do not normally involve dangerous activities that could expose persons onsite or in the surrounding areas to large quantities of hazardous materials. See the responses to a) and b) above regarding hazardous material handling. Any impacts would be *less than significant*.

**Mitigation Measures:** None are required.

**Impact 3.8-4:** *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

**Less Than Significant Impact.** The proposed Project site is not located on a list of hazardous

materials sites compiled pursuant to Government Code Section 65962.5 (Geotracker<sup>15</sup> and DTSC Envirostor<sup>16</sup> databases). The nearest Department of Toxic Substances Control listed site is the Gateway Plaza Cleanup Site (Geotracker identified the hazardous substance at this location as “Dichloroethene”). The site address is 1104-1290 North Lemoore Avenue and is approximately one-half mile south of the Project site. The site is listed as Open – Site Assessment as of 2/5/2016. There are no hazardous materials sites that impact the Project and therefore there is *a less than significant impact*.

**Mitigation Measures:** None are required.

**Impact 3.8-5:** *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

**Less Than Significant Impact.** The nearest public airport is the Hanford Municipal Airport in Hanford, approximately eight miles east of the Project site. The nearest private airport is the Swanson Ranch NR 2 Airport, approximately 8.6 miles to the northwest. Swanson Ranch NR 1 Airport is approximately 10 miles to the northeast. There are no public or private airport land use plans that are applicable to the Project.

The Lemoore Naval Air Station (NAS) Boundary is approximately nine miles to the west of the Project site. According to the *NAS Lemoore Joint Land Use Study* (2011), development within three miles of the NAS boundary is restricted. As shown in Figure 3-2 of the Study, the Project site is outside of the three-mile buffer area and therefore, there are no Project-related development restrictions pertaining to the NAS. Therefore, there is a *less than significant impact*.

**Mitigation Measures:** None are required.

**Impact 3.8-6:** *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

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<sup>15</sup> California State Water Resources Control Board GeoTracker.  
<https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=tehachapi%2C+ca>. Accessed June 2020.

<sup>16</sup> California Department of Toxic Substances Control. Envirostor.  
<https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=Lemoore+california>. Accessed June 2020.

**Less Than Significant Impact.** The City of Lemoore’s Emergency Operations Plan (EOP) provides guidance to City staff in the event of extraordinary emergency situation associated with natural disaster and technological incidents. The EOP concentrates on operation concepts and response procedures relative to large-scale disasters. In the event of a county-wide disaster, the City is to assume its role assigned in the Kings County EOP.<sup>17</sup> The proposed Project would also comply with the appropriate local and State requirements regarding emergency response plans and access. The Project would not inhibit the ability of local roadways to continue to accommodate emergency response and evacuation activities and as such, the Project would not interfere with the City’s adopted emergency response plan. Any impacts are *less than significant*.

**Mitigation Measures:** None are required.

**Impact 3.8-7:** *Expose people or structures either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?*

**Less Than Significant Impact.** Wildfire hazard data for the City of Lemoore is provided by the California Department of Forestry and Fire Protection. The majority of the City is considered to have either little or no threat or a moderate threat of wildfire.<sup>18</sup> According to the City of Lemoore 2030 General Plan Hazards and Safety Services Figure 8-2<sup>19</sup>, neither the proposed Project nor its vicinity have a high wildfire threat. In addition, and as described in the Environmental Setting section, only a very small portion of land within Kings County (located in the far southwest corner of the County) is designated as a Very High Fire Hazard Severity Zone by the Local Responsibilities Area mapping program.<sup>20</sup> Additionally, according to CAL FIRE, the nearest State Responsibility Area mapped land is on the west side of State Route 33, approximately 30 miles to the southwest of the Project site at its nearest point.<sup>21</sup>

There are no other factors of the proposed Project or the surrounding area that would exacerbate wildfire or the uncontrolled spread of a wildfire. For these reasons, the impact is considered *less than significant*.

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<sup>17</sup> City of Lemoore 2030 General Plan. Safety and Noise Element. May 2008. [https://lemoore.com/wp-content/uploads/2018/01/lemoore\\_gp\\_ch8\\_safety\\_noise\\_3\\_20\\_2012.pdf](https://lemoore.com/wp-content/uploads/2018/01/lemoore_gp_ch8_safety_noise_3_20_2012.pdf). Page 8-13. Accessed June 2020.

<sup>18</sup> Ibid. Page 8-7.

<sup>19</sup> Ibid. Page 8-2.

<sup>20</sup> California State Geoportal. California Fire Hazard Severity Zone Viewer. <https://gis.data.ca.gov/datasets/789d5286736248f69c4515c04f58f414>. Accessed June 2021.

<sup>21</sup> California Department of Forestry and Fire Protection. Fire Hazard Severity Zones Maps. Kings County. [https://osfm.fire.ca.gov/media/6470/fhszs\\_map16.jpg](https://osfm.fire.ca.gov/media/6470/fhszs_map16.jpg). Accessed June 2021.

**Mitigation Measures:** None are required.

### **Cumulative Impacts**

**Less Than Cumulatively Considerable with Mitigation.** The scope for considering cumulative impacts to hazards and hazardous materials is generally site-specific rather than cumulative in nature because each project site has different hazardous considerations that would be subject to review. Project construction may involve the transportation, use, and/or disposal of hazardous materials, which may involve the use of equipment that contains hazardous materials (e.g., solvents and fuels, diesel-fueled equipment), or the transportation of excavated soil and/or groundwater containing contaminants from areas that are identified as being contaminated.

With respect to impacts related to the creation of a hazard through upset or accident conditions involving the release of a hazardous material, the following could occur during Project construction and operation: site grading that would generate dust, inadvertently damage the existing abandoned wells, and unknown wells could be discovered. However, conformance with existing State and City regulations, as well as project safety design features, and implementation of mitigation measures GEO-2, HAZ-1 through HAZ-3, identified above, would render this impact less than significant. This impact does not have the potential to contribute to cumulative hazards associated with other projects. The impacts would be localized, occurring only in the immediate vicinity of the project sites, and the implementation of appropriate safety measures during construction of the proposed Project would reduce the impact to a level that would not contribute to cumulative effects.

Because the project is located within ¼ mile of an existing school, with implementation of GEO-2 and HAZ-1 through HAZ-3, it will not contribute to cumulative effects resulting from hazardous emissions or the handling of hazardous materials, substances, or waste. The project is not located on a listed hazardous materials site and accordingly would not contribute to cumulative impacts resulting from the creation of a significant hazard to the public due to its location.

Because of the Project's location in an area with adequate emergency response times and the absence of project features that would physically impair emergency response or evacuation, the Project would not contribute to cumulative impacts on an adopted emergency response plan or evacuation plan. Similarly, the Project would not contribute to cumulative wildland fire-related impacts due to its location in an area with low wildland fire risk. . Considering the protection granted by local, State and federal agencies and their requirements for the use of hazardous materials in the region, as discussed above, with implementation of GEO-2 and HAZ-1

through HAZ-3. the overall cumulative impact would be less than significant. As such, the proposed Project's incremental contribution to cumulative hazards and human health impacts would be *less than cumulatively considerable with mitigation*.

### 3.9 Hydrology and Water Quality

This section of the DEIR identifies potential impacts of the proposed Project pertaining to hydrology, water supply and water quality. To assist in evaluation of this environmental impact, a Water Supply Assessment (Appendix G) was prepared.

#### **Environmental Setting**

##### *Project Site*

As described in Section 2.1, the Project site is located immediately north of the City of Lemoore in Kings County, in an area dominated by rural agricultural land and homesteads, and the residential units associated with the City of Lemoore immediately to the south. The site is partially designated by the City of Lemoore General Plan for future residential uses and is currently zoned as Limited Agricultural-10 District (AL-10) by Kings County. Approximately one-third of the site (the southern one-third) is within the City's Sphere of Influence (SOI) while the remaining two-thirds are currently outside the SOI. The entire site is within the adopted Urban Development Boundary and proposed for annexation into the City limits of Lemoore.

Project site topography is relatively flat, varying in elevation from 212 to 230 feet above mean sea level, with the lowest elevation occurring along the northern boundary of the site and the highest elevation occurring along the most southeastern portion. The Project site is underlain by a mix of Nord complex and Whitewolf coarse sandy loam (Colibri, 2020). As of Summer 2021, the land is being farmed for alfalfa and utilizes on-site agricultural wells for irrigation. The site has been used to grow alfalfa for at least the last five years. Of the 155-acre site, approximately 154 acres are used for growing with approximately 1 acre used for dirt access roads. Alfalfa requires at least 4 acre-feet per year per acre in the San Joaquin Valley of California.<sup>1</sup> Based on 154 acres of alfalfa production, the site uses approximately 616 acre-feet (AF) of water per year (154 acres X 4 AFY = 616 AFY). If the proposed Project is approved and annexed into the City, the Project will tie into the City's existing water system.

##### *Local Groundwater Basin*

The groundwater subbasin underlying the City of Lemoore is the Tulare Lake Subbasin (Groundwater Basin No. 5-022.12). The Tulare Lake Subbasin is one of eight subbasins within the Tulare Lake Hydrologic Region that transport, filter, and store water. The major rivers in the

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<sup>1</sup> [https://alfalfa.ucdavis.edu/irrigatedalfalfa/pdfs/ucalfalfa8287prodsystems\\_free.pdf](https://alfalfa.ucdavis.edu/irrigatedalfalfa/pdfs/ucalfalfa8287prodsystems_free.pdf), page 12 (accessed Oct. 2021).



Subbasin that provide most of the surface water runoff for the Region is the Kings River. The Tulare Lake Subbasin is a non-adjudicated basin, meaning there are no restrictions on groundwater pumping.

Of the 5.1 million acres of the San Joaquin Valley Basin, the Tulare Lake Subbasin has a surface area of approximately 524 thousand acres (818 square miles). The Tulare Lake Subbasin is bounded on the south by the Kings-Kern county line, on the west by the California Aqueduct, the eastern boundary of Westside Groundwater Subbasin, and Tertiary marine sediments of the Kettleman Hills. It is bounded on the north by the southern boundary of the Kings Groundwater Subbasin, and on the east by the westerly boundaries of the Kaweah and Tule Groundwater Subbasins. The southern half of the Tulare Lake Subbasin consists of lands in the former Tulare Lake bed in Kings County. The San Joaquin River Groundwater Basin is not an adjudicated groundwater basin.<sup>2</sup>

The Tulare Lake Subbasin Groundwater Sustainability Plan (Groundwater Sustainability Plan) (January 2020) provided historical information related to groundwater in the Subbasin. The Subbasin groundwater model and Department of Water Resources (DWR) estimates were used to calculate groundwater in storage for the principal aquifers within the Subbasin boundaries based on 2016 conditions. The unconfined aquifer has an average specific yield of 8.5% and an average saturated thickness of 451 feet over the 535,869 acres of the Subbasin. This yields an estimated 20.5 million AF of groundwater in storage in the unconfined aquifer. The confined aquifer has an estimated average specific yield of 4.91% and an average saturated thickness of 2,294 feet over the 535,869 acres of the Subbasin. This yields an estimated 60.4 million AF of groundwater in storage in the confined aquifer zone. Total estimated groundwater in storage as of 2016 is approximately 80.9 million AF, which is slightly less than the DWR estimate of 82.5 million AF.<sup>3</sup>

According to the Groundwater Sustainability Plan, the estimated groundwater in storage in the Subbasin above the base of fresh groundwater is roughly 82.5 million AF while groundwater use in the Subbasin is in overdraft by an average of roughly 0.07 million AF/Y. Although the reductions in groundwater storage will be addressed through the Groundwater Sustainability

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<sup>2</sup> City of Lemoore 2015 UWMP, page 33.

<sup>3</sup> Tulare Lake Subbasin Groundwater Sustainability Plan (Jan. 2020), page 3-30.

Plan implementation period, the long-term regional overdraft could continue for many years without significant risk to the beneficial uses and users of groundwater in the Subbasin.<sup>4</sup>

The Groundwater Sustainability Plan also indicated that for the areas covered by the South Fork Kings Groundwater Sustainability Agency (includes the City of Lemoore), the average annual storage change for this area is estimated at a negative 37,840 AF.

## Regulatory Setting

### Federal Agencies and Regulations

#### *Clean Water Act (CWA) and Associated Programs*

The Clean Water Act (CWA) is intended to restore and maintain the chemical, physical, and biological integrity of the nation's waters (33 CFR 1251). The regulations implementing the CWA protect waters of the U.S. including streams and wetlands (33 CFR 328.3). The CWA requires states to set standards to protect, maintain, and restore water quality by regulating point source and some non-point source discharges. Under Section 402 of the CWA, the National Pollutant Discharge Elimination System (NPDES) permit process was established to regulate these discharges.

Construction activities that are subject to this general permit include clearing, grading, stockpiling, and excavation that result in soil disturbances to at least one acre of the total land area. Construction activities that disturb less than one acre are still subject to this general permit if the activities are part of a large common plan of development or if significant water quality impairment would result. In California, the Construction General Permit, revised in September 2009, is implemented by the SWRCB.

#### *Section 401*

CWA Section 401 requires an evaluation of water quality when a proposed activity requiring a federal license or permit could result in a discharge to waters of the United States. In California, USEPA has delegated to SWRCB and the RWQCBs the authority to issue water quality certifications. Each RWQCB is responsible for implementing Section 401 in compliance with the CWA and that region's water quality control plan (also known as a Basin Plan). Applicants for a federal license or permit to

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<sup>4</sup> Ibid, page 4-13.

conduct activities that might result in the discharge to waters of the United States must also obtain a Section 401 water quality certification to ensure that any such discharge would comply with the applicable provisions of the CWA.

#### *Section 404*

CWA Section 404 regulates the discharge of dredged and fill materials into waters of the U.S., which include all navigable waters, their tributaries, and some isolated waters, as well as some wetlands adjacent to the afore-mentioned waters (33 CFR Section 328.3). Areas typically not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial waterbodies such as swimming pools, and water-filled depressions (33 CFR Part 328). Areas meeting the regulatory definition of waters of the U.S. are subject to the jurisdiction of USACE under the provisions of CWA Section 404. Construction activities involving placement of fill into jurisdictional waters of the U.S. are regulated by USACE through permit requirements. No USACE permit is effective in the absence of state water quality certification pursuant to Section 401 of the CWA.

#### *Federal Emergency Management Agency (FEMA)*

The National Flood Insurance Act (1968) makes available federally subsidized flood insurance to owners of flood-prone properties. To facilitate identifying areas with flood potential, Federal Emergency Management Agency (FEMA) has developed Flood Insurance Rate Maps (FIRM) that can be used for planning purposes.

#### State of California Regulations

##### *Department of Water Resources (DWR)*

DWR's major responsibilities include preparing and updating the California Water Plan to guide development and management of the State's water resources; planning, designing, constructing, operating, and maintaining the State Water Resources Development System; regulating dams; providing flood protection; assisting in emergency management to safeguard life and property; educating the public; and serving local water needs by providing technical assistance. In addition, DWR cooperates with local agencies on water resources investigations; supports watershed and river restoration programs; encourages water conservation; explores conjunctive use of ground and surface water facilities voluntary water transfers; and, when needed, operates a State drought water bank.

### *State Water Resources Control Board*

The State Water Resources Control Board (SWRCB), located in Sacramento, is the agency with jurisdiction over water quality issues in the State of California. The SWRCB is governed by the Porter-Cologne Water Quality Act (Division 7 of the California Water Code), which establishes the legal framework for water quality control activities by the SWRCB. The intent of the Porter-Cologne Act is to regulate activities which may adversely affect the quality of waters of the State to attain the highest water quality which is reasonable, considering a full range of demands and values. The act authorizes the SWRCB to establish water quality principles and guidelines for long-range resource planning including groundwater and surface water management programs and control and use of recycled water. Much of the implementation of the SWRCB's responsibilities is delegated to nine Regional Water Quality Control Boards (RWQCBs). The proposed Project site is located within the jurisdiction of the Central Valley RWQCB.

### *California Water Code*

The Federal CWA establishes certain guidelines for the states to follow in developing programs for the control of surface water pollution and for planning the development and use of water resources. Under certain circumstances, the CWA allows the federal Environmental Protection Agency (EPA) to withdraw the primary responsibility for these programs from states with inadequate implementation mechanisms.

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal CWA. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region. The regional plans must conform with the policies set forth in the Porter-Cologne Act and established by the State water policy adopted by the SWRCB. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

- (a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:
  - (1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.
  - (2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.
  - (3) A person operating, or proposing to construct, an injection well.
- (b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.
- (c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

*Water Code section 10910 (SB 610)*

Water Code section 10910 (SB 610) requires that a lead agency obtain a water supply assessment from an applicable public water system for certain projects subject to the California Environmental Quality Act, which are defined as (a) a residential development of more than 500 dwelling units; (b) a shopping center or business employing more than 1,000 persons or having more than 500,000 square feet of floor space; (c) a commercial office building employing more than 1,000 persons or having more than 250,000 square feet; (d) a hotel or motel with more than 500 rooms; (e) an industrial or manufacturing establishment housing more than 1,000 persons or having more than 650,000 square feet or 40 acres; (f) a mixed use project containing any of the foregoing; or (g) any other project that would have a water demand at least equal to a 500 dwelling unit project. Refer to Impact Section 3.10-2 herein for the discussion pertaining to the Water Supply Assessment that was prepared for the Project.

*Regional Water Quality Board*

The Central Valley RWQCB administers the NPDES storm water-permitting program in the Central Valley region, including Lemoore. Construction activities on one acre or more are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). The General Construction Permit requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The plan must include specifications for Best Management Practices (BMPs) that will be implemented during proposed construction to control degradation of surface water by preventing the potential erosion of sediments or discharge of pollutants from the construction area. The General Construction Permit program was established by the SWRCB and the Central Valley RWQCB for the specific purpose of reducing impacts to surface waters that may occur due to construction activities. BMPs have been established in the California Storm Water Best Management Practice Handbook (2003), and are recognized as effectively reducing degradation of surface waters to an acceptable level. Additionally, the SWPPP describes measures to prevent or control runoff degradation after construction is complete, and identifies a plan to inspect and maintain these facilities or project elements.

*Porter-Cologne Water Quality Control Act*

Under the Porter-Cologne Water Quality Control Act, waters of the state fall under the jurisdiction of the appropriate Regional Water Quality and Control Board (RWQCB). Under the act, the RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Projects that affect wetlands or waters must meet waste discharge requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under CWA Section 401.

*Sustainable Groundwater Management Act*

In 2014, California enacted the Sustainable Groundwater Management Act (SGMA) (Water Code §10720 et seq.). SGMA requires that groundwater basins designated by the state Department of Water Resources (DWR) as high priority and/or critically overdrafted must be managed under a Groundwater Sustainability Plan (GSP) that avoids “undesirable results” as defined in the Act within 20 years from January 31, 2020. The GSP must be developed by a Groundwater Sustainability Agency (GSA) approved by the DWR. The WWD service area boundary largely overlaps with DWR-designated San Joaquin Valley groundwater subbasin 5.22-9, which is

commonly called the “Westside Subbasin.” The DWR has designated the Westside Subbasin as high priority and critically overdrafted, and SGMA requires that a GSP be adopted by an approved GSA for the subbasin by January 31, 2020. The City of Lemoore is part of the South Fork Kings Groundwater Sustainability Agency.

### Local Regulations

#### *City of Lemoore 2030 General Plan*

The following lists policies and implementing actions from the City of Lemoore General Plan pertaining to hydrology and water quality that are applicable to the proposed Project.

### **GUIDING POLICIES**

- PU-G-1        Maintain and enhance water resources to ensure that Lemoore has an adequate, affordable, water supply to sustain the City’s quality of life and support existing and future development—without jeopardizing water supply for future generations.
- PU-G-2        Conserve water through supply-side efficiencies and water conservation programs.

### **IMPLEMENTING ACTIONS**

#### **Water Supply Management**

- PU-I-1        Update the City’s Urban Water Management Plan every five years and ensure its contents are consistent with the California Water Code and General Plan policies, including prioritization and identification of funding sources.
- PU-I-2        Provide and maintain a system of water supply distribution facilities capable of meeting existing and future daily and peak demands, including fire flow requirements, in a timely and cost effective manner.
- PU-I-3        Monitor the demands on the water system and, as necessary, manage development to mitigate impacts and/or facilitate improvements to the water supply and distribution systems.
- PU-I-4        Continue to support the Laguna Irrigation District’s ground water recharging (water banking) efforts, in consultation with the State Department of Water Resources and county water management authorities.

## Land Use/New Development

- PU-I-5      Require that necessary water supply infrastructure and storage facilities are in place concurrently with new development, and approve development plans only when a dependable and adequate water supply for the development is assured.
- PU-I-6      Require water meters in all new development.
- PU-I-7      Require all major new development projects with more than 200,000 square feet of floor area overall to have a water management plan, in accordance with State law:
- Large projects will be required to submit planting plans, irrigation plans, schedules, and water use estimates for City approval prior to issuance of building permits;
  - Industrial projects will be required to submit water recycling plans and irrigation plans for proposed landscaping.
- PU-I-8      Require water bubblers for street trees, separate from surface irrigation used for turf.
- PU-I-9      Promote the use of evapotranspiration (ET) water systems in irrigating large parks and large landscaped areas.
- ET water systems are “smart water systems” that can be programmed with data such as the type of soil, slope of landscape, type of vegetation, and daily weather conditions, so that they can automatically adjust irrigation schedules based on those conditions. The result is lower water bills and a healthier environment.
- PU-I-10     Require that developers of agricultural land to be annexed to the City offer the water rights associated with this land to the City.

## New Water Sources

- PU-I-11     Revise regulations to allow the safe use of reclaimed water (“gray water”) by homes and businesses where feasible. Examples of areas where “gray water” might be safely used include:
- Irrigation of parks and residential yards, and irrigation for farming;
  - Cooling towers and HVAC systems in commercial or industrial buildings; and
  - Water cisterns in flush toilets.



- PU-I-12 Establish and implement a program of cooperative surface water use with local water purveyors and irrigation districts to retain surface water rights and supply following annexation and urban development so as to protect against aquifer overdrafts and water quality degradation.
- PU-I-13 Promote the continued use of surface water for agriculture to reduce groundwater table reductions.
- PU-I-14 Drill additional wells within the City when other water supply alternatives are not feasible and demand warrants their development.
- LU-I-7 Require new development to pay its fair share of the costs of public infrastructure, services and transportation facilities, in accordance with State law.

## Thresholds of Significance

The thresholds of significance for this section are established by the CEQA Checklist Item.

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
  - i. result in substantial erosion or siltation on- or offsite;
  - ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
  - iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
  - iv. impede or redirect flood flows?

- In flood hazard, tsunami or seiche zones, risk release of pollutants due to project inundation?
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

## Impacts and Mitigation Measures

**Impact 3.9-1:** *Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?*

### **Less Than Significant With Mitigation.**

The Project has the potential to impact water quality standards and/or waste discharge requirements during construction (temporary impacts) and operation (polluted stormwater runoff due to an increase in impervious surfaces).

#### *Construction*

Grading, excavation, removal of vegetation cover, and loading activities associated with construction activities could temporarily increase runoff, erosion, and sedimentation. Construction activities also could result in soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas.

Three general sources of potential short-term construction-related stormwater pollution associated with the proposed Project are: 1) the handling, storage, and disposal of construction materials containing pollutants; 2) the maintenance and operation of construction equipment; and 3) earth moving activities which, when not controlled, may generate soil erosion and transportation, via storm runoff or mechanical equipment. Generally, routine safety precautions for handling and storing construction materials may effectively mitigate the potential pollution of stormwater by these materials. These same types of common sense, “good housekeeping” procedures can be extended to non-hazardous stormwater pollutants such as sawdust and other solid wastes.

Poorly maintained vehicles and heavy equipment leaking fuel, oil, antifreeze, or other fluids on the construction site are also common sources of stormwater pollution and soil contamination. In addition, grading activities can greatly increase erosion processes. Two general strategies are recommended to prevent construction silt from entering local storm drains. First, erosion control

procedures should be implemented for those areas that must be exposed. Secondly, the area should be secured to control offsite migration of pollutants.

The Project site is located within the Central Valley RWQCB and is subject to the applicable requirements of the Basin Plan administered by the RWQCB in accordance with the Porter-Cologne Water Quality Control Act..

In accordance with the NPDES Stormwater Program, and as described in Section 3.6 - Geology and Soils, Mitigation Measure GEO – 2 ensures the Project will comply with existing regulatory requirements to prepare a SWPPP designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. The specific controls are subject to the review and approval by the RWQCB and are an existing regulatory requirement. Implementation of Mitigation Measure GEO - 2 would ensure that the proposed Project would have a less than significant impact.

As noted in Section 3.3 – Biological Resources, the Project requires an abandonment and relocation of an irrigation canal. Therefore, Mitigation Measure BIO-7 requires a delineation of the drainage and determination of jurisdiction prior to the issuance of grading permits. If the drainage is jurisdictional, additional permitting with the USACE, RWQCB, and/or CDFW is also required prior to construction activities to maintain adequate water quality standards. With implementation of BIO-7, impacts of the Project to water quality would be less than significant

### *Operation*

The long-term operations of the proposed Project could result in long-term impacts to surface water quality from urban stormwater runoff. The proposed Project would result in new impervious areas associated with site improvements, including new asphalt, concrete and the proposed structures on site. Urban runoff typically contains oils, grease, fuel, antifreeze, byproducts of combustion (such as lead, cadmium, nickel, and other metals) and other household pollutants. Precipitation early in the rain season displaces these pollutants into storm water resulting in high pollutant concentrations in initial wet weather runoff. This initial runoff with peak pollutant levels can be referred to as the "first flush" of storm events.

The proposed Project would install storm water drainage facilities (e.g. storm drainage mechanisms and storm water pipes) that would be in compliance with the City of Lemoore Development Standards. The site has been designed with a 4.39-acre storm drain basin located at the southwest corner of the development. Stormwater will be collected from the Project to this detention basin and then discharged into the City's existing storm drain system through a

pipeline that will be constructed by the Project. The system has been designed so that storm water flow rates do not exceed the City's capacity.

In accordance with the City's storm water management regulations and NPDES Stormwater Program (General Stormwater Permit), BMPs would be implemented to reduce the amount of pollution in stormwater discharged from the Project site. The management of water quality through the requirement to obtain a General Stormwater Permit and implement appropriate BMPs would ensure that water quality does not degrade to levels that would violate water quality standards. These are existing regulatory requirements.

In addition, the Project will generate typical wastewater (sewer) associated with residential developments and will connect to the City's sewer system. The Project site would be located within the service area of the City of Lemoore Wastewater Treatment Facility (WWTF). Since the WWTF is considered a publicly owned treatment facility, operational discharge flows treated at the WWTF would be required to comply with applicable water discharge requirements issued by the Regional Water Quality Control Board (RWQCB). Compliance with conditions or permit requirements established by the City as well as water discharge requirements outlined by the RWQCB would ensure that wastewater discharges coming from the proposed Project site and treated by the WWTP system would not exceed applicable Central RWQCB wastewater treatment requirements. The Project will not result in a violation of any water quality standards or waste discharge requirements. Therefore, with mitigation, impacts result in a less than significant impact.

**Mitigation Measures:**

Implement MM BIO-7 and MM GEO-2.

**Impact 3.9-2:** *Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

**Less Than Significant With Mitigation.**

The proposed Project would be annexed into the City and add demand for water to the City of Lemoore water system, which is reliant on groundwater to serve its customers. The information herein is based on the Water Supply Assessment that was prepared for the Project (Appendix G).

### *Assumptions*

Project water demand is estimated using information from the City’s adopted 2015 Urban Water Management Plan (2015 UWMP), as well as from a more recent water use information from the City’s Water Master Plan (2020 WMP) that was adopted by the City in August 2021. Project water demand is calculated on the following assumptions:

- Residential: The Project is proposing 825 residential units.
- Public Parks / Public Areas / Landscaping: The Project includes approximately 9.54 acres of park space distributed among four parks and a trail throughout the proposed development. To be conservative, it is assumed that approximately eight acres of the total park space acreage will have irrigated landscaping and will require approximately 3.5 acre-feet per year (afy), for a total of 28 afy. This figure is based on information pertaining to water requirements for irrigated urban landscaping in the region.<sup>5</sup>
- Per Capita Water Use: The City’s water usage has ranged from a high of 228 gallons per capita per day (GPCD) in 2004 to 124 GPCD in 2016.<sup>6</sup> The reduction in per capita demand can be attributed to increased conservation by the City’s residents associated with recent drought conditions. The City’s 2015 UWMP identifies a target of 175 GPCD for Year 2020.<sup>7</sup> However, based on more recent information from the City’s 2020 WMP, a demand of 171 GPCD was used to project future flow projections in the City.<sup>8</sup> This value is inclusive of water used for outdoor landscaping and was chosen because it is based on more recent historical usage in the City. .
- Household Size: According to the City’s General Plan, the City averages 3.1 persons per household. Although some of the housing products / floor plans proposed by the Project would likely result in fewer than 3.1 persons per residence, the figure is being used to conservatively estimate Project water demand.
- Construction Water Use (Temporary): The Project will require preparation of a Dust Control Plan that must be approved by the San Joaquin Valley Air Pollution Control District. The Dust Control Plan will include specific information including the amount of

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<sup>5</sup> <https://www.ppic.org/publication/groundwater-and-urban-growth-in-the-san-joaquin-valley/> (accessed Oct. 2021).

<sup>6</sup> City of Lemoore – Water Master Plan (Feb. 2020), page 103.

<sup>7</sup> City of Lemoore – Urban Water Management Plan (2015), page 31, table 5-1.

<sup>8</sup> City of Lemoore – Water Master Plan (Feb. 2020), page 4-4.

water that will be used during construction for dust control purposes. Generally, dust control at a construction site will use approximately 650 gallons/acre at least twice per day in traffic/use areas. The Project is proposed to be constructed on 156-acres in four phases over 16 years, with approximately one quarter of the development occurring every four years (or ~39 acres per phase). For purposes of estimating construction water use, it is assumed that of the 39 acres for each phase, approximately half (or 20 acres) would require dust control watering (for traffic/use areas) during each phase on any given work day. The standard amount of working days in a year is 261 days.

### *Project Water Demand*

Based on the previous assumptions, Project water demand is calculated as follows:

Residential: 825 dwelling units X 3.1 persons per dwelling unit = 2,558 persons X 171 GPCD = 437,418 total gallons per day X 365 days per year = 159,657,570 gallons per year (or **~490 afy**)

Parks/Public Landscaping: 8 acres X 3.5 afy = **~28 afy**

Total Water Demand: 490 afy for Residential  
28 afy for Parks  
**518 afy**

Based on these assumptions, Project operation would require approximately **518 afy** of water. Temporary water used for construction is discussed below.

Construction (temporary): 20 acres X 650 gal/acre X 2 waterings/day = 26,000 gallons X 261 working days = 6,786,000 gallons per phase (or 20.8 af). 20.8 af X 4 phases = 27,144,000 gallons (or **~83 af**).

As shown above, the Project would require approximately 518 afy of water on an on-going basis and approximately 83 af of water use associated with construction (one-time use).

The next section outlines applicable measures to reduce potable water use.

*Design Features to Reduce Potable Water Use*

As identified above, the proposed Project would require approximately 518 afy of water based on the calculations broadly applicable to residential developments. The Project is subject to water use reduction methods as follows:

1. The Project is subject to the Model Water Efficient Landscape Ordinance (MWELO) which encourages more efficient irrigation systems, onsite stormwater capture, limiting turf, etc.
2. In addition, California’s Title 20 Water Efficiency Standards are applicable to the Project. These standards include:
  - i. Toilets and urinals: Toilets must have a maximum water use of 1.28 gallons per flush and urinals are limited to 0.125 gallons or less per flush.
  - ii. Residential lavatory faucets: Maximum flow can’t exceed 1.2 gallons per minute.
  - iii. Kitchen faucets: Maximum flow rate is 1.8 gallons per minute.
  - iv. Shower devices: Maximum flow rate is 1.8 gallons per minute.

These measures will help reduce Project-related demand for potable water.

In addition, the City of Lemoore is part of the South Fork Kings Groundwater Sustainability Agency (South Fork GSA), which is under the purview of the Tulare Lake Subbasin Groundwater Sustainability Plan. According to the Sustainability Plan, several projects and management actions were chosen for the South Fork GSA as identified below:

<b>Project</b>	<b>Annualized Benefit (AF/Y)</b>	<b>Priority</b>
Groundwater Measurement and Report	1,500	High
Surface Water Delivery Improvement	5,000	High
On-Farm Improvements	2,500	Medium
Conservation Reuse	1,000	Medium

Cropping/Fallowing Program	13,000	High
<b>Demand Reduction Sub-Total</b>	<b>23,000</b>	
Aquifer Storage and Recovery	13,000	High
Surface Storage	2,000	Low
Mid-Kings Recharge Basin	7,000	Medium
<b>Supply Enhancement Sub-Total</b>	<b>22,000</b>	
<b>Total</b>	<b>45,000</b>	

The City of Lemoore, as a member of the South Fork GSA, will work with the GSA to implement the projects and management actions identified by the GSA. Upon Project approval and annexation into the City of Lemoore, the Project will be subject to the requirements of the Sustainability Plan of the South Fork GSA.

#### *City-Wide Future Estimated Water Use*

Based on the most recent information available in the City's 2015 UWMP, the amount of groundwater pumped by the City from years 2011 – 2015 is shown below.<sup>9</sup>

<u>Year</u>	<u>Groundwater Volume Pumped</u>
2011	2,289 AF
2012	2,471 AF
2013	2,579 AF
2014	2,422 AF
2015	2,076 AF

Additional information is provided below from the 2020 WMP regarding historical groundwater use in the City and is shown in gallons per capita per day (GPCD). The figures used for years 2017 – 2020 are based on the baseline average of 171 GPCD identified in the City's 2020 WMP.<sup>10</sup>

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<sup>9</sup>City of Lemoore – 2015 UWMP, page 37, table 6-1.

<sup>10</sup> City of Lemoore - 2020 Water Master Plan, page 4-5, table 4.3.



<u>Year</u>	<u>Per Capita Demand</u>
2011	166 GPCD
2012	174 GPCD
2013	191 GPCD
2014	157 GPCD
2015	128 GPCD
2016	124 GPCD
2017	171 GPCD*
2018	171 GPCD*
2019	171 GPCD*
2020	171 GPCD*

\*indicates baseline average

The City provides water distribution to approximately 26,000 residents, industrial and commercial users. The water distribution system consists of approximately 115 miles of active water pipelines, ranging from 1 to 18 inches, 10 active wells, 5 storage tanks and 4 pump stations.<sup>11</sup>

The City’s existing groundwater wells and capacity are summarized as follows:<sup>12</sup>

<u>Well Name</u>	<u>Current Status</u>	<u>Well Capacity (GPM)</u>
Well 2	Inactive	--
Well 3	Abandoned	--
Well 4	Active	1,850
Well 5	Active	1,850
Well 6	Active	1,100
Well 7	Active	1,200
Well 8	Abandoned	--
Well 9	Emergency	1,200
Well 10	Seasonal	2,000
Well 11	Active	800
Well 12	Backup	1,150
Well 13	Active	1,000
Well 14	Active	<u>1,000</u>
	<b>Total:</b>	<b>13,150</b>

Based on the capacity of the existing wells, the City is capable of producing of up to 6,912 MG per year (13,150 GPM @ 24 hours/day X 365 days per year = 6,912 MG).

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<sup>11</sup> Ibid, page 1-1.

<sup>12</sup> Ibid, page 3-1.

*Comparison of Project Demand to Water Supply Sources*

As discussed herein, the sole source of water for the City is through groundwater pumping. The 2015 UWMP indicates there are 17.1 million AF to a depth of 300 feet and 82.5 million AF to the base of fresh groundwater within the Tulare Lake Subbasin. However, the City's groundwater wells are located within the boundary of the City and much of the groundwater located in the Subbasin is not accessible to the City. Using the acreage of the existing City and a conservative estimate of 100 vertical feet of groundwater as the volume of groundwater accessible to City wells at various depths, it was calculated that the existing groundwater water supply available to the City is 178,228 million gallons (MG). It should be noted that the City has not yet determined a safe yield, but it is assumed in the 2015 UWMP that the projected groundwater supply through year 2040 is also 178,228 MG. The 2015 UWMP's projections of reasonably available water are as follows:<sup>13</sup>

<b><u>Year</u></b>	<b><u>Reasonably Available Volume</u></b>
2020	178,228 MG
2025	178,228 MG
2030	178,228 MG
2035	178,228 MG
2040	178,228 MG

It should be noted that the 178,228 MG is the estimated total volume of groundwater that is available. However, based on the City's existing water infrastructure, the City is only capable of producing up to 6,912 MG per year (13,150 GPM @ 24 hours/day X 365 days per year = 6,912 MG).

The City's 2015 UWMP assumed a City growth rate of 3.1% and provided population projections that were used for the 2015 UWMP's analysis as follows:

<b><u>Year</u></b>	<b><u>2015 UWMP Population Assumptions</u></b>
2020	29,804
2025	34,719
2030	40,445
2035	47,115
2040	54,885

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<sup>13</sup> City of Lemoore – 2015 Urban Water Management Plan, page 42.

More recent population projection information was provided in the City’s Water Master Plan (2020 WMP). The Lacey Ranch Project was identified specifically in Figure 2.2 of the 2020 WMP as a “known future development” and was included in the 2020 WMP projections. The 2020 WMP provided the following population projections:

<b><u>Year</u></b>	<b><u>2020 WMP Population Assumptions</u></b>
2020	27,089
2025	28,332
2030	29,633
2035	30,993
2040	32,416

The proposed Project would result in the development of up to 825 residential units. The City averages 3.1 persons per household, which could result in an increase of approximately 2,558 people at full Project buildout. Using the information from the 2020 WMP, the City’s current population of 27,089 residents would be increased by approximately 9.5% to 29,647 from the Project alone. Table 3.9-1 shows the City’s existing population (per the City’s 2020 WMP), the increase in population from the proposed Project, and the City’s 2020 WMP projected population in Year 2040. The last column shows the additional population that could be accommodated under the City’s 2020 WMP even with full buildout of the proposed Project.

**Table 3.9-1: WMP Population Estimates**

<b>Year 2020 Population</b>	<b>Proposed Project Population</b>	<b>Existing Plus Project Population</b>	<b>WMP 2040 Projected Population</b>	<b>Additional Population That Could Be Accommodated Under the 2020 WMP Assuming Lacey Ranch Full Buildout</b>
27,089	2,558	29,647	32,416	2,769

While other future residential developments are also likely to occur in the City, it is likely that many of the newer residents would populate the Lacey Ranch Project, as it would provide a variety of housing needs (multi-family and single-family). The City’s 2020 WMP anticipated a population of up to 32,416 people by 2040. Given the City’s current population as identified in the 2020 WMP (27,089 persons), the City could accommodate the proposed Project plus an additional 2,769 persons according to the underlying assumptions of the City’s 2020 WMP. The 2015 UWMP assumed a much larger population in 2040 of 54,885. Under that scenario, the City

could accommodate another 25,238 people (in addition to Year 2020 population + Lacey Ranch population). Based on this information, it is reasonable to assume that the Project is within the population growth projections (and associated water availability) identified in both the City's 2015 UWMP and the City's 2020 WMP.

As previously stated, the Project would require 518 AF (or approximately 169 MG) of water per year from the City's water system on an on-going basis and approximately 83 AF during construction (not on-going). The City can produce up to approximately 6,912 MG per year of potable water. The projected 2040 demand in the City is 4,830 MG, leaving a difference of 2,082 MG. At 169 MG, the Project would account for approximately 8.1% of the projected 2040 demand in the City. Since the City's 2015 UWMP has projected sufficient reasonably available volumes of water and because the Project is within the population growth assumptions (and associated water availability) identified in both the City's 2015 UWMP and 2020 WMP, there is sufficient water to serve the Project on an on-going basis.

The City's General Plan provides policies related to annexation of agricultural properties. Specifically, General Plan Policy PU-I-10 states the following: "Require that developers of agricultural land to be annexed to the City offer the water rights associated with this land to the City." The Project Applicant currently has 100 water shares (equivalent to 150 AFY) that are subject to this Policy. Mitigation Measure HYD – 1 requires evidence that the Kings County Local Agency Formation Commission (LAFCo) has approved the annexation of the project site into the City's boundaries and requires that 100 water shares be offered to the City to comply with Policy PU-I-10. In addition, the Project will be required to pay impact fees associated with connection to the City's water system. This requirement is identified in Mitigation Measure HYD – 2. With implementation of the mitigation measure, the impact is less than significant.

**Mitigation Measures:**

- HYD - 1:**
- a) Prior to issuance of grading permits or ground disturbance, the Project proponent shall provide approval of the proposed annexation into the City of Lemoore's service area.
  - b) The Project proponent shall offer the City 100 water shares (150 acre feet) of water. Documentation of the annexation and offer of water shall be provided to the City Community Development Department.

**HYD - 2:** Prior to issuance of building permits, the Project proponent shall pay water service impact fees for new development. The fee, or equivalent in-lieu, will be determined by the City of Lemoore. Evidence of the payment of impact fees shall be submitted to the City Community Development Department.

**Impact 3.9-3:** *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

- i. result in substantial erosion or siltation on- or offsite;*
- ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;*
- iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or*
- iv. impede or redirect flood flows?*

**Less Than Significant With Mitigation.** The site is currently used for agricultural purposes (most recently planted with alfalfa hay). Since the proposed Project would result in new impervious areas associated with site improvements, including new asphalt, concrete, and the proposed structures on site, the existing drainage pattern at the site would be altered. In addition, an unnamed irrigation ditch lies within 50 feet of the southeastern corner of the Project site. The Project will require a 50-foot easement for irrigation water to Lemoore Canal & Irrigation District Company as the above-ground canal along a portion of the western and southern boundary will be abandoned and relocated into an underground pipe through the Project site. The irrigation ditch is distributional from the Lemoore Canal to the east, which distributes water from the Kings River to the north. As noted in previously, the Project will be required to obtain permits in order to relocate the drainage. Mitigation Measure BIO-7 requires a delineation of the drainage and determination of jurisdiction prior to the issuance of grading permits. If the drainage is jurisdictional, additional permitting with the USACE, RWQCB, and/or CDFW is also required prior to construction activities. With implementation of BIO-7, impacts of the Project to water quality would be less than significant.

The Project site is located in “Area Two” as defined by the City’s Storm Drainage Master Plan. According to the Plan, the Project is required to construct a detention basin that would discharge on a low-flow basis to the Lemoore Canal. The proposed Project would install storm water

drainage facilities (e.g. storm drainage mechanisms and storm water pipes), the final design of which is subject to review and approval by the City of Lemoore. A storm drainage plan has been developed that includes a 4.39-acre drainage basin at the southwest corner of the site. Stormwater will be collected from the Project to this detention basin and then discharged into the City's existing storm system through a pipeline that will be constructed by the Project.

Substantial erosion, siltation or flooding are not expected to occur as the site is developed. In accordance with the NPDES Stormwater Program, and as described in the Section 3.6 - Geology and Soils, the Project will be required to comply with existing regulatory requirements to prepare a SWPPP designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. The specific controls are subject to the review and approval by the RWQCB and are an existing regulatory requirement. Implementation of Mitigation Measure GEO - 2 would ensure that the proposed Project would have a less than significant impact relative to this topic.

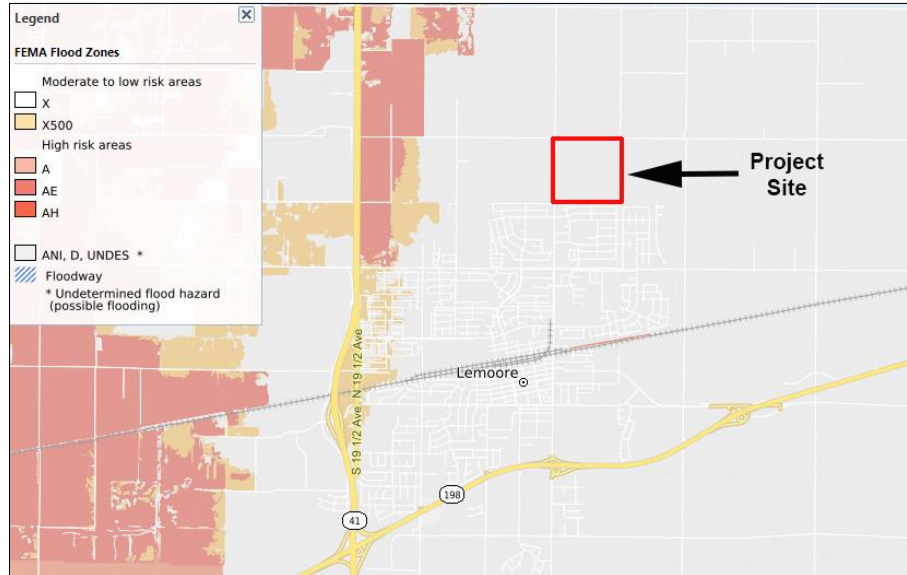
**Mitigation Measures:**

Implement Mitigation Measures BIO-7 and GEO-2

**Impact 3.9-4:** *In flood hazard, tsunami or seiche zones, risk release of pollutants due to project inundation?*

**Less Than Significant.** The Project is not located within a flood hazard area, tsunami or seiche zone. Figure 3.9-1 shows the Project site outside of any flood zones and thus does not represent a significant risk of flooding to the development. The site is also located more than 75 miles from the nearest ocean that could cause a tsunami and there are no bodies of water near the Project site that would represent any impacts related to seiche zones. Therefore, there is a less than significant impact related to flooding and related hazards.

**Figure 3.9-1  
FEMA Floodplain Map**



**Mitigation Measures:** None are required.

**Impact 3.9-5:** *Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

**Less Than Significant With Mitigation.** See the response to Impacts 3.9-1 and 3.9-4 pertaining to water quality. The proposed Project would install storm water drainage facilities (e.g. storm drainage mechanisms and storm water pipes) that would be in compliance with the City of Lemoore Development Standards. In addition, water quality protection measures are included as mitigation and the Project would be in compliance with the City's Storm Drain Master Plan. This will ensure Project water quality impacts are less than significant.

The City of Lemoore is part of the South Fork Kings Groundwater Sustainability Agency (South Fork GSA), which is under the purview of the Tulare Lake Subbasin Groundwater Sustainability Plan. According to the Sustainability Plan, several projects and management actions were chosen for the South Fork GSA as identified in Table 3.9-2.

**Table 3.9-2: South Fork GSA Conceptual Projects**

<b>Project</b>	<b>Annualized Benefit (AF/Y)</b>	<b>Priority</b>
Groundwater Measurement and Report	1,500	High
Surface Water Delivery Improvement	5,000	High
On-Farm Improvements	2,500	Medium
Conservation Reuse	1,000	Medium
Cropping/Fallowing Program	13,000	High
<b>Demand Reduction Sub-Total</b>	<b>23,000</b>	
Aquifer Storage and Recovery	13,000	High
Surface Storage	2,000	Low
Mid-Kings Recharge Basin	7,000	Medium
<b>Supply Enhancement Sub-Total</b>	<b>22,000</b>	
<b>Total</b>	<b>45,000</b>	

The City of Lemoore, as a member of the South Fork GSA, will work with the GSA to implement the projects and management actions identified by the GSA. Upon Project approval and annexation into the City of Lemoore, the Project will be subject to the requirements of the Sustainability Plan of the South Fork GSA. Mitigation Measure MM GEO-2 requires the implementation of a SWPPP, which would include BMPs designed to prevent degrading water quality. Additionally, Mitigation Measure BIO-7 requires the Project to determine if additional permitting with the USACE, RWQCB, and/or CDFW is needed prior to construction activities to maintain adequate water quality standards. With implementation of BIO-7 and GEO-2, impacts of the Project to water quality would be less than significant. Therefore, the Project will not conflict with or obstruct a sustainable groundwater management plan.

**Mitigation Measures:**

Implement of BIO-7 and GEO-2.



## Cumulative Impacts

**Cumulatively significant and unavoidable even with implementation of mitigation.** The geographic area for cumulative hydrology analysis is the land area included in the Tulare Lake Sub Basin. Buildout of the City's General Plan and other pending projects in the Basin area will contribute to changes to stormwater collection systems and groundwater quality as well as an increase in groundwater demand.

Development of the Project in combination with future projects associated with buildout of the General Plan would increase the amount of impervious surfaces in the area. Stormwater runoff is typically directed into adjacent streets where it flows to the nearest drainage system. As with the Project, each new development would be required to design and develop a stormwater collection system that ensures appropriate water quality protection measures and sufficient capacity. All projects would be required to implement Best Management Practices and to conform to the existing NPDES water quality regulations. Mitigation Measure MM GEO-2 would require the Project to prepare and implement a SWPPP in accordance with City requirements. Similarly, all projects that would not retain all runoff onsite would be required to prepare a SWPPP, which would include BMPs designed to prevent the mixture of sediment and other pollutants with stormwater and degrading water quality. The Project requires an abandonment and relocation of an irrigation canal. Additionally, Mitigation Measure BIO-7 requires a delineation of the drainage and determination of jurisdiction prior to the issuance of grading permits. Additional permitting with the USACE, RWQCB, and/or CDFW may also be required prior to construction activities to maintain adequate water quality standards. With implementation of BIO-7 and GEO-2, cumulative impacts of the Project to water quality would be less than significant. Therefore, cumulative impacts associated with stormwater collection and water quality is less than significant.

With respect to erosion, drainage, and flooding, the project would implement Mitigation Measure MM BIO-7 and GEO-2 would minimize direct impacts on erosion, drainage, and flooding. It is anticipated that other cumulative scenario projects would be required to implement similar measures, in order to minimize erosion, drainage, and flooding related impacts. Additionally, drainage related impacts from cumulative scenario projects would be primarily localized. Therefore, cumulative scenario impacts on erosion, drainage, and flooding are not anticipated to be cumulatively considerable, and the project would not contribute to a cumulative impact on flooding, erosion, or drainage.

The City of Lemoore utilizes groundwater as its sole source of potable water. As identified herein and in the SB 610 Water Supply Assessment, the City anticipates being able to provide adequate potable water to the City through year 2040. However, development of the Project in combination

with future projects within the Basin would increase the amount of overdraft in the Basin. The City of Lemoore is part of the South Fork GSA, which is under the purview of the Tulare Lake Subbasin Groundwater Sustainability Plan. According to the Sustainability Plan, several projects and management actions were chosen for the South Fork GSA as identified herein. As the City of Lemoore will provide water to the proposed Project (upon approval), the Project will be subject to the requirements of the GSA. The projects identified by the South Fork GSA are intended to achieve groundwater balance.

Mitigation Measure HYD – 1 requires evidence that the Kings LAFCo approved the annexation of the Project site into the City’s boundaries and requires that 100 water shares be offered to the City to comply with Policy PU-I-10. HYD-2 requires the payment of water service impact fees to reduce Project impacts to the City’s water system. However, despite the implementation of mitigation, the proposed Project’s water use, in combination with other cumulative scenario projects requiring water from the Tulare Lake Subbasin (Groundwater Basin No. 5-022.12) during the same time frame, would result in *cumulatively considerable and unavoidable significant impacts* to groundwater supplies in the Basin.

### 3.10 Land Use and Planning

This section of the DEIR evaluates the potential environmental effects related to land use and planning associated with implementation of the proposed Project.

#### **Environmental Setting**

The proposed Project is located on approximately 156-acres immediately north of the City of Lemoore (City) in Kings County and is bounded by West Lacey Blvd to the north and 18th Avenue to the west. State Route (SR) 41 is located approximately 1.7 miles to the west and SR 198 lies approximately 2.2 miles south of the Project site (See Figures 2-2 and 2-3 in Chapter Two – Project Description). The general latitude and longitude for the Project site is 36.192795° and 119.463438°.

The proposed Project will be constructed on Assessor's Parcel Number 021-030-057-000. The Project applicant is proposing to subdivide and develop 156 acres of undeveloped land into an 825-unit planned residential community with a mix of single-family and multi-family housing units. Approximately one-third of the site (the southern one-third) is within the City's Sphere of Influence (SOI) and has been planned for development, while the remaining two-thirds are currently outside the SOI. The site is proposed for annexation into the City limits of Lemoore.. A City municipal well is located adjacent to the southwest site boundary. The site is located in the Kings River Conservation District

The Project includes the construction of a 4.39-acre storm drain basin and will require connection to various City-operated systems. These include sewer, water and storm drain facilities. The Project will be responsible for construction of connection points to the City's existing infrastructure. The Project also includes improvements and landscaping along the frontage roads and within the site itself. The Project includes a 50' easement for irrigation water to Lemoore Canal & Irrigation District Co. as the canal along a portion of the western and southern boundary will be abandoned and relocated

The Project site is currently designated as Limited Agriculture – 10 Acres in the Kings County General Plan and zoned AL-10 (Limited Agriculture – 10 Acres) by the Kings County Zoning Ordinance. The southern one-third of the Project site is designated as "Agricultural/Rural Residential" in the City's General Plan. The parcel has been used for commercial agricultural purposes as recently as spring of 2021, specifically for cultivation of alfalfa. The parcel is identified as Prime Farmland by the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP). FMMP classifies Prime Farmland as farmland with the best

combination of physical and chemical features able to sustain long term agricultural production. The FMMP map for the County identifies areas to the north, east and west as primarily Prime Farmland, with much smaller regions of Unique Farmland, Semi-Agricultural and Rural Commercial Land and Rural Residential Land interspersed. The City of Lemoore lies immediately south and is classified as Urban and Built-Up Land. The Project parcel is currently under a Williamson Act Contract, as described in Chapter 3.1 – Agriculture and Forestry Resources.

Existing land uses surrounding the Project site (currently in alfalfa cultivation) consist of farmland/ agricultural operations, rural residential housing, and intensive residential development to the south.

The Project developer has applied to the City for approval of the annexation of 156 acres from unincorporated Kings County into the City of Lemoore, approval of General Plan Amendment, approval of Zone Change, adoption of Lacey Ranch Master Plan through a Planned Unit Development, approval of Tentative Tract Map, approval of Major Site Plan Review, and the issuance of Grading / Building Permits. The Project would provide housing for the community of Lemoore and the surrounding areas.

## **Regulatory Setting**

### Federal Regulations

There are no federal regulations pertinent to local land use and planning.

### State of California Regulations

#### *The Cortese-Knox-Hertzberg Local Government Reorganization Act*

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Government Code Section 56300 et seq.) governs the establishment and revision of local government boundaries. The Act was a comprehensive revision of the Cortese-Knox-Hertzberg Local Government Reorganization Act of 1985. The Act is a policy of the state to encourage orderly growth and development that are essential to the social, fiscal, and economic well-being of the state. The intent of the Act is to promote orderly development while balancing competing state interests of discouraging urban sprawl, preserving open space and prime agricultural lands, and efficiently extending government services. The Act had previously established the County Local Agency Formation Commission (LAFCO), which gave it authority to consider and approve city and special district annexation, dissolution, and formation.

### *California Land Conservation Act*

The California Land Conservation Act, better known as the Williamson Act, was enacted by the State Legislature in 1965 to encourage the preservation of agricultural lands. Under the provisions of the act, landowners agreeing to keep their lands under agricultural production for a minimum of ten years receive property tax adjustments. Williamson Contracts limit the use of the properties to agricultural, open space, and other compatible use, Williamson Act lands are assessed based on their agricultural value, rather than their potential market value under nonagricultural uses.

### Local Regulations

#### *Local Agency Formation Commission of Kings County*

Local Area Formation Commissions (LAFCOs) review proposals for the formation of new local governmental agencies and for changes in the organization of existing agencies. The LAFCO of Kings County assists in balancing the competing needs in the region for efficient services, affordable housing, economic opportunity, and conservation of natural resources. In addition, the LAFCO of Kings County considers effects that development may have on existing agricultural land and also discourages urban sprawl (i.e. irregular and disorganized growth occurring without apparent design or plan).

#### *City of Lemoore General Plan*

The City of Lemoore's General Plan is the City's long-range planning document, to the year 2030. It consists of nine chapters: Introduction; Land Use; Community Design; Circulation; Parks, Schools and Community Facilities; Public Utilities; Conservation and Open Space; Safety and Noise; and Implementing and Monitoring. The Land Use Chapter presents the guiding principles of the land use framework, the General Plan Diagram, the land use classification system, and the buildout of this Plan to the year 2030.<sup>1</sup>

#### *City of Lemoore General Plan Policies*

**Note:** The General Plan policies listed on the following page are only from the Land Use Element of the City's General Plan. For the list of other applicable General Plan policies (e.g. Community Design, Circulation, Public Utilities, etc.), please refer to Table 3.10-2 for a list

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<sup>1</sup> City of Lemoore General Plan, 2030. Land Use Chapter. [https://lemoore.com/wp-content/uploads/2018/01/lemoore\\_gp\\_ch2\\_land\\_use\\_3\\_20\\_2012.pdf](https://lemoore.com/wp-content/uploads/2018/01/lemoore_gp_ch2_land_use_3_20_2012.pdf). Page 1. Accessed June 2021.

of all applicable General Plan policies and associated Project consistency determination. Relevant General Plan Land Use Element policies are as follows:

- LU-G-1** Promote a sustainable, balanced land use pattern that satisfies existing needs and safeguards future needs of the City.
- LU-G-3** Ensure that new development provides for infrastructure, schools, parks, neighborhood shops, and community facilities in close proximity to residents.
- LU-G-4** Provide for residential development with strong community identity, appropriate and compatible scale, identifiable centers and edges and well-defined public spaces for recreation and civic activities.
- LU-G-5** Provide for a full range of housing types and prices within each neighborhood, including minimum and maximum requirements for traditional and small-lot single family homes, townhouses, duplexes, triplexes, and multi-family housing to ensure that the economic needs of all segments of the community are met and a jobs-housing balance is provided.
- LU-G-6** Provide for a transition between higher density and lower density residential areas, or require buffers of varying size between residential uses and nonresidential uses without restricting pedestrian and bicycle access.
- LU-G-12** Provide appropriate settings for a diverse range of civic, institutional and community land uses.
- LU-I-4** Require Contiguous development within the SOI unless it can be demonstrated that land which is contiguous to urban development is unavailable or development is economically infeasible.

**LU-I-7** Create, maintain, or upgrade Lemoore’s public and private infrastructure to support future land use and planned development under the General Plan.

*Infrastructure needs include fiber optic and/or wireless communications systems, along with streets, water, sewer, electricity, natural gas, telephone, and cable.*

**LU-I-8** Require new development to pay its fair share of the costs of public infrastructure, services and transportation facilities, in accordance with State law.

*These may include parks, fire and police stations, schools, utilities, roads or other needed infrastructure.*

**LU-I-9** Allow development only when adequate public facilities and infrastructure are available or planned in conjunction with use, consistent with the traffic level of service (LOS) standards and standards for public facilities and services established in this Plan.

**LU-I-10** Ensure new neighborhoods include a mix of housing types and community facilities oriented to a neighborhood center, in a land use mix consistent with Table 2.2 and Table 2.4 in the Land Use Chapter.

*A neighborhood will be defined by the local street system and typically include 100-160 acres. New zoning regulations for residential neighborhoods will include specific standards for housing types, including spacing criteria, to ensure that a full range of housing is provided and that large projects with only a single type of housing are not built. The City also hopes that this housing mix can be achieved within the existing residential areas as well, through infill development. This policy would not apply to neighborhoods with approved area plans or subject to development agreements or to infill development on sites less than 100 acres in size.*

- LU-I-11** Require a centrally located neighborhood square or “commons” within each new residential neighborhood that will serve as a focal point for the surrounding community.
- Centers are concentrations of activity and uses that serve a neighborhood function. They are located within close proximity and easy walking distance to adjacent residences, generally no more than ½ mile away. Squares should be at 25,000 square feet in size and include outdoor seating and other pedestrian amenities.*
- LU-I-12** Ensure that the scale, operation, location, and other characteristics of community facilities, including parks, schools, child care facilities, religious institutions, other public and quasi-public facilities, enhance the character and quality of neighborhoods.
- LU-I-13** Require new residential development adjacent to established neighborhoods to provide a transition zone where the scale, architectural character, pedestrian circulation and vehicular access routes of both new and old neighborhoods are well integrated.
- LU-I-14** Require multi-family developments be planned near existing or projected neighborhood centers and open space, and be located within ¼ mile of a collector or arterial street.
- LU-I-17** Utilize the Agricultural/Rural Residential designated areas as a mechanism for preserving active agricultural land and buffering urban uses from agricultural uses.
- LU-I-41** Ensure adequate elementary and high school sites are reserved in new subdivisions, consistent with the Land Use Diagram and State law.
- LU-I-42** Designate land for public uses to be maintained through capital projects for parks and open spaces, police and fire services, water and sanitary facilities, infrastructure and other City services.



**LU-I-43** Promote the development of community facilities accessible to both vehicles and pedestrian.

### Lemoore Zoning Ordinance

The Lemoore Zoning Ordinance establishes regulations governing the development and use of land in accordance with the City of Lemoore general plan (general plan) in a manner that protects the public health, safety, comfort and convenience, and welfare of residents and businesses of Lemoore. The zoning code provides information to facilitate the efficient review of development proposals, while providing opportunity for public review and comment for proposals that may have a significant impact on the community.

### Kings County Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)

The Regional Transportation Plan (RTP) covers a 25-year period and is the long-range planning, policy, action, financial, and sustainability document for the Kings County region. Kings County Association of Governments (KCAG) is required to develop a comprehensive long-range planning document or RTP every four years. The RTP establishes regional goals, identifies present and future needs, deficiencies and constraints, and fiscally constrained infrastructure improvements. The RTP discusses the major transportation issues in the Kings County region including state highways, transportation systems management, and transportation control measures.

The RTP represents an accumulation of all the plans and programs adopted by the local agencies, including the cities of Avenal, Corcoran, Hanford, and Lemoore in addition to the unincorporated communities of Kings County. The most recently adopted Kings County RTP is from 2018.

The Sustainable Communities Strategy (SCS), required by Senate Bill 375 (SB 375), is a component of the RTP and is a strategy for the region that will demonstrate how it will meet the greenhouse gas (GHG) emissions targets that are set by the state.

## **Thresholds of Significance**

In accordance with Appendix G to the State CEQA Guidelines, the project would have a significant impact on land use as follows:

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

The lead agency determined in the Notice of Preparation/Initial Study (NOP/IS), located in Appendix A of this EIR, that the following environmental issue areas would result in no impacts or less-than-significant impacts and, therefore, are scoped out of this EIR. Thus, the following issue area is scoped out of further analysis in this EIR:

- Physically divide an established community?

The components of the Project would be developed on undeveloped land that has been historically used for agricultural uses. Land uses surrounding the Project site are primarily agricultural production. The proposed Project is located just north of the Lemoore City limits and would be adjacent to existing residential development on the south. The Project would not divide or physically impact the established community but would provide a variety of housing opportunities with a range of densities, styles, sizes and values that will be designed to satisfy existing and future demand for quality housing in the area. The Project will also provide local vehicular and pedestrian access points from the Project site to existing urban development to the south. Therefore, the Project will not physically divide an established community.

## Impacts and Mitigation Measures

**Impact 3.10-1:** *Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

**Less Than Significant.** The City of Lemoore General Plan and Zoning Ordinance establish land use policies and regulations that are applicable to the proposed Project. Upon annexation, the Project will be subject to the land use plans, policies and regulations of these documents. The following discussion evaluates the conformity of the proposed Project to these plans, policies and regulations.

The site is partially designated by the City of Lemoore General Plan for future residential uses and is currently zoned as Limited Agricultural-10 District (AL-10) by Kings County. Approximately one-third of the site (the southern one-third) is within the City's Sphere of Influence (SOI) while the remaining two-thirds are currently outside the SOI. The entire site is proposed for annexation into the City limits of Lemoore. The site is proposed to be converted

from agriculturally designated land to residential/parks/drainage basin land uses. Table 3.10-1 depicts the specific proposed land use designations and zone districts of the proposed Project.

**Table 3.10-1: Proposed Land Use and Zoning Designations**

<b>Proposed Land Use</b>	<b>Proposed Land Use Designation</b>	<b>Proposed Zone District</b>
Single Family lots	Low Density Residential	RLD – Low Density Residential
12 unit per acre multifamily	Medium Density Residential	RMD – Medium Density Residential
20 unit per acre multifamily	High Density Residential	RHD – High Density Residential
Parks	Parks/Recreation	PR – Parks/Recreation
Storm drainage basin	Greenway/Detention Basin	PR – Parks/Recreation

The Project area has been in active agricultural production and is proposed for an 825-unit single and multi-family development, with the approval of the following actions:

- Annex approximately 156 acres from Kings County into the City of Lemoore
- Approve a General Plan Amendment
- Approve a Zone Change
- Adopt the Lacey Ranch Area Master Plan through a Planned Unit Development
- Approve the Project’s Tentative Tract Map
- Amend Sphere of Influence

Consistency with Zoning Ordinance

Once annexed into the City, the Project site will be zoned for residential and parks/recreation as identified in Table 3.10-1. These zone districts are appropriate for uses such as those proposed by the Project. Therefore, upon annexation, the Project site will be consistent with the City’s Zoning Ordinance.

Consistency with Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)

The Project will result in less than significant impacts to greenhouse gas emissions as indicated in 3.7 – Greenhouse Gases and would therefore be in compliance with the SCS. The Project would not otherwise conflict with the RTP.

Consistency with the General Plan

The site is partially designated by the City of Lemoore General Plan for future residential uses and is currently zoned as Limited Agricultural-10 District (AL-10) by Kings County. Approximately one-third of the site (the southern one-third) is within the City’s Sphere of Influence (SOI) while the remaining two-thirds are currently outside the SOI. The entire site is proposed for annexation into the City limits of Lemoore. Table 3.10-2 summarizes the proposed Project’s consistency with the applicable goals and policies of the City’s General Plan. As demonstrated in the table, the proposed Project would be consistent with the applicable goals and policies of the General Plan.

**Table 3.10-2  
General Plan Consistency Analysis**

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
<b>Land Use</b>	LU-G-1	Promote a sustainable, balanced land use pattern that satisfies existing needs and safeguards future needs of the City.	<b>Yes:</b> The Project is bordered to the south by existing residential development and will result in a contiguous pattern of residential development.
<b>Land Use</b>	LU-G-3	Ensure that new development provides for infrastructure, schools, parks, neighborhood shops, and community facilities in close proximity to residents.	<b>Yes:</b> The Project will provide the necessary infrastructure for the development. In addition, the Project provides park space/trails will pay school and park fees associated with the development. The development is located approximately 1.1 miles from downtown Lemoore with intervening commercial facilities that can be utilized by future residents of the Project.
<b>Land Use</b>	LU-G-4	Provide for residential development with strong community identity, appropriate and compatible scale,	<b>Yes:</b> The development has been designed so that all structures will conform to

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
		<p>identifiable centers and edges and well-defined public spaces for recreation and civic activities.</p>	<p>design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project includes recreational facilities and a layout/design that is of appropriate scale and is compatible with the area.</p>
<b>Land Use</b>	LU-G-5	<p>Provide for a full range of housing types and prices within each neighborhood, including minimum and maximum requirements for traditional and small-lot single family homes, townhouses, duplexes, triplexes, and multi-family housing to ensure that the economic needs of all segments of the community are met and a jobs-housing balance is provided.</p>	<p><b>Yes:</b> The Project provides a variety of single and multi-family housing types. The development has been designed so that all structures will conform to design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards.</p>
<b>Land Use</b>	LU-G-6	<p>Provide for a transition between higher density and lower density residential areas or require buffers of varying size between residential uses and nonresidential uses without restricting pedestrian and bicycle access.</p>	<p><b>Yes:</b> The Project’s multi-family component is consolidated at the southwestern corner of the site. This component is buffered from single family residential by roadways and/or block walls. A trail is proposed adjacent to the multi-family development and access to pedestrian and bicycle facilities will not be impacted.</p>
<b>Land Use</b>	LU-G-12	<p>Provide appropriate settings for a diverse range of civic, institutional and community land uses.</p>	<p><b>Yes:</b> The Project provides a four parks for a total of 7.9 acres and 1.64 acres of trail area throughout the</p>

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
			development. There is no institutional component of the Project.
<b>Land Use</b>	LU-I-4	Require contiguous development within the SOI unless it can be demonstrated that land which is contiguous to urban development is unavailable or development is economically infeasible.	<b>Yes:</b> The Project is proposing to amend the SOI. However, development will be contiguous to the existing urban development to the south.
<b>Land Use</b>	LU-I-7	Create, maintain, or upgrade Lemoore’s public and private infrastructure to support future land use and planned development under the General Plan	<b>Yes:</b> The Project will either construct or pay their fair share of required infrastructure improvements.
<b>Land Use</b>	LU-I-8	Require new development to pay its fair share of the costs of public infrastructure, services and transportation facilities, in accordance with State law.	<b>Yes:</b> The Project will either construct or pay their fair share of required infrastructure improvements, including for transportation facilities.
<b>Land Use</b>	LU-I-9	Allow development only when adequate public facilities and infrastructure are available or planned in conjunction with use, consistent with the traffic level of service (LOS) standards and standards for public facilities and services established in this Plan.	<b>Yes:</b> LOS standards will be maintained with implementation of mitigation measure TRA-1.
<b>Land Use</b>	LU-I-10	Ensure new neighborhoods include a mix of housing types and community facilities oriented to a neighborhood center, in a land use mix consistent with Table 2.2 and Table 2.4 in the Land Use Chapter.	<b>Yes:</b> The Project provides a mix of single and multi-family development. At the center of the development is a public park (approximately 4.09 acres). The development is located approximately 1.1 miles from downtown Lemoore with intervening

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
			commercial facilities that can be utilized by future residents of the Project.
<b>Land Use</b>	LU-I-11	Require a centrally located neighborhood square or “commons” within each new residential neighborhood that will serve as a focal point for the surrounding community.	<b>Yes:</b> At the center of the development is a public park (approximately 4.09 acres). This public area will serve as a focal point of the development.
<b>Land Use</b>	LU-I-12	Ensure that the scale, operation, location, and other characteristics of community facilities, including parks, schools, child care facilities, religious institutions, other public and quasi-public facilities, enhance the character and quality of neighborhoods.	<b>Yes:</b> The Project does not include any institutional facilities or public facilities other than parks. The Project includes a total of four parks for a total of 7.9 acres and 1.64 acres of trail area. These are appropriately scaled for the size of the development and will enhance the quality of the neighborhood.
<b>Land Use</b>	LU-I-13	Require new residential development adjacent to established neighborhoods to provide a transition zone where the scale, architectural character, pedestrian circulation and vehicular access routes of both new and old neighborhoods are well integrated.	<b>Yes:</b> The Project will have similar scale, character and vehicular routes as existing residential development in the area. There will be no access roads to the existing residential development to the south. Access will be from 18 <sup>th</sup> Avenue and Lacey Boulevard.
<b>Land Use</b>	LU-I-14	Require multi-family developments be planned near existing or projected neighborhood centers and open space, and be located within ¼ mile of a collector or arterial street.	<b>Yes:</b> The multi-family developments will occur in the southwest corner of

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
			<p>the Project site in close proximity to park space in the middle of the development. The multi-family component is within ¼ mile of an arterial street (18<sup>th</sup> Ave./Lemoore Ave. is designated as an arterial south of Glendale Ave.</p>
<b>Land Use</b>	LU-I-17	Utilize the Agricultural/Rural Residential designated areas as a mechanism for preserving active agricultural land and buffering urban uses from agricultural uses	<p><b>Yes:</b> The Project site is currently designated as Agricultural/Residential. This area was partially intended for future residential development by the City’s General Plan, (for uses such as proposed by the Project). The Project will require a General Plan Amendment and a Zone Change upon annexation. The areas to the north, east and west of the Project site will remain in their current agricultural designations. The Project would result in contiguous urban development (there is existing residential to the south) and would provide an appropriate buffer between urban and agricultural land uses.</p>
<b>Land Use</b>	LU-I-41	Ensure adequate elementary and high school sites are reserved in new subdivisions, consistent with the Land Use Diagram and State law.	<p><b>Yes:</b> There are no school sites designated within the development, as none were determined to be necessary. To mitigate the</p>



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			Project’s impacts to schools, the Project is required to pay impact fees as determined by the School District and the State Allocation Board.
<b>Land Use</b>	LU-I-42	Designate land for public uses to be maintained through capital projects for parks and open spaces, police and fire services, water and sanitary facilities, infrastructure and other City services.	<b>Yes:</b> The Project includes a 4.39 acre detention basin within the development. In addition, the Project includes a total of four parks for a total of 7.9 acres and 1.64 acres of trail area.
<b>Land Use</b>	LU-I-43	Promote the development of community facilities accessible to both vehicles and pedestrians.	<b>Yes:</b> The Project includes a total of four parks for a total of 7.9 acres and 1.64 acres of trail area. These will be accessible to the public (both pedestrian access and on-street parking for vehicles to access the facilities).
<b>Community Design</b>	CD-G-4	Create a well-connected hierarchy of streets that serve existing and planned neighborhoods, and strengthen the visual and aesthetic character of the City.	<b>Yes:</b> The Project is designed with short blocks, traffic calming features, and curved roadways that provide connectivity within the development and improve the visual character of the development.
<b>Community Design</b>	CD-G-5	Create a comfortable street environment for motorized and non-motorized users.	<b>Yes:</b> The Project is designed with short blocks, traffic calming features, curved roadways, and a trail

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			system that is easy to navigate for both pedestrians and vehicle.
<b>Community Design</b>	CD-G-11	Encourage development of diverse and distinctive neighborhoods.	<b>Yes:</b> The Project provides a mix of housing types, street layouts, and recreational facilities.
<b>Community Design</b>	CD-G-12	Develop a sense of neighborhood identity through design elements and neighborhood focal points, such as commercial areas, schools, parks, community centers, or a combination of these elements.	<b>Yes:</b> At the center of the development is a public park (approximately 4.09 acres). This public area will serve as a focal point of the development. In addition, other smaller parks and trails will enhance the sense of neighborhood identity in the development.
<b>Community Design</b>	CD-G-13	Ensure that new street networks are coherent and provide multimodal access within and between neighborhoods.	<b>Yes:</b> The Project is designed with short blocks, traffic calming features, curved roadways, and a trail system that is easy to navigate for both pedestrians and vehicle.
<b>Community Design</b>	CD-G-15	Foster an efficient and comprehensive outdoor lighting system.	<b>Yes:</b> The development has been designed so that all lighting will conform to design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards.
<b>Community Design</b>	CD-I-2	Maintain views into the agricultural lands on the rural side of the roadways by not planting within the right-of-way and spacing trees farther apart.	<b>Yes:</b> The development is subject to City review/approval based on

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
			design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. This includes placement of landscaping.
<b>Community Design</b>	CD-I-3	Work with the Lemoore Canal and Irrigation Company and other canal companies to retain open canals and restore the Lemoore Canal to its natural appearance, and study the possibility of providing a bicycle trail along the canal.	<b>Yes:</b> A short segment of an existing open canal located at the southeast corner will be piped (underground). The canal is not located in an area that would substantially benefit from keeping the canal “open” since this small section of the canal is located in a rural area and would not be suitable for an adjacent trail. However, the Project will construct a trail within the development.
<b>Community Design</b>	CD-I-4	Maintain scenic vistas to the Coalinga Mountains, other natural features, and landmark buildings.	<b>Yes:</b> Views of the Coalinga Mountains or other natural features will not be substantially impeded by the Project. Due to the lack of existing viewpoints surrounding the Project site, and given the scale of the Project, it is not anticipated that the Project would disrupt existing views of these resources.
<b>Community Design</b>	CD-I-10	Incorporate roundabouts as an alternative to signals and stop signs, and provide landscaping and other aesthetically appealing features in them where appropriate.	<b>Yes:</b> Although the Project does not include roundabouts (as none

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			were deemed necessary), the Project does include “traffic circles” that will serve as a “traffic calming device” and are more aesthetically pleasing than stop signs.
Community Design	CD-I-11	Preserve and protect heritage trees.	<b>Yes:</b> There are no heritage trees that require removal.
Community Design	CD-I-14	Continue the City’s utility undergrounding program to replace existing wooden utility poles and overhead lines with underground utility lines along major thoroughfares, and require undergrounding of utilities in all new development.	<b>Yes:</b> The Project is required to install utilities underground.
Community Design	CD-I-44	<p>Ensure that new residential development enhances Lemoore’s neighborhood character and connectivity by establishing the following standards in the subdivision ordinance:</p> <ul style="list-style-type: none"> <li>○ Maximum block length: 500 feet, except for blocks with single-family residential uses that may be up to 600 feet long (750 feet with a mid-block pedestrian connection);</li> <li>○ Required connectivity: All new streets and alleys must connect to other streets and alleys to form a continuous vehicular and pedestrian network. Local, internal streets should be narrow and designed with traffic calming features to control speed.</li> <li>○ Cul-de-sacs: Limit use of cul-de-sacs to no more than ten percent of the length of all streets in a subdivision map, where constrained by surrounding land attributes.</li> <li>○ Loop-outs: Encourage use of loop-out streets rather than cul-de-sacs.</li> </ul>	<b>Yes:</b> The development is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The City has reviewed the site layout and determined that it is adequate.
Community Design	CD-I-45	<p>Establish residential design guidelines for new subdivisions to include but not be limited to:</p> <ul style="list-style-type: none"> <li>○ Require use of varied massing and roof types, floor plans, detailed planting design or color and materials. Maintain overall harmony while providing smaller-scale variety;</li> </ul>	<b>Yes:</b> The development is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance,

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
		<ul style="list-style-type: none"> <li>○ Require building facades with distinctive architectural features like windows, chimneys, and other such elements. Use articulation of building massing to reveal internal organization of building elements such as stairs and atriums, internal gathering spaces and major interior spaces;</li> <li>○ Require corner buildings to have wrap-around façade architectural details; and</li> <li>○ For single-family housing: Ensure adjacent units are different in size, composition and/or design. Designs used in a subdivision should be substantially different from one another so that no plan/elevation should look similar to another.</li> <li>○ Homes built in pre-existing neighborhoods should be built in similar scale and design to existing neighborhood as determined by the Planning Department.</li> </ul>	<p>Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.</p>
<p><b>Community Design</b></p>	<p>CD-I-46</p>	<p>Require a mix of housing types and community-oriented facilities within multifamily zoning districts. New multifamily residential development should meet the following design criteria:</p> <ul style="list-style-type: none"> <li>○ Minimum 20-foot landscaped yards between streets and parking areas;</li> <li>○ Parking frontages limited to no more than 25 percent of lot frontages;</li> <li>○ Carport and garage designs that match building designs;</li> <li>○ Carport locations restricted such that they are not highly visible from public streets; and portable carport covers be prohibited;</li> <li>○ Open space such that each dwelling unit has at least 400 square feet of on-site open space, which may be private open space provided by balconies or patios, or common open space;</li> <li>○ Common open space for all ages, including tot lots;</li> <li>○ At least 50 percent of open space shall be landscaped;</li> <li>○ Buffer landscaping, at least 10 feet deep shall be provided along the project perimeter where adjacent to sensitive</li> </ul>	<p><b>Yes:</b> The Project includes a mix of housing types (single and multi-family) and will provide recreational facilities in the form of parks and trails. The development is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards.</p>

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		<p>uses (usually referred to as a ‘buffer area’);</p> <ul style="list-style-type: none"> <li>○ Architecturally interesting buildings that are not bulky and “box-like.” This can be created by requiring variable roof forms in building designs and limiting the dimension of any single building to 125 feet;</li> <li>○ Building entries to have roofed projections or recessed entries;</li> <li>○ Roof-mounted mechanical equipment should be screened or incorporated into a roof design or, if this cannot be done, such equipment must be groundmounted on the interior side or in the rear of the lot; and</li> <li>○ Pedestrian access provided by walkways to link residential units with other units and with recreational and other facilities within a project.</li> </ul>	
<b>Community Design</b>	CD-I-47	Discourage gated communities that restrict public access to multi-family and single family residential areas but permit only if they do not result in cutting off critical access between neighborhoods in accordance with thresholds, standards, and design criteria and conditional use permit process described in the Zoning Ordinance consistent with other General Plan policies. Small town character should remain an important factor throughout the design of any proposed gated community.	<b>Yes:</b> The Project does not include any gated communities.
<b>Community Design</b>	CD-I-48	Minimize the visual dominance of garages by establishing specific standards in the Zoning Ordinance, including: <ul style="list-style-type: none"> <li>○ Limiting the front width of a house that can be occupied with a garage to be no more than one-half the building width;</li> <li>○ Encourage garage setbacks from the front façade, permitting a range of setbacks none of which may extend more than 5 feet in front of the building;</li> <li>○ Requiring additional setback or off-setting of such garages if more than a two-car garage entrance is provided;</li> <li>○ Encouraging use of alleys in new development, with garages accessed from the rear, yet maintain backyards; and</li> <li>○ Incorporating design elements on the second level above the garages such as accessory dwelling units, bay windows or balconies.</li> </ul>	<b>Yes:</b> The development is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.

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Community Design	CD-I-50	Require all new multi-family developments submit plans for trash enclosures for design review approval.	<b>Yes:</b> The development is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.
Community Design	CD-I-51	Require residential neighborhoods to incorporate architecture and site plan considerations into the design and location of cluster mailboxes to ensure design compatibility and increase social contact in the neighborhood.	<b>Yes:</b> The development is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.
Community Design	CD-I-53	Require new housing to provide transitions between the street and building, with variable front setbacks, building articulation and massing.	<b>Yes:</b> The development is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.
Community Design	CD-I-54	Design local streets not only to accommodate traffic, but also to serve as comfortable pedestrian environments. These should include, but not be limited to: <ul style="list-style-type: none"> <li>○ Along Arterial, Parkway, and Collector Streets, street tree planting adjacent to curb between the street and sidewalk (the “parkway strip”) to provide a buffer</li> </ul>	<b>Yes:</b> The proposed Project roadway network has been designed to accommodate the traffic anticipated by the Project. The development

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		<p>between the pedestrian and the automobile, as well as in the landscaped buffer between the sidewalk and adjacent buildings/walls, where appropriate.</p> <ul style="list-style-type: none"> <li>○ Along Local Streets, provide a landscape parkway between the curb and back of walk. Additionally, provide a street tree at the rate of one per single family dwelling unit or 30 feet for other uses. This street tree may be located either within the parkway, behind the sidewalk within the utility easement, or in the front yard setback at the choice of the developer or property owner.</li> <li>○ Sidewalks on both sides of streets.</li> </ul>	<p>also includes 1.64 acres of trail area. The development is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.</p>
<b>Community Design</b>	CD-I-55	Promote use of design elements that signify neighborhood identity.	<p><b>Yes:</b> The Project provides a mix of housing types, street layouts, and recreational facilities that will enhance the neighborhood identity. The development is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.</p>
<b>Community Design</b>	CD-I-56	<p>Include the following standards and regulations for fences and walls in residential areas in the Zoning Ordinance:</p> <ul style="list-style-type: none"> <li>• Fences located in front yards shall be limited to no more than 3’ in height with at least 50% permeability in front of the main building structure. Chain link fences shall be allowed in this area; <ul style="list-style-type: none"> <li>○ Fences along interior side or rear yards can be solid up to 7’ so long as they are located behind the main building structure(s) along the property line of interior lots.</li> </ul> </li> </ul>	<p><b>Yes:</b> The development is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to</p>



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		<ul style="list-style-type: none"> <li>○ Fences on corner lots can install solid architecturally detailed side yard fences taller than 3’ once they are even or in back of the main structure and placed at least 3’ behind the back sidewalk. Landscaping shall be required between the sidewalk and the fence and properly maintained by the owner. If proposed fencing placement would obstruct sight lines for vehicular traffic causing a hazardous traffic condition, the location must be altered. Chain link fence shall not be allowed in this area;</li> <li>○ Properties that abut existing perimeter subdivision walls or fences facing public streets must use materials and height consistent with adjacent or abutting neighbors and get approval from the Planning Department prior to installation;</li> <li>○ New single family subdivision shall only use decorative masonry perimeter walls/fences when abutting arterial streets, highways, commercial or industrial zone land, or areas where such installation is needed to adequately reduce noise impacts to acceptable levels;</li> <li>○ Gated communities that restrict public access to multi-family and singlefamily residential areas are prohibited.</li> <li>○ Trash containers shall be kept behind solid fences or landscaping to screen from public view, with appropriate access for cleaning and refuse removal.</li> </ul>	<p>adhere to this Implementing Policy.</p>
<p><b>Community Design</b></p>	<p>CD-I-57</p>	<p>Require new developments to incorporate security and defensible space considerations in the design of residential units and neighborhoods.</p>	<p><b>Yes:</b> The development is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.</p>

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<b>Community Design</b>	CD-I-58	<p>Require new development to incorporate passive heating and natural lighting strategies if feasible and practical. These strategies should include, but are not limited to, the following:</p> <ul style="list-style-type: none"> <li>○ Using building orientation, mass and form, including façade, roof, and choice of building materials, color, type of glazing, and insulation to minimize heat loss during winter months and heat gain during summer months;</li> <li>○ Designing building openings to regulate internal climate and maximize natural lighting, while keeping glare to a minimum; and</li> <li>○ Reducing heat-island effect of large concrete roofs and parking surfaces.</li> </ul>	<p><b>Yes:</b> The development is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.</p>
<b>Community Design</b>	CD-I-59	<p>Require new development to reduce storm water run-off, control water pollution, and promote water recharge through sustainable hydrological design. Measures should include, but are not limited to, the following:</p> <ul style="list-style-type: none"> <li>○ Reducing imperviousness by limiting building footprint, using permeable paving or landscaping to break up expanses of impervious surfaces;</li> <li>○ Using canopy trees or shrubs to absorb rainwater and slow water flow;</li> <li>○ Removing curbs and gutters from streets and parking areas, where appropriate, to allow storm water sheet flow into vegetated areas;</li> <li>○ Incorporating drainage design into the infrastructure, including roof downspouts, retention cells, or infiltration trenches, to filter and direct storm water into vegetated areas or water collection devices; and</li> <li>○ Requiring the installation of sub-surface water retention facilities (for large development) to capture rainwater for use in landscape irrigation and nonpotable uses.</li> </ul>	<p><b>Yes:</b> The Project has been designed to accommodate anticipated stormwater runoff from the Project site. A 4.39 acre basin will be installed at the southwest corner of the development and the internal storm drain system will be installed by the Project. The stormwater system is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.</p>
<b>Community Design</b>	CD-I-60	<p>Incorporate green building standards into the Zoning Ordinance and building code to ensure a high level of energy efficiency in new development, retrofitting projects, and City facilities. These standards should include, but are not limited to, the following:</p>	<p><b>Yes:</b> The Project includes energy efficient systems such as solar. The development is subject to</p>

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		<ul style="list-style-type: none"> <li>○ Require the use of Energy Star® appliances and equipment in new and substantial renovations of residential development, commercial development, and City facilities;</li> <li>○ Require all new development incorporate green building methods to qualify for the equivalent of LEED Certified “Silver” rating or better (passive solar orientation must be a minimum component);</li> <li>○ Require all new residential development to be pre-wired for optional photovoltaic energy systems and/or solar water heating on south facing roofs; and</li> <li>○ Require all new projects that will use more than 40,000 kilowatt hours per year of electricity to install photovoltaic energy systems.</li> </ul>	<p>City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.</p>
<b>Community Design</b>	CD-I-62	<p>Facilitate environmentally sensitive construction practices by:</p> <ul style="list-style-type: none"> <li>○ Restricting use of chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and halons in mechanical equipment and building materials;</li> <li>○ Promoting use of products that are durable and allow efficient end-of-life disposal (recyclable);</li> <li>○ Requiring subdivision applications on sites greater than five acres to submit a construction waste management plan for City approval;</li> <li>○ Promoting the purchase of locally or regionally available materials; and</li> <li>○ Promoting the use of cost-effective design and construction strategies that reduce resource and environmental impacts.</li> </ul>	<p><b>Yes:</b> The Project is required to submit a construction waste management plan for City approval. In addition, recycling and environmentally-conscious construction strategies will be implemented. The development is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.</p>
<b>Circulation</b>	C-I-2	<p>Require all new developments to provide right-of-way and improvements consistent with the General Plan street designations and street cross-section standards. Further,</p>	<p><b>Yes:</b> The development provides right-of-way and transportation</p>

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		<p>ensure that either the City Capital Improvement Program Budget or new developments carries out the planned improvements included in Table 4.3. Alternative improvements shall be considered if supported by a traffic assessment conducted under the guidance of City staff.</p>	<p>improvements consistent with the City’s General Plan. The development is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.</p>
<p><b>Circulation</b></p>	<p>C-1-3</p>	<p>Provide for greater street connectivity by:</p> <ul style="list-style-type: none"> <li>○ Incorporating in subdivision regulations requirements for a minimum number of access points to existing local or collector streets for each development (e.g. at least two access points for every 10 acres of development, with additional access, if warranted, for multi-family housing);</li> <li>○ Encouraging the construction of roundabouts instead of traffic signals and 4- way stop signs, where feasible;</li> <li>○ Requiring bicycle and pedestrian connections from cul-de-sacs to nearby public areas and main streets; and</li> <li>○ Requiring new residential communities on undeveloped land planned for urban uses to provide stubs for future connections to the edge of the property line. Where stubs exist on adjacent properties, new streets within the development should connect to these stubs.</li> </ul>	<p><b>Yes:</b> The site has been designed with seven points of ingress and egress. One of these points connects at W. Lacey Blvd along the northern edge of the Project; three access points connect at 18<sup>th</sup> Avenue on the western edge; two access points are along the southern edge; and one access point is along the eastern edge. The Project will be responsible for construction of internal roadways as well as for potential improvements to surrounding roadways to accommodate the Project. The development also includes pedestrian and bicycle paths within the site. In addition, traffic circles will be installed within the</p>

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			<p>development as a traffic calming measure. The development is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.</p>
<b>Circulation</b>	C-I-5	<p>Use traffic calming measures to reduce speeds in existing and future residential areas. Traffic calming measures may include, but are not limited to:</p> <ul style="list-style-type: none"> <li>○ Reducing curb-to-curb pavement widths to the minimum necessary to ensure traffic flow and safety;</li> <li>○ Allowing on-street parking where possible;</li> <li>○ Providing generous street tree plantings and other vegetation;</li> <li>○ Building corner bulb-outs and intersection roundabouts;</li> <li>○ Allowing for curvilinear street design; and</li> <li>○ Installing, where appropriate, specific traffic calming features, such as bulb-outs and medians.</li> </ul>	<p><b>Yes:</b> The Project is designed with short blocks, traffic calming features, curved roadways, and a trail system that is easy to navigate for both pedestrians and vehicle. On-street parking is available throughout the development.</p>
<b>Circulation</b>	C-I-7	<p>Develop and manage the roadway system to obtain Level of Service (LOS) D or better for two hour peak periods (a.m. and p.m.) on all major roadways and arterial intersections in the City. This policy does not extend to local residential streets (i.e., streets with direct driveway access to homes) or state highways and their intersections, where Caltrans policies apply. Exceptions to LOS D policy may be allowed by the City Council in areas, such as Downtown, where allowing a lower LOS would result in clear public benefits, social interaction and economic vitality, and help reduce overall automobile use.</p>	<p><b>Yes:</b> Under cumulative conditions (Year 2042), the only intersection that is projected to operate at an unacceptable LOS is the intersection of Liberty Drive and Hanford-Armona Road. However, mitigation measure TRA-1 will require the developer to improve the</p>

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			intersection to maintain an acceptable LOS.
<b>Circulation</b>	C-I-8	Develop and manage local residential streets (i.e., streets with direct driveway access to homes) to limit average daily vehicle traffic volumes to 1,100 or less and 85th percentile speeds to 25 miles per hour or less.	<b>Yes:</b> The Project is designed with short blocks, traffic calming features and curved roadways. Speed limits within the development will be limited to 25 MPH or less.
<b>Circulation</b>	C-I-10	Require traffic impact studies for any proposed General Plan amendment that will generate significant amounts of traffic (such as 100 or more peak hour trips).	<b>Yes:</b> A Traffic Impact Study was prepared for the Project and is included in the Project EIR.
<b>Circulation</b>	C-I-13	Continue to require that new development pay its fair share of the costs of street and other traffic improvements based on traffic generated and its impact on traffic service levels.	<b>Yes:</b> The Project is conditioned to pay its fair share of traffic improvements. A Traffic Impact Study was prepared for the Project and is included in the Project EIR. The required improvements are outlined in the Traffic Impact Study.
<b>Circulation (Public Transit)</b>	C-I-2	Work with Kings Area Rural Transit to situate transit stops and hubs at locations that are convenient for transit users, and promote increased transit ridership through the provision of benches, bike racks on buses, and other amenities.	<b>Yes:</b> The development will include an area for a future bus bay. However, at this time, it is unlikely that KART will extend transit service to the site.
<b>Circulation (Public Transit)</b>	C-I-7	<p>Ensure that new development is designed to make public transit a viable choice for residents. Options include:</p> <ul style="list-style-type: none"> <li>○ Locate medium-high density development whenever feasible near streets served by public transit; and</li> </ul>	<b>Yes:</b> The nearest bus stops are located along E. Hanford Armona Road, approximately ¼ mile south of the development.

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		<ul style="list-style-type: none"> <li>○ Link neighborhoods to bus stops by continuous sidewalks or pedestrian paths.</li> </ul>	
<b>Circulation (Public Transit)</b>	C-I-2	Establish bicycle lanes, bike routes, and bike paths consistent with the General Plan.	<b>Yes:</b> The Project includes bicycle lanes and pedestrian paths within the development.
<b>Circulation (Parking)</b>	C-I-1	Ensure that all residential development provides adequate on-site parking for residents and guests	<b>Yes:</b> Adequate parking is provided for the multi-family component (on-site parking) and single family component (driveways and street parking).
<b>Parks, Schools and Public Facilities</b>	PSCF-I-1	<p>Establish a goal of 6 acres of parkland per thousand residents to be met by:</p> <ul style="list-style-type: none"> <li>○ Dedication and reservation requirements consistent with the Quimby Act, for landscaped open spaces, parks, trail systems, and/or special community service facilities in new residential developments based on a standard of 5 acres of developed parkland per thousand residents; and</li> <li>○ A standard of one acre per thousand residents to be met with an impact fee for City-owned and operated parks and special recreation areas that serve all residents.</li> </ul>	<b>Yes:</b> The proposed Project includes four parks for a total of 7.98 acres and 1.64 acres of trail area. Since the Project does not include enough parkland to maintain the current park standard, the Project developer will also be required to pay in lieu fees, in compliance with the goals, policies, and implementation measures of the General Plan and Lemoore City Municipal Code Title 9, Chapter 7, Article N. Therefore, the Project will be in compliance with this policy.

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<b>Parks, Schools and Public Facilities</b>	PSCF-I-2	Require that at least 75 percent of new residents live within a half mile or less of a public park facility, using the development permit review and approval processes	<b>Yes:</b> 100% of the Project residents will reside within ½ mile of a public park. There are multiple parks within the development.
<b>Parks, Schools and Public Facilities</b>	PSCF-I-4	Develop new parks with high quality facilities, universal accessibility, durability and low maintenance in mind. Existing parks will be improved, if feasible and economically justified, to reduce maintenance cost and water use, as well as improve park safety and aesthetics.	<b>Yes:</b> The park facilities within the development will be universally accessible and will include durable facilities with low maintenance in mind. The park spaces will be developed in consultation with the City of Lemoore.
<b>Parks, Schools and Public Facilities</b>	PSCF-I-5	Incorporate the following elements into the creation of new community, neighborhood, and pocket parks: <ul style="list-style-type: none"> <li>○ A mix of passive and active recreational facilities that meet the needs of citizens of all ages and interests;</li> <li>○ Clear pedestrian and bike connectivity between parks and local schools, shops, and other neighborhood resources;</li> <li>○ Visual permeability, so the interior of the park is visible from the street;</li> <li>○ Parking, when necessary and appropriate, including use of on-street space in and around community and neighborhood parks;</li> <li>○ Bicycle parking, storage, and other support facilities; and</li> <li>○ Native, drought-tolerant landscaping and water-conserving irrigation systems including “smart” irrigation that utilizes moisture and weather sensor technology.</li> </ul>	<b>Yes:</b> The Project includes a total of four parks for a total of 7.9 acres and 1.64 acres of trail area, as depicted on Figure 2-4: Site Plan. The 1.64 acres of trail area will be designated and zoned consistent with the designations and zoning of their adjacent parcels. The park spaces will be developed in consultation with the City of Lemoore and will include the elements described in PSCF-I-5.
<b>Parks, Schools and Public Facilities</b>	SN-G-5	Maintain and enhance the City’s capacity for law enforcement, fire-fighting and emergency response.	<b>Yes:</b> The Project is required to pay impact fees for law enforcement, fire fighting and other emergency response. This



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			will maintain and/or enhance these services.
<b>Parks, Schools and Public Facilities</b>	SN-I-15	Enforce the Uniform Fire Code for construction plans and final occupancy permits.	<b>Yes:</b> The Project is required to adhere to the Uniform Fire Code.
<b>Parks, Schools and Public Facilities</b>	SN-I-27	Maintain Fire Department performance and response standards at Class 3 ISO rating or better, including building and staffing a new fire station in West Lemoore if necessary.	<b>Yes:</b> In order to maintain adequate levels of fire protection, the Lemoore Volunteer Fire Department will need to increase its resources to serve the Project. Based on the City’s ration of 1.5 firefighters per thousand residents, the proposed Project would require an additional 3.8 firefighters at full buildout. The developer will be required to pay impact fees to maintain fire protection standards.
<b>Parks, Schools and Public Facilities</b>	SN-I-28	Require adequate access for emergency vehicles in all new development, including adequate widths, turning radii, and vertical clearance on new streets.	<b>Yes:</b> Once constructed the proposed Project includes multiple access roads allowing adequate egress and ingress to the residential development in the event of an emergency. Additionally, as part of the proposed Project, internal access roadways would be constructed to City standards. The City has

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			<p>reviewed the site layout and determined that the Project provides adequate emergency access.</p>
<b>Public Utilities</b>	PU-I-2	<p>Provide and maintain a system of water supply distribution facilities capable of meeting existing and future daily and peak demands, including fire flow requirements, in a timely and cost effective manner</p>	<p><b>Yes:</b> The Project will provide the necessary water supply distribution facilities within the development. The development is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.</p>
<b>Public Utilities</b>	PU-I-5	<p>Require that necessary water supply infrastructure and storage facilities are in place concurrently with new development, and approve development plans only when a dependable and adequate water supply for the development is assured.</p>	<p><b>Yes:</b> A Water Supply Assessment (WSA) was prepared and included in the Project EIR. Based on the WSA, the City has adequate water to serve the Project. The Project will provide the necessary water supply distribution facilities within the development.</p>
<b>Public Utilities</b>	PU-I-6	<p>Require water meters in all new development.</p>	<p><b>Yes:</b> The Project will install water meters for all connections within the development.</p>

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Public Utilities	PU-I-8	Require water bubblers for street trees, separate from surface irrigation used for turf.	<b>Yes:</b> The Project will install water bubblers for street trees, separate from surface irrigation used for turf.
Public Utilities	PU-I-10	Require that developers of agricultural land to be annexed to the City offer the water rights associated with this land to the City.	<b>Yes:</b> Mitigation measure HYD -1 requires the developer to offer the City the water rights associated with the Project site.
Public Utilities	PU-I-15	Maintain existing levels of wastewater service by expanding treatment plant and disposal facilities as required by growth and by the Regional Water Quality Control Board	<b>Yes:</b> The Project will not result in the need to expand the City’s existing wastewater treatment plant. However, the Project is required to pay wastewater impact fees as determined by the City in order to maintain adequate wastewater service.
Conservation and Open Space	COS-I-1	Protect lands designated for Agricultural/ Rural/ Conservation uses with appropriate zoning consistent with the General Plan.	<b>Yes:</b> Upon annexation, the Project site will be designated for residential and public land uses. The land use designations and zoning designations of the site will be consistent with the City’s General Plan.
Conservation and Open Space	COS-I-4	Promote use of native vegetation, drought tolerant plants, recycled water irrigation and other water-saving devices in City open spaces for ease of maintenance and environmental sustainability.	<b>Yes:</b> The Project includes public open spaces for parks and trails. The development is subject to City review/approval based on design standards set forth by the City’s General Plan,

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			Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.
<b>Conservation and Open Space</b>	COS-I-6	Require erosion and sedimentation plans for new development activities, including: <ul style="list-style-type: none"> <li>• The location and description of existing soil features and characteristics;</li> <li>• The location and description of proposed changes to the site; and</li> <li>• A schedule for the installation of control measures for each phase of development</li> </ul>	<b>Yes:</b> The Project is required to prepare a Geotechnical Study prior to issuance of grading or building permits. This Study will include design provisions that will minimize erosion and sedimentation. In addition a SWPPP will be prepared for construction activities.
<b>Conservation and Open Space</b>	COS-I-8	Require developers to prepare detailed stormwater runoff analyses and mitigation plans for any new development adjoining existing Prime Farmland, grassland or wetlands.	<b>Yes:</b> The Project has been designed to accommodate anticipated stormwater runoff from the Project site. A 4.39 acre basin will be installed at the southwest corner of the development and the internal storm drain system will be installed by the Project. The stormwater system is subject to City review/approval based on design standards set forth by the City's General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards.

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			The Project is required to adhere to this Implementing Policy.
<b>Conservation and Open Space</b>	COS-I-9	Require developers to inform subsequent buyers of potential continued agricultural production and the lawful use of agricultural chemicals, including pesticides and fertilizers adjacent to the new development site.	<b>Yes:</b> A “Right to Farm” acknowledgement will be required of all purchases within the Project of lots adjacent to farmland.
<b>Conservation and Open Space</b>	COS-I-10	Require protection of sensitive habitat areas and “special status” species in new development in the following order: 1) avoidance; 2) onsite mitigation, and 3) offsite mitigation. Require assessments of biological resources prior to approval of any development within 300 feet of any creeks, sensitive habitat areas, or areas of potential sensitive status species.	<b>Yes:</b> A Biological Resource Evaluation (BRE) was conducted for the Project site. Although no protected species were identified during the site survey, the BRE includes protection measures for potential species that could occur on the site. These protection measures include pre-construction surveys, limits on the timing of construction, avoidance, off-site mitigation and steps to take if species are encountered during pre-construction surveys.
<b>Conservation and Open Space</b>	COS-I-12	Require drainage basin buffers, maintenance of adequate water supply and reduced disturbance of the water table and wetlands systems.	<b>Yes:</b> The Project provides adequate drainage basin bufferage (the basin will be within a fenced area) and based on the Project’s Water Supply Assessment, the City has adequate water to supply the Project.

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<b>Conservation and Open Space</b>	COS-I-13	Establish a “no net loss” standard for sensitive habitat acreage, including wetlands and vernal pools potentially affected by development.	<b>Yes:</b> The Project includes off-site mitigation for loss of Swainson’s Hawk foraging habitat. The final acreage associated with this mitigation will be determined by CA Department of Fish & Wildlife. There are no wetlands or vernal pools associated with the development.
<b>Conservation and Open Space</b>	COS-I-14	Consult with trustee agencies (California Department of Fish and Game, U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, Environmental Protection Agency, and Regional Water Quality Control Board) during environmental review when special status species, sensitive natural communities, or wetlands or vernal pools may be adversely affected.	<b>Yes:</b> The Project EIR will be submitted to these agencies wherein they will have the opportunity to provide comments on the Project. In addition, the Project will consult with the Regional Water Quality Control Board and the US Army Corps of Engineers pertaining to piping of the irrigation canal associated with the development.
<b>Conservation and Open Space</b>	COS-I-15	Prohibit the use of invasive plant species, such as Pampas grass, adjacent to wetlands and other sensitive habitat, where such landscaping could adversely impact wildlife habitat.	<b>Yes:</b> The Project will not install invasive species. The development is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.

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<b>Conservation and Open Space</b>	COS-I-20	Require temporary on-site storm drainage basin in subdivisions and other development proposals, if needed, until storm drainage plans for that area are completed and formal connections are implemented. Design should take into consideration the properties of soils on the site.	<b>Yes:</b> The Project includes a 4.39 acre detention basin within the development. However, the developer will work with the City to determine if a temporary on-site storm drainage basin is needed prior to installation of the permanent basin.
<b>Conservation and Open Space</b>	COS-I-21	<p>Require developers to construct and maintain permanent water control facilities (storm water basins or retention ponds) for new development in the Westside and other areas deemed necessary by the City Engineer, to control storm water and protect areas from flooding. Facilities shall incorporate the following:</p> <ul style="list-style-type: none"> <li>• A fenced “low-flow” area to contain potential contaminants;</li> <li>• Regularly-tilled top soil to maintain good percolation;</li> <li>• When feasible, storm drainage facilities to channel water into the re-created wetlands which currently lack sufficient water to survive; and</li> <li>• Other design features consistent with the Regional Water Quality Control Board’s Best Management Practices.</li> </ul>	<b>Yes:</b> The Project includes a 4.39 acre detention basin within the development and will install a stormwater collection system within the development. The development is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.
<b>Conservation and Open Space</b>	COS-I-22	Require on-site storm drainage to drain away from the streets in areas with no curbs and gutters.	<b>Yes:</b> The Project includes a 4.39 acre detention basin within the development and will install a stormwater collection system within the development. The development is subject to City review/approval based on design standards set forth by the

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			City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.
<b>Conservation and Open Space</b>	COS-I-23	Continue to prohibit septic tanks and drain fields to prevent pollution of subsurface water resources.	<b>Yes:</b> There are no septic tanks associated with this Project.
<b>Conservation and Open Space</b>	COS-I-33	<p>Require that new development analyze and avoid potential impacts to archaeological, paleontological, and historic resources by:</p> <ul style="list-style-type: none"> <li>• Requiring a records review for development proposed in areas that are considered archaeologically or paleontologically sensitive;</li> <li>• Determining the potential effects of development and construction on archeological or paleontological resources (as required by CEQA);</li> <li>• Requiring pre-construction surveys and monitoring during any ground disturbance for all development in areas of historical and archaeological sensitivity; and</li> <li>• Implementing appropriate measures to avoid the identified impacts, as conditions of project approval.</li> </ul>	<b>Yes:</b> A Cultural Resources Survey and Report was prepared and included in the Project EIR. This included records searches, site surveys and report preparation. Based on the results of the Report, there are no known cultural, archaeological, paleontological or historic resources impacted by the Project.
<b>Conservation and Open Space</b>	COS-I-34	If, prior to grading or construction activity, an area is determined to be sensitive for paleontological resources, retain a qualified paleontologist to recommend appropriate actions. Appropriate action may include avoidance, preservation in place, excavation, documentation, and/or data recovery, and shall always include preparation of a written report documenting the find and describing steps taken to evaluate and protect significant resources.	<b>Yes:</b> There is a possibility that future ground-disturbing activities could cause damage to, or destruction of, previously undiscovered paleontological resources or unique geologic features. Implementation of Mitigation Measure GEO-3 would reduce potential impacts to a less-than significant level. In addition, the Lemoore



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			General Plan policies and guidelines direct the City to require construction to stop immediately if paleontological resources are uncovered during grading or other onsite excavation activities, until appropriate mitigation is implemented.
<b>Conservation and Open Space</b>	COS-I-39	Support State efforts to reduce greenhouse gases and emissions through local action that will reduce motor vehicle use, support alternative forms of transportation, require energy conservation in new construction, and energy management in public buildings.	<b>Yes:</b> An Air Quality / Greenhouse Gas / Energy Report was prepared for the Project. Based on the Report, the Project will have a less than significant impact on greenhouse gas emissions. The Project is required to adhere to adopted energy conservation strategies for new construction.
<b>Conservation and Open Space</b>	COS-I-42	<p>Conforming to the SJVAPCD Fugitive Dust Rule, require developers to use best management practices (BMPs) to reduce particulate emission as a condition of approval for subdivision maps, site plans and all grading permits. BMPs include:</p> <ul style="list-style-type: none"> <li>○ During clearing, grading, earth-moving or excavation operations, fugitive dust emissions shall be controlled by regular watering, paving of construction roads, or other dust-preventive measures;</li> <li>○ All materials excavated or graded shall be either sufficiently watered or covered by canvas or plastic sheeting to prevent excessive amounts of dust;</li> <li>○ All materials transported off-site shall be either sufficiently watered or covered by canvas or plastic sheeting to prevent excessive amounts of dust;</li> <li>○ All motorized vehicles shall have their tires watered before exiting a construction site;</li> </ul>	<b>Yes:</b> The Project is required to adhere to the SJVAPCD Fugitive Dust Rule. This includes preparation of a Dust Control Plan.

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		<ul style="list-style-type: none"> <li>○ The area disturbed by demolition, clearing, grading, earth-moving, or excavation shall be minimized at all times; and</li> <li>○ All construction-related equipment shall be maintained in good working order to reduce exhaust.</li> </ul>	
<b>Conservation and Open Space</b>	COS-I-45	Utilize more plants and trees in public area landscaping, focusing on those that are documented as more efficient pollutant absorbers.	<b>Yes:</b> The Project includes public open spaces for parks and trails. The development is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and Improvement Standards. The Project is required to adhere to this Implementing Policy.
<b>Safety and Noise</b>	SN-I-1	Review proposed development sites at the earliest stage of the planning process to locate any potential geologic or seismic hazard.	<b>Yes:</b> The Project is required to prepare a Geotechnical Study prior to issuance of grading or building permits. This Study will include design provisions related to geologic or seismic hazards. There are no active faults in the vicinity of the Project site.
<b>Safety and Noise</b>	SN-I-2	Maintain and enforce appropriate building standards and codes to avoid or reduce risks associated with geologic constraints and to ensure that all new construction is designed to meet current safety regulations.	<b>Yes:</b> The Project is required to prepare a Geotechnical Study prior to issuance of grading or building permits. This Study will include design provisions to meet current safety

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
			regulations.
<b>Safety and Noise</b>	SN-1-5	Require utilities be designed to withstand probable seismic forces to be encountered in Lemoore.	<b>Yes:</b> The Project is required to prepare a Geotechnical Study prior to issuance of grading or building permits. This Study will include design provisions for utilities.
<b>Safety and Noise</b>	SN-I-6	Control erosion of graded areas with vegetation or other acceptable methods.	<b>Yes:</b> The Project is required to prepare a Geotechnical Study prior to issuance of grading or building permits. This Study will include design provisions to control erosion.
<b>Safety and Noise</b>	SN-I-8	Require all new development within a flood zone to comply with the City’s Flood Damage Prevention Ordinance	<b>Yes:</b> The Project site is located outside of an established flood zone.
<b>Safety and Noise</b>	SN-I-10	Require new development to prepare hydrologic studies and implement appropriate mitigation measures to minimize surface water run-off and reduce the risk of flooding.	<b>Yes.</b> The Project has been designed to accommodate anticipated stormwater runoff from the Project site. A 4.39 acre basin will be installed at the southwest corner of the development and the internal storm drain system will be installed by the Project. The stormwater system is subject to City review/approval based on design standards set forth by the City’s General Plan, Zoning Ordinance, Municipal Codes and

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
			Improvement Standards. The Project is required to adhere to this Implementing Policy.
<b>Safety and Noise</b>	SN-I-11	Require developers to provide for the ongoing maintenance of detention basins	<b>Yes:</b> The Project developers will provide for the ongoing maintenance of the on-site detention basin.
<b>Safety and Noise</b>	SN-I-19	Require remediation and cleanup of sites contaminated with hazardous substances.	<b>Yes:</b> A plugged/abandoned oil/gas well is located on the Project site (abandoned in 1964). However, due to the fact that the well did not produce oil or gas, it is not expected to represent a significant environmental concern. The Project developer is required to follow CA Department of Conservation – Geologic Energy Management Division rules and regulations pertaining to any potential re-abandonment or cleanup associated with the well site. In addition, an area of the Project site revealed surface staining from a previous above ground diesel storage tank. This area will be excavated and removed from the site and disposed of.

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
Safety and Noise	SN-I-32	Use the community noise compatibility standards, shown in Table 8.6, as review criteria for new land uses.	<b>Yes:</b> A Noise Assessment was prepared for the Project and is included in the Project EIR. Based on the Assessment, the Project does not exceed the City’s established noise thresholds and will be in compliance with City standards.
Safety and Noise	SN-I-33	Consider an increase of five or more dBA to be “significant” if the resulting noise level would exceed that described as “normally acceptable” in Table 8.6.	<b>Yes:</b> A Noise Assessment was prepared for the Project and is included in the Project EIR. Based on the Assessment, the Project does not exceed the City’s established noise thresholds and will be in compliance with City standards.
Safety and Noise	SN-I-35	<p>Require that all new residential development achieve noise level reductions to meet the land use compatibility standards through acoustical design and construction of the building elements:</p> <ul style="list-style-type: none"> <li>• Residential building designs must be based upon a minimum interior design noise level reduction of 40 dB in all habitable areas (i.e., garages, storage areas, etc. are excepted). The 40 dB criteria must provide a minimum constructed noise level reduction of 35 dB; and</li> <li>• Residential building designs must also be based upon a minimum design noise level reduction of 45 dB in all bedrooms. The 45 dB criteria must provide a minimum constructed noise level reduction of 40 dB.</li> </ul>	<b>Yes:</b> A Noise Assessment was prepared for the Project and is included in the Project EIR. Based on the Assessment, the Project does not exceed the City’s established noise thresholds and will be in compliance with City standards.
Safety and Noise	SN-I-37	<p>Prohibit construction materials and methods that do not provide enough noise insulation to ensure compliance with compatibility standards, including:</p> <ul style="list-style-type: none"> <li>• Facades using aluminum, vinyl or other exterior siding weighing less than 5 psf;</li> </ul>	<b>Yes:</b> A Noise Assessment was prepared for the Project and is included in the Project EIR. Based on the Assessment, the Project does not exceed the City’s established

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
		<ul style="list-style-type: none"> <li>• Façade construction without insulation;</li> <li>• Flat roofs without an interstitial cavity space or with a space less than 10 inches (i.e., no monolithic T&amp;G roof/ceiling systems);</li> <li>• Jalousie or other lightweight or poor-sealing window systems; and</li> <li>• Packaged terminal air-conditioning (PTAC) units (i.e., through-the-wall air-conditioning).</li> </ul>	<p>noise thresholds and will be in compliance with City standards.</p>
<p><b>Safety and Noise</b></p>	<p>SN-I-43</p>	<p>Require new noise sources to use best available control technology (BACT) to minimize noise emissions.</p>	<p><b>Yes:</b> The Project is a residential development. Noise emitting equipment will be utilized during construction, however, these will be temporary uses (during construction) and the construction contractor will be required to adhere to the City’s noise standards for hours of operation and noise attenuating technologies or methods. On-going sources of noise from the development consist primarily of traffic noise and typical noise from residential neighborhoods (lawn mowers, music, TVs, voices, air conditioners, etc.). A Noise Assessment was prepared for the Project and is included in</p>

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
			the Project EIR. Based on the Assessment, the Project does not exceed the City’s established noise thresholds and will be in compliance with City standards.

The proposed Project is an appropriate use for the site, and as demonstrated in Table 3.10-2, once annexed into the City, the Project will be consistent with the applicable objectives, goals and policies outlined in the City of Lemoore General Plan. Implementation of these policies and measures will ensure that impacts remain *less than significant*.

**Mitigation Measures**

None are required.

**Cumulative Impacts**

**Less Than Cumulatively Considerable.** The geographic area of this cumulative analysis is the areas covered by the City of Lemoore General Plan. As discussed above, the Project does not divide an existing community.

The anticipated impacts of the project in conjunction with cumulative development in the area of the project would increase urbanization and result in the loss of open space and agricultural lands. Potential land use impacts require evaluation on a case-by-case basis because of the interactive effects of a specific development and its immediate environment. As described in Table 3.10-2, the Project would be consistent with the goals and policies of the Lemoore General Plan. In addition, with approval of all discretionary actions, the Project would be a permitted use that would not conflict with the land use designation or zone classification for the sites. Therefore, the Project would not result in a cumulatively considerable impact regarding land use.

All related projects would be required to undergo environmental review, in accordance with the requirements of CEQA. Like the proposed Project, each related project would also be required to demonstrate consistency with all applicable planning documents governing the project site, including the KCGP, applicable specific plans and the Lemoore Zoning Ordinance. Should

potential impacts be identified, appropriate mitigation would be prescribed in order to reduce potential impacts to less-than-significant levels.

As such, the Project will not result in project-specific impacts and therefore, the proposed Project's incremental contribution would be *less than cumulatively considerable*.



### 3.11 Noise

This section evaluates the potential for noise and groundborne vibration impacts resulting from implementation of the proposed Project. This includes the potential for the proposed Project to result in impacts associated with a substantial temporary and/or permanent increase in ambient noise levels in the vicinity of the Project site; exposure of people in the vicinity of the Project site to excessive noise levels, groundborne vibration, or groundborne noise levels; and whether this exposure is in excess of standards established in the local general plan or noise ordinance. The data utilized for analysis of this section is based, in part, on the Environmental Noise Assessment prepared for this Project by WJV Acoustics (Appendix G).

#### Fundamentals of Sound and Environmental Noise

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Since the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise, on the other hand, is typically defined as unwanted sound. A typical noise environment consists of a base of steady ambient noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway. Table 3.11-1, Representative Environmental Noise Levels, illustrates representative noise levels in the environment.

**Table 3.11-1  
Representative Environmental Noise Levels**

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	—110—	Rock Band
Jet Fly-over at 100 feet		
	—100—	
Gas Lawnmower at 3 feet		
	—90—	
		Food Blender at 3 feet
Diesel Truck going 50 mph at 50 feet	—80—	Garbage Disposal at 3 feet
Noisy Urban Area during Daytime		
Gas Lawnmower at 100 feet	—70—	Vacuum Cleaner at 10 feet
Commercial Area		Normal Speech at 3 feet
Heavy Traffic at 300 feet	—60—	
		Large Business Office
Quiet Urban Area during Daytime	—50—	Dishwasher in Next Room
Quiet Urban Area during Nighttime	—40—	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime		
	—30—	Library
Quiet Rural Area during Nighttime		Bedroom at Night, Concert Hall (background)
	—20—	
		Broadcast/Recording Studio
	—10—	
Lowest Threshold of Human Hearing	—0—	Lowest Threshold of Human Hearing

*Source: California Department of Transportation, Technical Noise Supplement, October 1998.*

Several rating scales have been developed to analyze the adverse effect of community noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise upon people is largely dependent upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

- $L_{eq}$  – An  $L_{eq}$ , or equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the  $L_{eq}$  of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- $L_{max}$  – The maximum instantaneous noise level experienced during a given period of time.
- $L_{min}$  – The minimum instantaneous noise level experienced during a given period of time.
- $L_{dn}$  – The Day-Night Average Level, is a 24-hour average  $L_{eq}$  with a 10 dBA “weighting” added to noise during the hours of 10:00 P.M. to 7:00 A.M. to account for noise sensitivity

in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24 hour  $L_{eq}$  would result in a measurement of 66.4 dBA  $L_{dn}$ .

- CNEL – The Community Noise Equivalent Level is a 24-hour average  $L_{eq}$  with a 5 dBA “weighting” during the hours of 7:00 P.M. to 10:00 P.M. and a 10 dBA “weighting” added to noise during the hours of 10:00 P.M. to 7:00 A.M. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24 hour  $L_{eq}$  would result in a measurement of 66.7 dBA CNEL.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day, night, or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60–70 dBA range, and high above 70 dBA. Noise levels greater than 85 dBA can cause temporary or permanent hearing loss. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet suburban residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate level noise environments are urban residential or semi-commercial areas (typically 55–60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60–75 dBA) or dense urban or industrial areas (65–80 dBA).

Under controlled conditions, in an acoustics laboratory, the trained (enhanced listening abilities) healthy human ear is able to discern changes in sound levels of 1 dBA, when exposed to steady, single frequency “pure tone” signals in the mid-frequency range. Outside of such controlled conditions, the trained ear can detect changes of 2 dBA in normal environmental noise. It is widely accepted that in the community noise environment the average healthy ear can barely perceive CNEL noise level changes of 3 dBA. CNEL changes from 3 to 5 dBA may be noticed by some individuals who are extremely sensitive to changes in noise. A 5 dBA CNEL increase is readily noticeable, while the human ear perceives a 10 dBA CNEL increase as a doubling of sound.

Noise levels from a particular source generally decline as distance to the receptor increases. Other factors, such as the weather and reflecting or barriers, also help intensify or reduce the noise level at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically “hard” locations (i.e., the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically “soft” locations (i.e., the area between the source and receptor is normal earth or has vegetation,

including grass). Noise from stationary or point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Noise levels are also generally reduced by 1 dBA for each 1,000 feet of distance due to air absorption. Noise levels may also be reduced by intervening structures – generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The normal noise attenuation within residential structures with open windows is about 17 dBA, while the noise attenuation with closed windows is about 25 dBA.<sup>1</sup>

### Fundamentals of Environmental Groundborne Vibration

Vibration is sound radiated through the ground. Vibration can result from a source (e.g., train operations, motor vehicles, machinery equipment, etc.) causing the adjacent ground to move, thereby, creating vibration waves that propagate through the soil to the foundations of nearby buildings. This effect is referred to as groundborne vibration. The peak particle velocity (PPV) or the root mean square (RMS) velocity is usually used to describe vibration levels. PPV is defined as the maximum instantaneous peak of the vibration level, while RMS is defined as the square root of the average of the squared amplitude of the level. PPV is typically used for evaluating potential building damage, while RMS velocity in decibels (VdB) is typically more suitable for evaluating human response.

The background vibration velocity level in residential areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings, such as the operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.

The general human response to different levels of groundborne vibration velocity levels is described in Table 3.11-2, Human Response to Different Levels of Groundborne Vibration.

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<sup>1</sup> National Cooperative Highway Research Program Report 117, Highway Noise: A Design Guide for Highway Engineers, 1971.

**Table 3.11-2**  
**Human Response to Different Levels of Groundborne Vibration**

<b>Vibration Velocity Level</b>	<b>Human Reaction</b>
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.
<i>Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.</i>	

## Environmental Setting

### Study Area

The Project is located on approximately 156 acres immediately north of the City of Lemoore and is bounded by West Lacey Boulevard to the north and 18<sup>th</sup> Avenue to the west. The area is dominated by farmland, agricultural operations and scattered rural residential housing to the north, east and west, and residential development to the south. The site is currently being farmed for alfalfa.

Sensitive receptors located in the Project vicinity include the residential neighborhood immediately south of the proposed Project site.

There is no public or private airstrip within two miles of the Project site.

Major roads in the Project area include:

**State Route (SR) 41** is an existing north-south two- to four-lane expressway adjacent to the proposed Project. SR 41 serves as the principal connection to various metropolitan areas within the Central San Joaquin Valley and the California Central Coast. In this area, SR 41 connects to Hanford- Armona Road.

**19th Avenue** is an existing north-south two-lane arterial divided by a two-way left-turn lane in the vicinity of the proposed Project. In this area, 19th Avenue is a two-lane arterial divided by a two-way left-turn lane between Hanford-Armona Road and Noble Street and a two-lane undivided arterial between Noble Street and Cinnamon Drive. The City General Plan intends to extend 19th Avenue north of Hanford-Armona Road as a two-lane collector connecting to Lemoore Avenue and designates 19th Avenue as a four-lane arterial between Hanford-Armona Road and Idaho Avenue.

**Liberty Drive (18 ¾ Avenue)** is an existing north-south undivided two-lane local roadway in the vicinity of the proposed Project. In this area, Liberty Drive is an undivided two-lane local roadway between Lacey Boulevard and Hanford-Armona Road and a two-lane collector divided by a two-way left-turn lane between Hanford-Armona Road and Cinnamon Drive. The City General Plan designates Liberty Drive as a four-lane collector between Lacey Boulevard and Cinnamon Drive.

**Lemoore Avenue** is an existing north-south undivided two-lane local roadway adjacent to the proposed Project. In this area, Lemoore Avenue is a two-lane undivided arterial north of Glendale Avenue and a two-lane arterial divided by a two-way left-turn lane between Glendale Avenue and Cinnamon Drive. The City General Plan designates Lemoore Avenue as an arterial north of Hanford-Armona Road and a four-lane arterial between Hanford Armona Road and Cinnamon Drive.

**17th Avenue** is an existing north-south undivided two-lane local roadway in the vicinity of the proposed Project. In this area, 17th Avenue is an undivided local roadway that runs through the City of Lemoore SOI. The City General Plan designates 17th Avenue as a two-lane local roadway throughout the City of Lemoore SOI.

**Cinnamon Drive** is an existing two-lane undivided collector in the vicinity of the proposed Project. In this area, Cinnamon Drive extends east of its connection to 19½ Avenue and changes orientation to intersect Hanford-Armona Road. Cinnamon Drive is a two-lane collector divided by a two-way left-turn lane between 19½ Avenue and Lemoore Avenue and a two-lane undivided collector east of Lemoore Avenue and south of Hanford-Armona Road. The City General Plan designates Cinnamon Drive as a four-lane collector between 19 ½ Avenue and Lemoore Avenue and a two-lane collector between Lemoore Avenue and Hanford-Armona Road.

**Lacey Boulevard** is an existing east-west two-lane local roadway adjacent to the proposed Project. In this area, Lacey Boulevard is a two-lane undivided major collector through the County of Kings. The County of Kings 2035 General Plan designates Lacey Boulevard as a local major collector.

**Glendale Avenue** is an existing east-west two-lane undivided local roadway in the vicinity of the proposed Project. In this area, Glendale Avenue is a two-lane undivided local roadway that exists between Deodar Drive and Quandt Drive. The City General Plan designates Glendale Avenue as a local roadway.

**Spruce Avenue** is an existing east-west two-lane undivided local roadway in the vicinity of the proposed Project. In this area, Spruce Avenue is a two-lane undivided local roadway that exists between Spring Lane and Ashland Drive. The City General Plan designates Spruce Avenue as a local roadway.

**Hanford-Armona Road** is an existing east-west two-lane arterial in the vicinity of the proposed Project. In this area, Hanford-Armona Road is a two-lane undivided local roadway west of SR 41, a two- to three-lane arterial divided by a two-way left-turn lane between SR 41 and Lemoore Avenue, a four-lane undivided arterial between Lemoore Avenue and Cinnamon Drive and a two-lane undivided arterial east of Cinnamon Drive. The City General Plan designates Hanford-Armona Road as a four- to six-lane arterial between College Drive and Bennington Avenue.

### **San Joaquin Valley Railroad**

The San Joaquin Railroad provides east-west train services on land owned by Union Pacific Railroad on an average of two trips a day. The trains generally travel with speeds ranging from 10 to 40 miles per hour, depending if they make a stop in Lemoore on that particular trip. The trains currently stop on-demand only, providing service for industrial and agricultural shippers in the City. The railroad tracks are located approximately 1.1 miles south of the Project.

### **Aircraft Noise from Naval Air Station- Lemoore**

Naval Air Station- Lemoore (NASL) boundary is located approximately 7 miles to the west of the Project. One of the principal concerns of airport land use planning is noise compatibility—or minimizing the effects of aircraft noise on communities adjacent to airports and preventing incompatible land use development in areas adjacent to airports.

To minimize noise conflicts, the City has taken steps to ensure appropriate noise mitigation measures are in place before allowing development, including measures such as the noise level reduction (NLR) criteria in AICUZ instructions<sup>11</sup>. The UGB stops development at 21st Avenue, and in addition to UGB restrictions, the recreated wetlands located west of the 21st Avenue/Marsh Drive will help provide a permanent buffer between the City and the base.

## Regulatory Setting

### Federal Regulations

#### *Noise Standards*

There are no federal noise standards that directly regulate environmental noise related to the construction or operation of the proposed Project. With regard to noise exposure and workers, the Office of Safety and Health Administration (OSHA) regulations safeguard the hearing of workers exposed to occupational noise.

#### *Vibration Standards*

The Federal Transit Administration (FTA) has adopted vibration standards that are used to evaluate potential building damage impacts related to construction activities. The vibration damage criteria adopted by the FTA are shown in Table 3.11-3, Construction Vibration Damage Criteria.

**Table 3.11-3  
Construction Vibration Damage Criteria**

<b>Building Category</b>	<b>PPV (in/sec)</b>
I. Reinforced-concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12
<i>Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.</i>	

In addition, the FTA has also adopted standards associated with human annoyance for groundborne vibration impacts for the following three land-use categories: (1) Vibration Category 1 – High Sensitivity, (2) Vibration Category 2 – Residential, and (3) Vibration Category 3 – Institutional. The FTA defines Category 1 as buildings where vibration would interfere with operations within the building, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations. Vibration-sensitive equipment includes, but is not limited to, electron microscopes, high-resolution lithographic equipment, and normal optical microscopes. Category 2 refers to all residential land uses and any buildings where people sleep, such as hotels and hospitals. Category 3 refers to institutional land uses such as schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment, but still have the potential for activity interference.



Under conditions where there are an infrequent number of events per day<sup>2</sup>, the FTA has established thresholds of 65 VdB for Category 1 buildings, 80 VdB for Category 2 buildings, and 83 VdB for Category 3 buildings.

Under conditions where there are an occasional number of events per day<sup>3</sup>, the FTA has established thresholds of 65 VdB for Category 1 buildings, 75 VdB for Category 2 buildings, and 78 VdB for Category 3 buildings. No thresholds have been adopted or recommended for commercial, office, and industrial uses.

### State of California Regulations

#### *California Government Code*

California Government Code Section 65302(f) mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services as shown in Table 3.11-4, California Land Use Compatibility Noise Guidelines.

The guidelines rank noise/land use compatibility in terms of “normally acceptable,” “conditionally acceptable” and “clearly unacceptable” noise levels for various land use types. Single-family homes are “normally acceptable” in exterior noise environments up to 60 CNEL and “conditionally acceptable” up to 70 CNEL. Multiple-family residential uses are “normally acceptable” up to 65 CNEL and “conditionally acceptable” up to 70 CNEL. Schools, libraries, and churches are “normally acceptable” up to 70 CNEL, as are office buildings and business, commercial, and professional uses.

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<sup>2</sup> The Federal Transit Administration, Transit Noise and Vibration Impact Assessment (May 2006) defines “Infrequent Events” as “fewer than 30 vibration events of the same kind per day.” Page 8-3.

[https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA\\_Noise\\_and\\_Vibration\\_Manual.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf). Accessed October 2020.

<sup>3</sup> The Federal Transit Administration, Transit Noise and Vibration Impact Assessment (May 2006) defines “Occasional Events” as “between 30 and 70 vibration events of the same source per day.” Page 8-3.

[https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA\\_Noise\\_and\\_Vibration\\_Manual.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf). Accessed October 2020.

**Table 3.11-4  
California Land Use Compatibility Noise Guidelines**

Land Use Category	Community Noise Exposure (dBA CNEL)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential – Low Density, Single-Family, Duplex, Mobile Homes	50 - 60	55 - 70	70 – 75	75 – 85
Residential – Multiple Family	50 - 65	60 - 70	70 – 75	70 – 85
Playgrounds, Neighborhood Parks	50 - 70	NA	67.5 – 75	72.5 – 85

### *California State Building Code*

The State Building Code, Title 24, Part 2 of the State of California Code of Regulations establishes uniform minimum noise insulation performance standards to protect persons within new buildings which house people, including hotels, motels, dormitories, apartment houses and dwellings other than single-family dwellings. Title 24 mandates that interior noise levels attributable to exterior sources shall not exceed 45 dB  $L_{dn}$  or CNEL in any habitable room.

Title 24 also mandates that for structures containing noise-sensitive uses to be located where the  $L_{dn}$  or CNEL exceeds 60 dB, an acoustical analysis must be prepared to identify mechanisms for limiting exterior noise to the prescribed allowable interior levels. If the interior allowable noise levels are met by requiring that windows be kept closed, the design for the structure must also specify a ventilation or air conditioning system to provide a habitable interior environment.

### Local Regulations

The following lists foals and policies from the City General Plan pertaining to noise that are applicable to the proposed Project.

**SN-G-6** Stive to achieve an acceptable noise environment for present and future residents of Lemoore.

**SN-G-6** Ensure new development is compatible with the noise environment.

**SN-I-35** Require that all new residential development achieve noise level reductions to meet the land use compatibility standards through acoustical design and construction of the building elements:

- Residential building designs must be based upon a minimum interior design noise level reduction of 40 dB in all habitable areas (i.e., garages, storage areas, etc. are expected). The 40 dB criteria must provide a minimum constructed noise level reduction of 35dB; and
- Residential building designs must also be based upon a minimum design noise level reduction of 45dB in all bedroom. The 45 dB criteria must provide a minimum constructed noise level reduction of 40dB.

**SN-I-37** Prohibit construction materials and methods that do not provide enough noise insulation to ensure compliance with compatibility standards, including:

- Facades using aluminum, vinyl or other exterior siding weighing less than 5 psf;
- Façade construction without insulation;
- Flat roofs without an interstitial cavity space or with a space less than 10 inches (i.e., no monolithic T&G roof/ceiling systems);
- Jalousie or other lightweight or poor-sealing window systems; and
- Packaged terminal air-conditioning (PTAC) units (i.e., through-the-wall air-conditioning).

**SN-I-43** Require new noise sources to use best available control technology (BACT) to minimize noise emissions.

*City of Lemoore Municipal Code*

Section 9-5B-2 (Noise, Odor and Vibration Performance Standards) of The City of Lemoore Municipal Code<sup>2</sup> provides additional exterior and interior noise level standards. The Municipal Code sets noise compatibility standards in terms of the Community Noise Equivalent Level (CNEL). Both the Ldn and CNEL represent the time-weighted energy average noise level for a 24- hour day, with a 10 dB penalty added to noise levels occurring during the nighttime hours (10:00 p.m.-7:00 a.m.). The CNEL includes an additional penalty of 5 dB (technically 4.77 dB) that is added to noise levels occurring during the evening hours between 7:00 p.m. and 10:00 p.m.

### *Construction*

**Limitation On Hours of Construction:** To ensure that nearby residents as well as nonresidential activities are not disturbed by noise from early morning or late night activities, the following limits on construction are established:

- Monday through Saturday, seven o'clock (7:00) A.M. to eight o'clock (8:00) P.M.
- Extended construction hours may only be allowed by the review authority through conditions of approval between eight o'clock (8:00) P.M. and ten o'clock (10:00) P.M.
- On Sundays and national holidays, construction activities may only be allowed by the review authority through conditions of approval between nine o'clock (9:00) A.M. and five o'clock (5:00) P.M.

### *Vibration*

**Vibration Standards:** Uses that generate vibrations that may be considered a nuisance or hazard on any adjacent property shall be cushioned or isolated to prevent generation of vibrations. Uses shall be operated in compliance with the following provisions:

- Uses shall not generate ground vibration that is perceptible without instruments by the average person at any point along or beyond the property line of the parcel containing the activities;
- Uses, activities, and processes shall not generate vibrations that cause discomfort or annoyance to reasonable persons of normal sensitivity or which endanger the comfort, repose, health, or peace of residents whose properties abut the property lines of the subject parcel;
- Uses shall not generate ground vibration that interferes with the operations of equipment and facilities of adjoining parcels; and
- Vibrations from temporary construction/demolition and vehicles that leave the subject parcel (e.g., trucks, trains, and aircraft) are exempt from the provisions of this section. (Ord. 2013-05, 2-6-2014).

### *Air Installations Compatible Use Zones Report (AICUZ)*

This document identifies issues that may occur as the civilian population moves in closer contact with Naval Air Station Lemoore (NASL), its noise footprint, and aircraft flight tracks. The Air Installations Compatible Use Zones (AICUZ) Program helps guide a variety of planning efforts seeking to provide smart growth opportunities in the San Joaquin Valley and avoid conflict with current and future military operations. The AICUZ Program recommends community land uses compatible with noise levels, accident potential, and flight clearance requirements associated with military airfield operations in the hope that the information will be incorporated into local, county, and regional planning programs.

### **Thresholds of Significance**

In accordance with Appendix G to the State CEQA Guidelines, the Project would have a significant impact on noise if it would cause any of the following conditions to occur:

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- Generation of excessive groundborne vibration or groundborne noise levels?
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

CEQA does not define what constitutes a substantial increase in noise levels. Some guidance is provided by the 1992 findings of the Federal Interagency Committee on Noise (FICON), which assessed changes in ambient noise levels resulting from aircraft operations. The FICON recommendations are based upon studies that relate aircraft and traffic noise levels to the percentage of persons highly annoyed by the noise. The rationale for the FICON recommendations is that it is possible to consistently describe the annoyance of people exposed to transportation noise in terms of the DNL (or CNEL). Annoyance is a summary measure of the general adverse reaction of people to noise that results in speech interference, sleep disturbance, or interference with other daily activities. The City also provides noise and vibration thresholds in the General Plan and Municipal Code.

## Impacts and Mitigation Measures

**Impact 3.11-1:** *Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Existing noise levels in the Project vicinity are dominated by traffic noise along West Lacey Boulevard and 18th Street. Additional sources of noise in the Project vicinity include occasional aircraft overflights (including aircraft associated with the NASL, noise associated with agricultural activities and noise associated with residential activities (barking dogs, voices, landscaping activities, etc.).

Long-term (24-hour) ambient noise level measurements were conducted at one (1) location (site LT-1). Ambient noise levels were measured for a period of 24 continuous hours at site LT-1. Site LT-1 was located in the southwest portion of the Project site, adjacent to the City-owned enclosed parcel and in the vicinity of residential land uses to the south. The noise monitoring site was exposed to traffic noise associated with vehicles on 18<sup>th</sup> Avenue as well as activities occurring within the City-owned parcel. The location of the long-term measurement site is provided on Figure 3.11-1.

Measured hourly energy average noise levels (Leq) at site LT-1 ranged from a low of 54.6 dB between 2:00 a.m. and 3:00 a.m. to a high of 59.1 dBA between 3:00 p.m. and 4:00 p.m. Hourly maximum (Lmax) noise levels at site LT-1 ranged from 59.8 to 75.5 dBA. Residual noise levels at the monitoring site, as defined by the L90, ranged from 52.0 to 56.4 dBA. The L90 is a statistical descriptor that defines the noise level exceeded 90% of the time during each hour of the sample period. The L90 is generally considered to represent the residual (or background) noise level in the absence of identifiable single noise events from traffic, aircraft and other local noise sources. The measured Ldn value at site LT-1 for the 24-hour measurement period was 61.8 dB Ldn.

Additionally, short-term (15-minute) ambient noise level measurements were conducted at four (4) locations (Sites ST-1 through ST-4).

Two (2) individual measurements were taken at each of the four short-term sites to quantify ambient noise levels in the morning and afternoon hours. The locations of the long-term and short-term noise monitoring sites are shown as Figure 3.11-1.

Short-term noise measurements were conducted for 15-minute periods at each of the four sites. Site ST-1 was located near residential land uses south of the project site, near Glendale Avenue and Quandt Drive, and was exposed to noise associated with roadway traffic and residential

activities. Site ST-2 was located along the western portion of the project site, along 18th Street, and was exposed to noise associated with roadway traffic and agricultural activities. Site ST-3 was located along the northern portion of the project site, along West Lacey Boulevard, and was exposed to noise associated with roadway traffic and agricultural activities. Site ST-4 was located within the residential area south of the project site near the southeastern portion of the Project site, along Ashland Drive, and was exposed to noise associated with roadway traffic and residential activities. Short term noise measurements are provided in Table V of Appendix G.

**Figure 3.11-1**  
**Project Vicinity and Ambient Noise Monitoring Sites**



### Construction Noise Impacts

**Less Than Significant With Mitigation.** Construction noise would occur at various locations within the project site through the buildout period. Existing sensitive receptors could be located as close as 100 feet from construction activities. Table 3.11-4 provides typical construction-related noise levels at distances of 100 feet, 200 feet, and 300 feet.

Construction noise is not considered to be a significant impact if construction is limited to the allowed hours and construction equipment is adequately maintained and muffled. Extraordinary noise-producing activities (e.g., pile driving) are not anticipated. The City limits hours of construction to occur only between the hours of 7:00 a.m. to 8:00 p.m., Monday through Saturday. Construction activities outside of these hours, as well as Sundays and holidays, may only be allowed by the review authority through conditions of approval. Construction noise impacts could result in annoyance or sleep disruption for nearby residents if nighttime operations were to occur or if equipment is not properly muffled or maintained.

Table 3.11-5 provides typical construction-related noise levels at distances of 100 feet, 200 feet, and 300 feet.

**Table 3.11-5  
Typical Construction Equipment<sup>4</sup>**

<b>Type of Equipment</b>	<b>100 Ft.</b>	<b>200 Ft.</b>	<b>300 Ft.</b>
Concrete Saw	84	78	74
Crane	75	69	65
Excavator	75	69	65
Front End Loader	73	67	63
Jackhammer	83	77	73
Paver	71	65	61
Pneumatic Tools	79	73	69
Dozer	76	70	66
Rollers	74	68	64
Scrapers	81	75	71
Portable Generators	74	68	64
Backhoe	80	74	70
Grader	80	74	70

During the construction of the proposed Project, construction activities have the potential to impact noise sensitive land uses in the immediate vicinity. Mitigation Measure NOI- 1 requires that construction equipment have noise control devices installed, stationary construction equipment, staging and laydown areas are placed to direct noise away from sensitive receptors, and that trucks do not idle more than 5 minutes. NOI-2 requires that signs displaying hours of construction activities and the contact information of a designated noise disturbance coordinator be posted.

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<sup>4</sup> Noise Assessment for the Lacey Ranch Master Plan prepared by WJV Acoustics. June 2021. Appendix G. Page 14.



Implementation of Mitigation Measures NOI-1 and NOI2 would ensure compliance with the City noise standards. As a result, construction-related noise impacts of the Project are *less than significant*.

### Long-Term Operational Traffic Noise Impacts

**Less Than Significant.** The Federal Highway Administration (FHWA) Traffic Noise Model was utilized to quantify expected Project-related increases in traffic noise exposure along roadways in the project vicinity. The FHWA Model is a standard analytical method used by state and local agencies for roadway traffic noise prediction. The model is based upon reference energy emission levels for automobiles, medium trucks (2 axles) and heavy trucks (3 or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly Leq values for free-flowing traffic conditions and is generally considered to be accurate within  $\pm 1.5$  dB. To predict Ldn values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume.<sup>5</sup>

Average Daily Traffic (ADT) traffic volumes were provided for Existing (without project), Existing Plus Project, Cumulative 2040 No Project and Cumulative 2040 Plus Project traffic scenarios (see Appendix H).

The percentage of trucks and the day/night distribution of traffic on local roadways used for modeling was approximated based upon data previously obtained, from previous projects in the project vicinity. The noise modeling assumptions used to calculate project traffic noise are provided as Appendix G.

Traffic noise exposure levels for specific scenarios were calculated based upon the FHWA Model and the above-described model inputs and assumptions. Project-related significant impacts would occur if an increase in traffic noise associated with the project would result in noise levels exceeding the City's applicable noise level standards at the location(s) of sensitive receptors or result in an increase of five (5) dB or more if the resulting noise level would exceed that described as "normally acceptable" by the City of Lemoore.

The General Plan Noise Element considers a noise exposure up to 60 dB Ldn as "normally acceptable" for low density single family residential land uses. Traffic noise was modeled at fifteen representative receptor locations in the project vicinity. The fifteen modeled receptors are

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<sup>5</sup> Noise Assessment for the Lacey Ranch Master Plan prepared by WJV Acoustics. June 2021. Appendix G. Page 10.

located at roadway setback distances representative of the sensitive receptors along each analyzed roadway segment and are demonstrated in Figure 3.11-2.

**Figure 3.11-2  
Modeled Traffic Noise Receptor Locations**

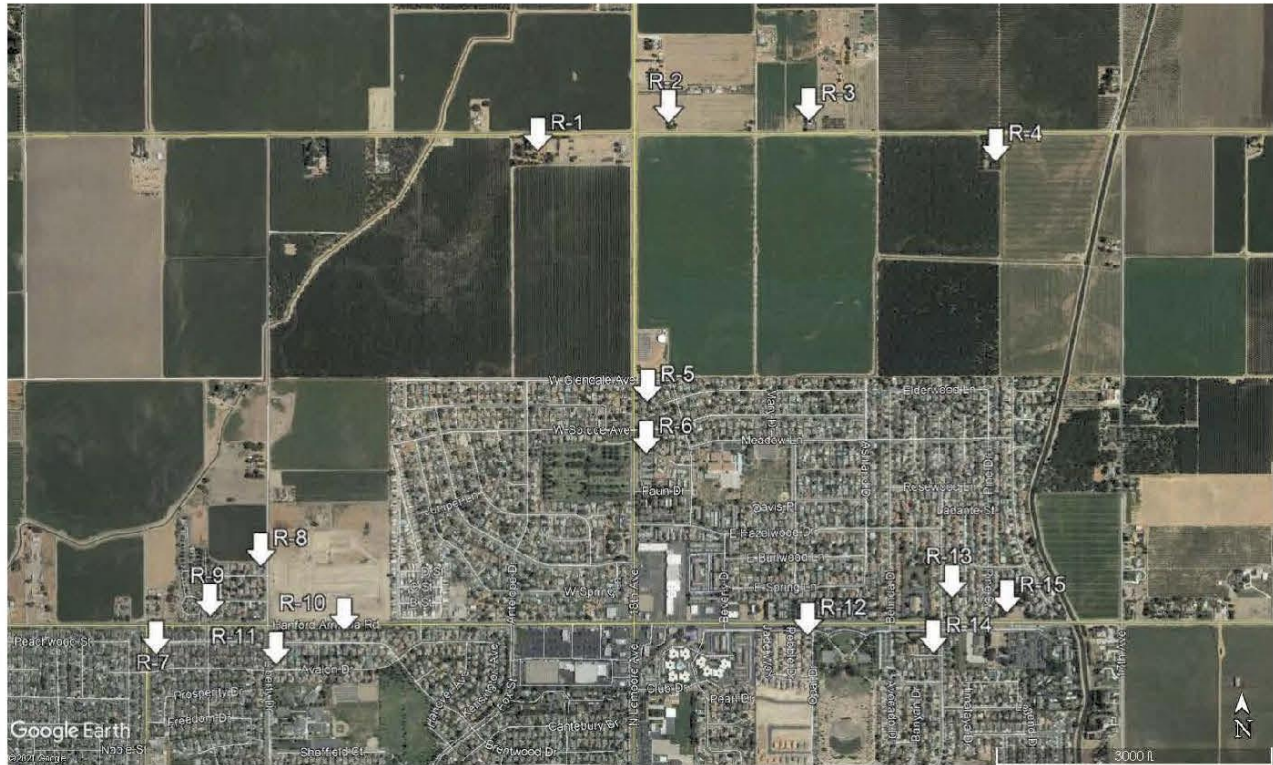


Table 3.11-5 provides a comparison of traffic noise levels at the 15 modeled receptor locations for Existing, Existing Plus Project, 2040 No Project and 2040 Plus Project traffic conditions. Reference to Table VII of Appendix G indicates that project-related increases in traffic noise at nearby sensitive receptor locations would generally increase by less than 1 dB for Cumulative 2040 traffic conditions. Project-related increases in traffic noise at receptor locations located along Lacey Boulevard, east of the future alignment of Mary Drive (R-3 and R-4) would be approximately 1 dB for Cumulative 2040 traffic conditions. Project-related increases in traffic noise at receptor locations along 18th Avenue (Lemoore Street), south of the Project site (R-5 and R-6) would be approximately 2-3 dB for Cumulative 2040 traffic conditions.

Project-related increases in traffic noise along the fifteen analyzed receptor locations would not result in noise levels exceeding the City’s 60 dB Ldn exterior noise level standard or result in an increase of 5 dB at any receptor location. It should be noted, while traffic noise exposure levels at some receptor locations (R-9, R-10 and R-15) do exceed the City’s 60 dB Ldn exterior noise level

standard, this exceedance is not a result of the Project, and is therefore not considered to be a significant impact. Additionally, many receptors have existing sound walls (including R-9, R-10 and R-15) which would result in noise levels lower than those described in Table 3.11-5.

Table 3.11-6 also indicates that Project-related increases in traffic noise at nearby sensitive receptor locations would generally increase by less than 1 dB for Cumulative 2040 traffic conditions. Project-related increases in traffic noise at receptor locations located along Lacey Boulevard, east of the future alignment of Mary Drive (R-3 and R-4) would be approximately 1 dB for Cumulative 2040 traffic conditions. Project-related increases in traffic noise at receptor locations along 18th Avenue (Lemoore Street), south of the project site (R-5 and R-6) would be approximately 2-3 dB for cumulative 2040 traffic conditions.

Therefore, Project-related increases in traffic noise exposure are considered to be *less than significant*.

**Table 3.11-6  
Project-Related Increases in Traffic Noise, dB, CNEL<sup>6</sup>**

Model Receptor	Existing	Existing Plus Project	2040 No Project	2040 Plus Project	Change (Max)	Significant Impact?
R-1	53	53	54	54	+2	No
R-2	57	58	58	59	+2	No
R-3	57	58	58	59	+2	No
R-4	51	52	52	53	+2	No
R-5	55	57	55	57	+2	No
R-6	55	58	55	58	+3	No
R-7	55	55	56	56	+1	No
R-8	53	53	55	55	+2	No
R-9	59	59	60	60	+1	No
R-10	60	61	61	62	+2	No
R-11	52	53	54	54	+2	No
R-12	56	56	56	57	+1	No
R-13	51	51	52	52	+1	No
R-14	56	57	57	57	+1	No
R-15	60	60	60	60	0	No

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<sup>6</sup> Noise Assessment for the Lacey Ranch Master Plan prepared by WJV Acoustics, June 2021, Appendix G, Page 13.

*Impact Determination*

As described herein, the Project would not result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project, or exceed standards established in the local general plan or noise ordinance, or applicable standards of other agencies with the incorporation of mitigation measures. Impacts are *less than significant* with the incorporation of Mitigation Measures NOI-1 and NOI-2.

**Mitigation Measures**

- NOI - 1:**
- a) All construction equipment shall be equipped with noise control devices (e.g. mufflers) in accordance with manufacturers' specifications throughout construction. Construction equipment shall be periodically inspected to ensure proper maintenance and presence of noise control devices (e.g. lubrication, mufflers that do not leak, and shrouding).
  - b) Equipment staging and laydown areas shall be located at the furthest practical distance from nearby residential land uses. To the extent possible, staging and laydown areas should be located at least 500 feet of existing residential dwellings.
  - c) Haul trucks shall not be allowed to idle for periods greater than five minutes, except as needed to perform a specified function (e.g., concrete mixing).
- NOI - 2:** Prior to the issuance of grading permits, signs legible at a distance of 50 feet shall be posted at the construction site and near adjacent sensitive receptors displaying hours of construction activities and providing the contact phone number of a designated noise disturbance coordinator.

**Impact 3.11-2:** *Generation of excessive groundborne vibration or groundborne noise levels?*

**Less Than Significant.** The dominant sources of man-made vibration are sonic booms, blasting, pile driving, pavement breaking, demolition, diesel locomotives, and rail-car coupling. None of these activities are anticipated to occur with construction or operation of the proposed Project. Vibration from construction activities could be detected at the closest sensitive land uses, especially during movements by heavy equipment or loaded trucks and during some paving activities (if they were to occur). Typical vibration levels at distances of 100 feet and 300 feet are summarized by Table 3.11-7. These levels would not be expected to exceed any significant threshold levels for annoyance or damage, as provided in Appendix G.

**Table 3.11-7  
Typical Vibration Levels During Construction<sup>7</sup>**

Equipment	PPV (in/sec)	
	@ 100'	@ 300'
Bulldozer (Large)	0.011	0.006
Bulldozer (Small)	0.0004	0.00019
Loaded Truck	0.01	0.005
Jackhammer	0.005	0.002
Vibratory Roller	0.03	0.013
Caisson Drilling	0.01	0.006

After full Project build out, it is not expected that ongoing operational activities will result in any vibration impacts at nearby sensitive uses. Activities involved in trash bin collection could result in minor on-site vibrations as the bin is placed back onto the ground. Such vibrations would not be expected to be felt at the closest off-site sensitive uses. Any impacts would be *less than significant*.

#### **Mitigation Measures**

None are required.

**Impact 3.11-3:** *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

**Less Than Significant.** The Project is not located within two miles of a public airport or private airstrip. The Project is located approximately 7 miles east of the NASL-facility. As noted in the AICUZ report, Figure 4-1, the site is outside identified Noise Contour zones. Although aircraft from NAS- Lemoore will fly overhead, the Project would not expose residents to excessive noise levels from aircraft or military operations. Therefore, there is a *less than significant impact*.

#### **Mitigation Measures**

None are required.

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<sup>7</sup> Noise Assessment for the Lacey Ranch Master Plan prepared b54y WJV Acoustics54. June 2021. Appendix G. Page 15.

## Cumulative Impacts

**Less Than Cumulatively Considerable.** Construction of the individual development projects allowed under the land use designations of the City General Plan may result in the generation of site-specific noise increases from stationary noise sources, and may contribute incrementally to noise from mobile sources. Additionally construction noise from individual development projects allowed under the 2030 Lemoore General Plan may result in the generation of site-specific noise increases. Due to the localized nature of noise impacts, cumulative impacts would be largely limited to areas within the general vicinity of the Project, which is generally considered 1,000 feet.

The proposed Project's temporary construction activities, in combination with the construction of other reasonably foreseeable projects in the area could result in increased short-term construction noise levels in the Project area (depending upon the specific timing of the construction of those other projects and proximity to the project site). Construction activities associated with other projects in proximity to the Project site could occur at the same time as the proposed project. However, other projects would also be required to adhere to all City noise-related regulations. Implementation of Mitigation Measures NOI-1 and NOI-2 would reduce and minimize cumulative construction noise level and cumulative impacts would be less than significant level.

Cumulative construction may also result in the exposure of people to or the generation of excessive groundborne vibration. The same receptor as identified for construction noise would be the closest to be impacted by the Project with respect to construction related vibration as well. Due to these distances, and the rapid attenuation of groundborne vibration, the Project and any nearby other project would not be in close enough proximity to the sensitive receptors such that any sensitive receptor would be exposed to substantial groundborne vibration levels. Therefore, cumulative impact in terms of groundborne vibration would be less than significant.

As indicated herein, the Project will not result in significant permanent increases in noise or vibration levels. In addition, while temporary construction noise does not constitute a significant impact either at the project-level or cumulative level, construction noise mitigation is included to ensure impacts remain less than significant. Therefore, with implementation of NOI-1 and NOI-2, the proposed Project's incremental contribution to cumulative noise impacts would be *less than cumulatively considerable*.

## 3.12 Population and Housing

This section of the DEIR evaluates the potential environmental effects related to population and housing associated with implementation of the proposed Project.

The environmental impacts of Project-induced population growth within the City are evaluated within this EIR in other sections (e.g. air quality, traffic, noise, water use, biological impacts, etc.). For instance, Project-related impacts to the local transportation system are addressed in Chapter 3.17 – *Transportation*; City infrastructure (e.g., sewer, wastewater, etc) impacts are addressed in Chapter 3.19 – *Utilities*; impacts on police/fire/school and other public services are analyzed in Chapter 3.15 – *Public Services*, etc. Refer to those individual Chapters as well as other sections for specific discussions on Project-related impacts in relation to cumulative population effects on the City and surrounding area.

### Environmental Setting

The Project is proposing to subdivide and develop approximately 156 acres of land into a planned residential community with a mix of single-family and multi-family housing units in an area immediately north of the City limits. The southern portion of the site is designated by the City of Lemoore General Plan for future residential use while the northern portion of the site is outside of the City’s Sphere of Influence (SOI). The Project will include up to 825 residential units of varying sizes and densities, constructed in four phases over 16 years. The Project also includes development of four parks and 1.64 acres of trail area.

#### Existing Population

The United States Census Bureau estimates the January 2020 population of the City to be 27,038.<sup>1</sup> According to the General Plan, Lemoore has an average growth rate of 3.1 percent with a projected population of about 48,250 persons by the Year 2030.<sup>2</sup>

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<sup>1</sup> U.S. Census Bureau: <https://www.census.gov/quickfacts/lemoorecitycalifornia> Accessed December 2021.

<sup>2</sup> 2030 Lemoore General Plan. Chapter 1 – Introduction. [https://lemoore.com/wp-content/uploads/2018/01/lemoore\\_gp\\_ch1\\_intro\\_060308.pdf](https://lemoore.com/wp-content/uploads/2018/01/lemoore_gp_ch1_intro_060308.pdf). Accessed May 2021. Page 1-14.



## Employment

According to the 2016-2024 Housing Element, the Naval Air Station Lemoore (NASL), is the largest employer in the City of Lemoore, with 7,600 civilian employees.<sup>3</sup> NASL is located approximately three miles west of the City of Lemoore and is one of the Navy's largest jet bases in the US and a major economic driver for Lemoore.

The California Employment Development Department (EDD) provides labor force and employment data for the City of Lemoore. According to the EDD, in October 2021, the City had 11,900 persons in the Labor Force with 11,200 persons employed. This results in an unemployment rate of 6.4%.<sup>4</sup>

## Existing and Project Housing

The Department of Finance estimates that as of January 1, 2021, the City has a total of 9,535 housing units (6,832 of those are detached single-family units) with a vacancy rate of 3.8%.<sup>5</sup> According to the City's General Plan, the City anticipated that General Plan buildout (Year 2030) would result in approximately 16,300 total housing units in the City.<sup>6</sup> The proposed Project would develop up to 825 residential units at full buildout.

## **Regulatory Setting**

### Federal Regulations

#### *US Department of Housing and Urban Development (HUD)*

HUD's mission is to create strong, sustainable, inclusive communities and quality affordable homes for all. HUD is working to strengthen the housing market to bolster the economy and protect consumers; meet the need for quality affordable rental homes: utilize housing as a

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<sup>3</sup> Kings County and Cities of Avenal, Corcoran, Hanford and Lemoore. 2016-2024 Housing Element. [https://lemoore.com/wp-content/uploads/2018/01/kings\\_county\\_2016\\_housing\\_element\\_2016\\_07\\_26\\_final\\_certified.pdf](https://lemoore.com/wp-content/uploads/2018/01/kings_county_2016_housing_element_2016_07_26_final_certified.pdf). Accessed May 2021. Page 2-15.

<sup>4</sup> CA Employment Development Department. <https://www.labormarketinfo.edd.ca.gov/data/labor-force-and-unemployment-for-cities-and-census-areas.html>. Accessed December 2021.

<sup>5</sup> California Department of Finance. E-1 Population Estimates for Cities, Counties, and the State, January 1, 2020 and 2021. <https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/>. Accessed May 2021.

<sup>6</sup> 2030 Lemoore General Plan. Chapter 1 – Introduction. [https://lemoore.com/wp-content/uploads/2018/01/lemoore\\_gp\\_ch1\\_intro\\_060308.pdf](https://lemoore.com/wp-content/uploads/2018/01/lemoore_gp_ch1_intro_060308.pdf). Accessed May 2021. Page 1-14.

platform for improving quality of life; build inclusive and sustainable communities free from discrimination; and transform the way HUD does business.<sup>7</sup>

### State of California Regulations

#### *California Department of Housing and Community Development (HCD)*

HCD's mission is to “[p]rovide leadership, policies and programs to preserve and expand safe and affordable housing opportunities and promote strong communities for all Californians.”<sup>8</sup> “In 1977, the State Department of Housing and Community Development (HCD) adopted regulations under the California Administrative Code, known as the Housing Element Guidelines, which are to be followed by local governments in the preparation of local housing elements. AB 2853, enacted in 1980, further codified housing element requirements. Since that time, new amendments to State Housing Law have been enacted.

State Housing Law also mandates that local governments identify existing and future housing needs in a Regional Housing Needs Assessment (RHNA).

#### *California Relocation Assistance Act*

The State of California adopted the California Relocation Assistance Act (*California Government Code* §7260 et seq.) in 1970. This State law, which follows the federal Uniform Relocation Assistance and Real Property Acquisition Act, requires public agencies to provide procedural protections and benefits when they displace businesses, homeowners, and tenants in the process of implementing public programs and projects. This State law calls for fair, uniform, and equitable treatment of all affected persons through the provision of relocation benefits and assistance to minimize the hardship of displacement on the affected persons.

### Local Regulations

#### Kings County Association of Governments (KCAG)

The Kings County Association of Governments (KCAG) as the Council of Governments is charged with the role of determining how the State determined regional housing needs for the Kings County Region will be distributed among the unincorporated County and the four incorporated cities of Avenal, Corcoran, Hanford, and Lemoore. KCAG prepared a Regional

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<sup>7</sup> U.S. Department of Housing and Urban Development, Mission, <http://portal.hud.gov/hudportal/HUD?src=/about/mission>. Accessed May 2021.

<sup>8</sup> California Department of Housing and Community Development, Mission, <https://www.hcd.ca.gov/about/mission.shtml>. Accessed May 2021.

Housing Need Assessment (RHNA) Plan to allocate each jurisdiction's fair share of new housing units that are projected to be needed from January 1, 2014 to January 31, 2024.

Future housing needs refer to the projected amount of housing a community is required to plan for during a specified planning period. California's Housing and Community Development Department provides each regional council of governments its share of the statewide housing need. In turn, all councils of governments are required by State law to determine the portion allocated to each jurisdiction within the region. This allocation process is known as the RHAP in the KCAG region.

*2016-2024 Housing Element for Kings County and Cities of Avenal, Corcoran, Hanford and Lemoore*

California Housing Element law requires every jurisdiction to prepare and adopt a housing element as part of a City's General Plan.

State Housing Element requirements are framed in the California Government Code, Sections 65580 through 65589, Chapter 1143, Article 10.6. The law requires the State Department of Housing and Community Development (HCD) to administer the law by reviewing housing elements for compliance with State law and by reporting its written findings to the local jurisdiction. Although State law allows local governments to decide when to update their general plans, State Housing Element law mandates that housing elements be updated every eight years. The City's Housing Element contains information on housing needs, land inventory, constraints, and a program of action.

## **Thresholds of Significance**

The thresholds of significance for this section are established by the CEQA Checklist Item.

- *Induce substantial unplanned population growth in an area, either directly or indirectly?*
- *Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

## Impacts and Mitigation Measures

**Impact 3.12-1:** *Induce substantial unplanned population growth in an area, either directly or indirectly?*

**Less Than Significant Impact.** Project implementation will have a direct, growth inducing impact on the area’s population and housing stock by facilitating the development of up to 825 new households within the City of Lemoore. Development is expected to occur over 16 years as determined by market demands and will be constructed over four phases, broken down as follows:

- Phase 1 – 125 single family lots and 90 multifamily lots
- Phase 2 – 125 single family lots and 100 multifamily lots
- Phase 3 – Dependent on market conditions
- Phase 4 – Dependent on market conditions

It is anticipated that the Project would begin development in 2022.

For purposes of evaluating the environmental impact of population growth in Lemoore under CEQA, the question becomes whether or not the Project will induce population beyond what the City has or will plan for and/or can accommodate at full buildout of the Project. The assessment takes into account Project-related impacts to topics like traffic, water supply, public services (police, fire, etc.), sewer / storm drain capacity, and other related topics, as the City has prepared infrastructure Master Plans based on buildout of the City’s General Plan.

The United States Census Bureau estimates the January 2020 population of the City to be 27,038.<sup>9</sup> According to the General Plan, Lemoore has an average growth rate of 3.1 percent with a projected population of about 48,250 persons by the Year 2030.<sup>10</sup> As discussed previously, the City averages 3.1 persons per household, which could result in an increase of approximately 2,558 people at full Project buildout. The City’s current population of 27,038 residents would be increased by approximately 9.5% to 29,596 from the Project. Table 3.12-1 shows the City’s existing population, the increase in population from the proposed Project, and the City’s General Plan projected population in Year 2030, assuming full buildout of the General Plan. The last column shows the additional population that could be accommodated under the City’s General Plan even with full buildout of the proposed Project.

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<sup>9</sup> U.S. Census Bureau: <https://www.census.gov/quickfacts/lemoorecitycalifornia> Accessed December 2021.

<sup>10</sup> 2030 Lemoore General Plan. Chapter 1 – Introduction. [https://lemoore.com/wp-content/uploads/2018/01/lemoore\\_gp\\_ch1\\_intro\\_060308.pdf](https://lemoore.com/wp-content/uploads/2018/01/lemoore_gp_ch1_intro_060308.pdf). Accessed May 2021. Page 1-14.

**Table 3.12-1: Population Estimates**

Existing Population (2020)	Proposed Project Population	Existing Plus Project Population	General Plan 2030 Projected Population	Additional Population That Could Be Accommodated Under the 2030 General Plan
27,038	2,558	29,596	48,250	18,654

The Department of Finance estimates that as of January 1, 2021, the City has a total of 9,535 housing units (6,832 of those are detached single-family units) with a vacancy rate of 3.8%.<sup>11</sup> According to the City's General Plan, the City anticipated that General Plan buildout (Year 2030) would result in approximately 16,300 total housing units in the City.<sup>12</sup> The proposed Project would develop up to 825 residential units at full buildout. Table 3.12-2 shows the existing number of units in the City, the number of units proposed by the Project, and the City's General Plan projected number of housing units in Year 2030, assuming full buildout of the General Plan. The last column shows the additional number of housing units that could be accommodated under the City's General Plan even with full buildout of the proposed Project.

**Table 3.12-2: Residential Units**

Existing Units (2021)	Proposed Project # of Units	Existing Plus Project # of Units	General Plan 2030 Projected Buildout # of Total Units	Additional Housing Units That Could Be Accommodated Under the 2030 General Plan
9,535	825	10,360	16,300	5,940

The 2016-2024 Housing Element for Kings County and Cities of Avenal, Corcoran, Hanford and Lemoore (Housing Element) contains data pertaining to anticipated housing needs in the City.

<sup>11</sup> California Department of Finance. E-1 Population Estimates for Cities, Counties, and the State, January 1, 2020 and 2021. <https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/>. Accessed May 2021.

<sup>12</sup> 2030 Lemoore General Plan. Chapter 1 – Introduction. [https://lemoore.com/wp-content/uploads/2018/01/lemoore\\_gp\\_ch1\\_intro\\_060308.pdf](https://lemoore.com/wp-content/uploads/2018/01/lemoore_gp_ch1_intro_060308.pdf). Accessed May 2021. Page 1-14.

According to the Housing Element, the City has an existing need for 2,985 housing units<sup>13</sup> ranging in categories from “Very Low” to “Above Moderate” income category housing needs. The Project contains a mixture of detached single-family homes and multi-family units which will assist the City in meeting some of its Housing Element goals and requirements.

As shown in the tables above, the anticipated population and housing unit increase associated with the proposed Project is within the growth projections of the City’s 2030 General Plan.

While other future residential developments are also likely to occur in the City, it is anticipated that the City can accommodate the Project and other residential developments in the City. The General Plan anticipated a population of up to 48,250 people with up to 16,300 residential units by 2030. Given the City’s current population (27,038 persons) and housing stock (9,535 units), the City could accommodate the proposed Project plus an additional 18,654 persons and 5,940 housing units according to the City’s General Plan.

Based on the City’s General Plan, infrastructure master planning documents, and the City’s Housing Element, it is determined that the proposed Project will not induce unplanned population growth beyond that which can be accommodated by the City. It has been determined that the City has adequate capacity to serve the Project and therefore, the Project will have a *less than significant* impact occurring from inducement of unplanned population.

**Mitigation Measures:** None are required.

**Impact 3.12-2:** *Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

**No Impact.** The Project site is currently undeveloped and contains no housing or structures. Thus, the proposed Project would not displace existing housing or people. There is *no impact*.

**Mitigation Measures:** None are required.

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<sup>13</sup>2016-2024 Housing Element for Kings County and Cities of Avenal, Corcoran, Hanford and Lemoore, page 2-39. Accessed May 2021.

## Cumulative Impacts

**Less Than Cumulatively Considerable.** The proposed project would result in population growth in an area currently designated for agricultural uses. Growth will also occur in other areas of the City and unincorporated communities in Kings County in areas surrounding the City. However, as noted above, it is anticipated that the City can accommodate the Project and other residential developments in the City. The General Plan anticipated a population of up to 48,250 people with up to 16,300 residential units by 2030. Based on the City's current population (27,038 persons) and housing stock (9,535 units), the City could accommodate the proposed Project plus an additional 18,654 persons and 5,940 housing units according to the City's General Plan.

The Project in conjunction with the current and reasonably foreseeable projects would lead to what is anticipated population growth. It should also be noted that while the proposed Project and other projects would result in an increase in new housing, related population growth, and associated environmental impacts discussed throughout this EIR, they would also help meet a documented need for housing supply in the region, thus beneficially affecting the region's continued demand for housing. The City of Lemoore, Kings County, and other incorporated and unincorporated jurisdictions are required by State law to use the General Plan process, the CEQA process, as well as other planning processes, such as utility master plans, to plan for and control future growth. Since the proposed Project will not result in an increase in population and housing units above what was planned for in the City's General Plan, there would not be a cumulative impact associated with unplanned growth adversely affecting population and housing. As a result, the proposed project would *not contribute to a significant cumulative impact*.

### 3.13 Public Services

This section of the DEIR identifies potential impacts associated with the City's police and fire protection services, school facilities, and other public facilities.

#### **Environmental Setting**

##### Fire Protection

The Lemoore Volunteer Fire Department (LVFD) has operated as an all-volunteer department since 1921. The LVFD includes a Chief, Assistant Chiefs, Crew Captains, Engineers, Emergency Medical Technicians, one paid part-time Secretary, and one paid full-time maintenance worker. The department covers an area of approximately nine square miles, with Mutual Aid Agreements with Kings County Fire, Hanford City Fire and the Naval Air Station Lemoore. Other public services provided include fire inspections, tours and demonstrations, permitting of certain hazardous materials, and investigation of hazardous materials incidents. The Fire Department regulates explosive and hazardous materials under the Uniform Fire Code, and permits the handling, storage and use of any explosive or other hazardous material.<sup>1</sup> The nearest fire station to the Project site is the Lemoore Fire Department Station, located approximately 1.6 miles southwest of the Project site at 210 Fox Street in Lemoore.

##### Police Services

Housed at 657 Fox Street on the northwest corner of Fox Street and Cinnamon Drive (approximately 1.4 miles southwest of the Project site), the Lemoore Police Department provides police services for the City. In 2020, the Lemoore Police Department had nine Reserve Police Officers. Three Reserve Police Officers were hired and became full time Police Officers with the Department and one Reserve retired. One Evidence Technician was also hired. In addition, one Commander title was changed to Captain, and two Lieutenant positions were added.<sup>2</sup> According to the City's General Plan EIR, the Police Department operates at a ratio of 1.33 officers per thousand residents, which is lower than the western U.S. average of 1.5 officers per thousand residents reported by the Federal Bureau of Investigation.<sup>3</sup> Response times and the ability of the

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<sup>1</sup> City of Lemoore General Plan, 2030. Chapter 8: Safety and Noise, page 8-13. [https://lemoore.com/wp-content/uploads/2018/01/lemoore\\_gp\\_ch8\\_safety\\_noise\\_3\\_20\\_2012.pdf](https://lemoore.com/wp-content/uploads/2018/01/lemoore_gp_ch8_safety_noise_3_20_2012.pdf). Accessed June 2021.

<sup>2</sup> Lemoore Police Department – 2020 Annual Report, page 30. Accessed September 2021.

<sup>3</sup> City of Lemoore General Plan EIR, 2030, page 3.3-14. Accessed June 2021.



Police Department to provide acceptable levels of service are contingent on increasing staffing levels, sworn and civilian, consistent with resident population increase and the population of visitors, merchants, schools, and shoppers with the Department's service area. The current Police Department facility is nearing capacity. Facility and manpower resources will continue to be stretched as demand for services increase in the future. As the City grows, the Police Department faces the dual challenges of maintaining smooth traffic flow and ensuring the safety of Lemoore citizens. It will be important for the City of Lemoore to consider projected growth and geographic distribution of population as presented in the General Plan when allocating resources to the Police Department and negotiating locations for new facilities.<sup>4</sup>

### Schools

The Lemoore Union Elementary School District and the Lemoore Union High School District oversee public schools in the Planning Area. The Elementary School District is comprised of four elementary schools (from grades K-6), one middle school, and one charter elementary /middle school (K-8). The Lemoore Union High School District has a larger coverage area that includes the unincorporated community of Stratford and Naval Air Station Lemoore (NAS Lemoore) and currently comprises the main campus of Lemoore High School, an adjoining campus of the Gertrude F. Gundacker Alternative Education Facilities, and Lemoore Middle College High School which is located at the West Hills College Campus. Together, both elementary and high school districts provide education to approximately 5,600 students.<sup>5</sup> Meadow Lane Elementary School is approximately 0.15 miles to the south of the Project site.

### Parks

Currently, the Parks and Recreation Department of the City of Lemoore maintains approximately 88 acres of the parkland, which excludes the City owned municipal golf course. The City's ponding basins, including the one adjacent to West Hills College, provide an additional 38 acres of open space. There are no parks within the vicinity of the Project.<sup>6</sup> The nearest park is Heritage Park, located approximately 0.8 miles south of the Project site. Lions Park is approximately 1.1 miles to the southeast.

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<sup>4</sup> City of Lemoore General Plan, 2030. Chapter 8: Safety and Noise, pages 8-12 and 8-13.

<sup>5</sup> Ibid. Page 5-1.

<sup>6</sup> Ibid. Page 5-7.

## Libraries

The nearest library is Lemoore Branch Library, located approximately 1.2 miles southwest of the Project site. The library is located at 457 C Street near downtown and will require larger facilities to meet the area's needs through General Plan buildout.<sup>7</sup>

## **Regulatory Setting**

### Federal Regulations

There are no federal regulations pertaining to public services that apply to the proposed Project.

### State of California Regulations

#### *California Department of Forestry and Fire Protection*

Under Title 14 of the California Code of Regulations, CAL FIRE has the primary responsibility for implementing wildfire planning and protection for the SRA. CAL FIRE develops fire safe regulations and issues fire safe clearances for land within a fire district of the SRA. More than 31 million acres of California's privately-owned wildlands are under the jurisdiction of the CAL FIRE.

In addition to wildland fires, CAL FIRE's planning efforts involve responding to other types of emergencies that may occur on a daily basis, including residential or commercial structure fires, automobile accidents, heart attacks, drowning victims, lost hikers, hazardous material spills on highways, train wrecks, floods, and earthquakes. Through contracts with local government, CAL FIRE provides emergency services in 36 of California's 58 counties (CAL FIRE, 2016).

#### *Senate Bill 50*

The Leroy F. Greene School Facilities Act of 1998, or Senate Bill 50 (SB 50), authorizes school districts to levy developer fees to finance the construction or reconstruction of school facilities. In January 2015, the State Allocation Board (SAB) approved maximum Level 1 developer fees at \$0.54 per square foot of enclosed and covered space in any commercial or industrial development, and \$3.36 per square foot for residential development (SAB, 2014). These fees are intended to address the increased educational demands on the school district resulting from new development. Public school districts

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<sup>7</sup> Ibid. Page 5-12.

can, however, impose higher fees than those established by the SAB, provided they meet the conditions outlined in the act. Private schools are not eligible for fees collected pursuant to SB 50.

The payment of school mitigation impact fees authorized by SB 50 is deemed to provide full and complete mitigation of project impacts on school facilities. SB 50 provides that a State or local agency may not deny or refuse to approve the planning, use, or development of real property on the basis of a developer's refusal to provide mitigation in amounts in excess of that established by SB 50.

*Education Code Section 17620 and Government Code Section 65995 et. seq.*

Funding for schools and school facilities impacts is outlined in Education Code Section 17620 and Government Code Section 65995 et. seq., which governs the amount of fees that can be levied against new development. These fees are used to construct new or expanded schools facilities. Payment of fees authorized by the statute is deemed "full and complete mitigation."

*California Occupational Safety and Health Administration*

In accordance with California Code of Regulations Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment," the California Occupational Safety and Health Administration (Cal- OSHA) has established minimum standards for fire suppression and emergency medical services (EMS). The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance and use of all firefighting and emergency medical equipment.

*City Emergency Response/Evacuation Plans*

The State of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

*California Fire Code*

The California Fire Code (CFC) contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing

buildings and the surrounding premises. The CFC also contains specialized technical regulations related to fire and life safety.

### *California Health and Safety Code*

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, which includes regulations for building standards, fire protection and notification systems, fire protection devices such as extinguishers, smoke alarms, high-rise buildings, childcare facility standards, and fire suppression training.

### Local Regulations

#### *City of Lemoore General Plan Policies*

The following lists goals and policies from the City of Lemoore 2030 General Plan pertaining to public services that are applicable to the proposed Project.

- PSCF-I-1**                      Establish a goal of 6 acres of parkland per thousand residents to be met by:
- Dedication and reservation requirements consistent with the Quimby Act, for landscaped open spaces, parks, trail systems, and/or special community service facilities in new residential developments based on a standard of 5 acres of developed parkland per thousand residents; and
  - A standard of one acre per thousand residents to be met with an impact fee for City-owned and operated parks and special recreation areas that serve all residents.

*In addition to new parkland dedicated by developers, the City will continue to acquire or re-develop parklands as needed, subject to availability of funding. It is the City's intent to meet the parkland goal with functional public acreage only. Restricted recreation facilities (such as golf courses, raceways, and on-site school recreational facilities) are not included in this parkland total. The City also will maintain flexibility in the location and design of parks. In-lieu fees will only be acceptable where an exemption from providing a neighborhood park facility would not adversely affect local residents because an existing park is nearby.*

- PSCF-I-3**                      Require non-residential developers contribute to the City's parks and open space system based on proportional share of needs generated and use of facilities, in compliance with the State Mitigation Fee Act and other applicable laws.

*A “nexus” study will be undertaken to establish impact fees based on surveys of park use during the workday by employees of nearby development. Exemptions for small infill projects may be granted.*

**PSCF-I-9** Work with the Lemoore Branch Library and Kings County to ensure library facilities are adequate to meet current and future needs and to implement supplemental funding programs, if warranted.

**SN-G-5** Maintain and enhance the City’s capacity for law enforcement, fire-fighting and emergency response.

**SN-I-15** Enforce the Uniform Fire Code for construction plans and final occupancy permits.

**SN-I-22** Assess the manpower, facility, and equipment needs of Police and Fire services at least every three years in order to provide all residents with an optimal level of protection.

*To meet existing and future demand, the City will continue to plan for adequate law enforcement and fire-fighting services and ensure their staffing ratios and response time meet national standards. The requirements for additional Police and Fire Stations shall be considered in Capital Improvement Program budgets and development impact fees.*

**SN-I-25** Maintain mutual aid agreements with Kings County, Naval Air Station Lemoore, neighboring law enforcement agencies and the California Highway Patrol.

**SN-I-27** Maintain Fire Department performance and response standards at Class 3 ISO rating or better, including building and staffing a new fire station in West Lemoore if necessary.

**SN-I-28** Require adequate access for emergency vehicles in all new development, including adequate widths, turning radii, and vertical clearance on new streets.

*The street cross-sections in the General Plan are consistent with this policy.*

**SN-I-30** Maintain mutual aid agreements with Kings County, California Department of Forestry, Naval Air Station Lemoore, and nearby cities for fire and disaster services.

*Additional policies in the Land Use Element will ensure that new development finances additional public safety facilities as necessary to mitigate its own impacts.*

*City of Lemoore Subdivision Ordinance*

The existing City standard for parkland dedication established in the City Subdivision Ordinance is 5 acres of parkland per thousand residents.

## **Thresholds of Significance**

The thresholds of significance for this section are established by the CEQA Checklist Item.

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

Fire protection?

Police protection?

Schools?

Parks?

Other public facilities?

## **Impacts and Mitigation Measures**

**Impact 3.13-1:** *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order*

to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

*Fire protection?*

*Police protection?*

*Schools?*

*Parks?*

*Other public facilities?*

**Less Than Significant With Mitigation.** The proposed Project consists of construction and operation of a maximum of 825 residential units with a mix of single-family and multi-family units in an area that is dominated by farmland / agricultural operations and scattered rural residential housing to the north, east and west, and residential development to the south.

The Department of Finance estimates the January 2021 population of the City to be 26,809.<sup>8</sup> According to the City's General Plan, Lemoore has an average growth rate of 3.1 percent with a projected population of about 48,250 persons by the Year 2030.<sup>9</sup> As discussed previously, the City averages 3.1 persons per household, which could result in an increase of approximately 2,558 people at full Project buildout (825 units X 3.1 persons per household = 2,558 persons).

As with other areas of the City, the Project will require public services. These topics are addressed individually below.

#### *Fire Protection*

Fire protection services would be required to serve the proposed Project. As previously described, the City of Lemoore provides firefighting response services through the Lemoore Volunteer Fire Department.

To ensure that new development does not adversely affect the City's current fire response standards, the City's General Plan requires new development to contribute its fair share of the cost of the improvement of services. General Plan policies ensure that land is reserved for civic

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<sup>8</sup> California Department of Finance. E-1 Population Estimates for Cities, Counties, and the State, January 1, 2020 and 2021. <https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/>. Accessed May 2021.

<sup>9</sup> 2030 Lemoore General Plan. Chapter 1 – Introduction. [https://lemoore.com/wp-content/uploads/2018/01/lemoore\\_gp\\_ch1\\_intro\\_060308.pdf](https://lemoore.com/wp-content/uploads/2018/01/lemoore_gp_ch1_intro_060308.pdf). Accessed May 2021. Page 1-14.

and institutional uses (such as Fire and Police Stations) and that the City regularly assesses and meets the manpower and facility needs of both services.<sup>10</sup> According to the City's General Plan EIR, the City maintains a ratio of approximately 1.5 firefighters per thousand residents and the fire response time averages between 4 to 6 minutes.<sup>11</sup>

In order to maintain adequate levels of fire protection, the Lemoore Volunteer Fire Department will need to increase its resources to serve the Project. Based on the City's ration of 1.5 firefighters per thousand residents, the proposed Project would require an additional 3.8 firefighters at full buildout ( $2,558 \text{ residents} / 1,000 = 2.558 \times 1.5 = 3.8$ ). The City's General Plan requires the expansion of fire service to meet identified response times. The City has a number of General Plan policies which assist in the establishment of fire protection. Specifically, SN-I-27, requires the Fire Department performance and response standards at Class 3 ISO rating or better, and the construction of a new fire station in West Lemoore. The proposed Project does not trigger the need for a new fire station or expansion of existing facilities at this time. A new fire station is not proposed at this time, and the proposed Project would not directly result in the need for the construction of new fire facilities; thus, the Project will have a less than significant impact relative to construction of new fire protection facilities

The Project will comply with City building standards and local and State standards for fire-related components such as adequate emergency access, location of fire hydrants, adequate defensible space around the site, use of fire-retardant materials, etc. In addition, the proposed Project will be required to pay fire service impact fees from new development based on projected impacts from the development. This fee will be determined by the City. Payment of the applicable impact fees by the Project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the Project, would fund capital and labor costs associated with fire protection services. Implementation of Mitigation Measure PUB-1 would reduce impacts on fire protection services to a less-than-significant level. Given the temporary nature of the Project's construction phases, impacts to fire protection services during construction would be less than significant.

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<sup>10</sup> City of Lemoore General Plan EIR, 2030, page 3.3-29. Accessed September 2021.

<sup>11</sup> City of Lemoore General Plan EIR, 2030, pages 3.3-28 and 3.3-29. Accessed September 2021.



### *Police Protection*

Police protection services would be required to serve the proposed Project. As previously described, the City of Lemoore Police Department provides police services for the City.

To ensure that new development does not adversely affect the City's current police response standards, the City's General Plan requires new development to contribute its fair share of the cost of the improvement of services. General Plan policies ensure that land is reserved for civic and institutional uses (such as Fire and Police Stations) and that the City regularly assesses and meets the manpower and facility needs of both services.<sup>12</sup> According to the City's General Plan EIR, the City maintains a ratio of approximately 1.33 police officers per thousand residents.<sup>13</sup> Average police response times for Year 2020 were provided in the Lemoore Police Department 2020 Annual Report<sup>14</sup>. Response times are identified by type of police call as follows:

<b>Police Department - Call Type</b>	<b>Average Response Time (Minutes:Seconds)</b>
Priority 1 – Call for Service for immediate response / life threatening call	3:59
Priority 2 – Call for Service in progress call	5:27
Priority 3 – Call for Service quick response call	7:43
All Calls	6:02

In order to maintain adequate levels of police protection, the Lemoore Police Department will need to increase its resources to serve the Project. Based on the City's ratio of 1.33 police officers per thousand residents, the proposed Project would require an additional 3.4 police officers at full buildout (2,558 residents / 1,000 = 2.558 X 1.33 = 3.4). Response times and the ability of the Police Department to provide acceptable levels of service are contingent on increasing staffing levels, sworn and civilian, consistent with resident population increase and the population of visitors, merchants, schools, and shoppers within the Department's service area.

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<sup>12</sup> City of Lemoore General Plan EIR, 2030, page 3.3-29. Accessed September 2021.

<sup>13</sup> Ibid, page 3.3-28. Accessed September 2021.

<sup>14</sup> Lemoore Police Department 2020 Annual Report, page 7. Accessed September 2021.

The proposed Project does not trigger the need for a new police station or expansion of existing facilities at this time. A new police station is not proposed at this time, and the proposed Project would not directly result in the need for the construction of new police facilities; thus, the Project will have a less than significant impact relative to construction of new police protection facilities.

The proposed Project will be required to pay police service impact fees from new development based on projected impacts from the development. This fee will be determined by the City and the City's Police Department. Payment of the applicable impact fees by the Project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the Project, would fund capital and labor costs associated with police protection services. Implementation of Mitigation Measure PUB-2 would reduce impacts on police protection services to a less-than-significant level. Given the temporary nature of the Project's construction phases, impacts to police services during construction would be less than significant.

### *Schools*

As noted previously, the proposed Project will increase the City's population by up to approximately 2,558 people. According to the City's General Plan EIR, single-family households generate an average of 0.625 students per household and multi-family households generate an average of 0.507 students per household. Using the full buildout maximum of 825 units, the Project would result in the following estimated number of students:

Single-family (up to 603 units) X 0.625 =	377 students
Multi-family (up to 222 units) X 0.507 =	<u>113 students</u>
Total:	490 students

Funding for schools and school facilities impacts is outlined in Education Code Section 17620 and Government Code Section 65995 et. seq., which governs the amount of fees that can be levied against new development. These fees are used to construct new or expanded school facilities. Payment of fees authorized by the statute is deemed "full and complete mitigation."

The proposed Project will be required to pay impact fees from new development based on the Developer Fee rates that are in place at the time payment is due. The payment amount is determined by the School District and the State Allocation Board who sets the maximum per-square-foot Level 1 school impact fees every two (even) years at its January meeting. Payment of the applicable impact fees by the Project applicant would fund capital and labor costs associated with providing school services to the Project. The Project will be required to pay the school impact fee as a condition of approval. Implementation of Mitigation Measure PUB-3 would reduce

impacts on schools and educational services to a less-than-significant level. The Project's construction phases will have no impacts to schools and educational services. .

#### *Parks*

The proposed Project will increase the City's population by up to approximately 2,558 people at full buildout. The City standard for parkland dedication, established in the City Subdivision Ordinance, is five (5) acres of parkland per thousand residents. Using this ratio, the Project would require at least 12.79 acres of parkland and/or payment of impact fees for City-owned and operated parks and recreation areas that serve all residents ( $2,558/1,000 = 2.558 \times 5 = 12.79$ ).

The proposed Project includes the construction of four parks for a total of 7.98 acres and 1.64 acres of trails for a total of 9.54 acres as identified in Figure 2-4 of Chapter Two – *Project Description*. Based on the City's requirement of five acres per thousand residents, the Project not meet the City's requirement for parkland acreage by 3.25 acres. Therefore, the Project developer will also be required to pay in lieu fees, in compliance with the goals, policies, and implementation measures of the General Plan and Lemoore City Municipal Code Title 9, Chapter 7, Article N. Implementation of Mitigation Measure PUB-4 would reduce impacts on parks and recreational services to a less-than-significant level. The Project's construction phases will have no impacts.

#### *Other Public Facilities*

Development of the Project will increase the demand for other public services such as libraries, governmental services, emergency services and health services. However, the relatively small increase in demand will not in and of itself require construction of additional facilities. As described in Section 3.12 – Population and Housing, the anticipated population and housing unit increase associated with the proposed Project is within the growth projections of the City's 2030 General Plan. Based on the City's General Plan and infrastructure master planning documents, it is determined that the proposed Project will not induce unplanned population growth beyond that which can be accommodated by these other public services.

Therefore, with implementation of Mitigation Measures PUB-1 through PUB-4, the proposed Project will have a *less than significant impact* on public services.

#### **Mitigation Measures:**

**PUB-1:** Prior to issuance of building permits, the Project proponent shall pay fire service impact fees for new development. The fee, or equivalent in-lieu, will be

determined by the Lemoore Volunteer Fire Department in conjunction with the City of Lemoore. Evidence of the payment of impact fees shall be submitted to the City Community Development Department.

**PUB-2:** Prior to issuance of building permits, the Project proponent shall pay police service impact fees for new development. The fee, or equivalent in-lieu, will be determined by the Lemoore Police Department in conjunction with the City of Lemoore. Evidence of the payment of impact fees shall be submitted to the City Community Development Department.

**PUB-3:** Prior to issuance of building permits, the Project proponent shall pay school impact fees. The Project's school impact fees will be determined by the Lemoore Union High School District and the Lemoore Union Elementary School District. Evidence of the payment of impact fees shall be submitted to the City Community Development Department.

**PUB-4:** Prior to issuance of building permits, the Project proponent shall pay parkland impact fees or in-lieu equivalent to maintain the City's established requirement of five acres of parkland per thousand residents. The impact fees or in-lieu equivalent will apply to the 3.25 acres of parkland not being constructed by the Project, as set forth in the City's General Plan and Lemoore City Municipal Code Title 9, Chapter 7, Article N. The Project's parkland impact fees will be determined by the City of Lemoore. Evidence of the payment of impact fees shall be submitted to the City Community Development Department.

## Cumulative Impacts

**Less Than Cumulatively Considerable.** Cumulative impacts are two or more individual impacts that, when considered together, are considerable or that compound or substantially increase other environmental impacts. Cumulative impacts for a project are considered significant if the incremental effects of the individual projects are considerable when viewed in connection with the effects of past projects, and the effects of other projects located in the vicinity of the proposed Project site. The cumulative impact analysis area for public services includes the service areas for each of the fire, police, schools and other governmental facilities serving the Project. The service area for the City of Lemoore services is considered the cumulative analysis area. Cumulative growth that would occur over the life of the Lemoore General Plan / EIR will result in increased demand for public services. As the demand for public services increases, there will

likely be a need to increase staffing and equipment in order to maintain acceptable performance standards.

As discussed above, police and fire service impacts related to the proposed Project would be less than significant with implementation of Mitigation Measures PUB-1 through PUB-4, which requires payment of service impact fees or in lieu fees. to reduce significant impacts to all public services, including fire and law enforcement services, schools and parks. Implementation of Mitigation Measures PUB-1 through PUB-4 would also prevent the decline of services in the City of Lemoore that result in physical impacts on neighborhoods. Such cumulative impacts include increase in vandalism on public spaces such as parks, lack of road and park facilities maintenance, and the lack of funding for code enforcement of regulations for public health and safety, lack of services for homelessness prevention programs, as well as lack of services and facilities for elder, adolescent and child health and safety services and general mental health facilities. With payment of the required mitigation charge as assessed by the City, impacts from the Project's cumulative contribution to decline of services would be appropriately mitigated. Therefore, the Project's incremental contribution to cumulative impacts to public services would be *less than cumulatively considerable*.

### 3.14 Transportation

This section of the DEIR identifies potential impacts of the proposed Project pertaining to transportation and traffic in and around the Project vicinity. The information and analysis presented in this Section are based on the Traffic Impact Analysis (Appendix I-1) and the Vehicle Miles Traveled Analysis (Appendix I-2) prepared for the Project.

#### **Environmental Setting**

##### Study Area

The Project would be located on approximately 156 acres immediately north of the City of Lemoore and is bounded by West Lacey Blvd to the north and 18<sup>th</sup> Avenue to the west. The proposed Project site is located in an area that is dominated by farmland, agricultural operations and scattered rural residential housing to the north, east and west, and residential development to the south. The site is currently being farmed for alfalfa.

Major roads in the Project area include:

**State Route (SR) 41** is an existing north-south two- to four-lane expressway adjacent to the proposed Project. SR 41 serves as the principal connection to various metropolitan areas within the Central San Joaquin Valley and the California Central Coast. In this area, SR 41 connects to Hanford- Armona Road.

**19th Avenue** is an existing north-south two-lane arterial divided by a two-way left-turn lane in the vicinity of the proposed Project. In this area, 19th Avenue is a two-lane arterial divided by a two-way left-turn lane between Hanford-Armona Road and Noble Street and a two-lane undivided arterial between Noble Street and Cinnamon Drive. The City General Plan Circulation Element intends to extend 19th Avenue north of Hanford-Armona Road as a two-lane collector connecting to Lemoore Avenue and designates 19th Avenue as a four-lane arterial between Hanford-Armona Road and Idaho Avenue.

**Liberty Drive (18 <sup>3</sup>/<sub>4</sub> Avenue)** is an existing north-south undivided two-lane local roadway in the vicinity of the proposed Project. In this area, Liberty Drive is an undivided two-lane local roadway between Lacey Boulevard and Hanford-Armona Road and a two-lane collector divided by a two-way left-turn lane between Hanford-Armona Road and Cinnamon Drive. The City General Plan Circulation Element designates Liberty Drive as a four-lane collector between Lacey Boulevard and Cinnamon Drive.

**Lemoore Avenue (18<sup>th</sup> Avenue)** is an existing north-south undivided two-lane local roadway adjacent to the proposed Project. In this area, Lemoore Avenue is a two-lane undivided arterial north of Glendale Avenue through the City of Lemoore SOI and a two-lane arterial divided by a two-way left-turn lane between Glendale Avenue and Cinnamon Drive. The City General Plan Circulation Element designates Lemoore Avenue as an arterial north of Hanford-Armona Road and a four-lane arterial between Hanford Armona Road and Cinnamon Drive.

**17th Avenue** is an existing north-south undivided two-lane local roadway in the vicinity of the proposed Project. In this area, 17th Avenue is an undivided local roadway that runs through the City. The City General Plan Circulation Element designates 17th Avenue as a two-lane local roadway.

**Cinnamon Drive** is an existing two-lane undivided collector in the vicinity of the proposed Project. In this area, Cinnamon Drive extends east of its connection to 19 ½ Avenue and changes orientation to intersect Hanford-Armona Road. Cinnamon Drive is a two-lane collector divided by a two-way left-turn lane between 19½ Avenue and Lemoore Avenue and a two-lane undivided collector east of Lemoore Avenue and south of Hanford-Armona Road. The City General Plan Circulation Element designates Cinnamon Drive as a four-lane collector between 19 ½ Avenue and Lemoore Avenue and a two-lane collector between Lemoore Avenue and Hanford-Armona Road.

**Lacey Boulevard** is an existing east-west two-lane local roadway adjacent to the proposed Project. In this area, Lacey Boulevard is a two-lane undivided major collector through the County of Kings. The County of Kings 2035 General Plan designates Lacey Boulevard as a local major collector.

**Glendale Avenue** is an existing east-west two-lane undivided local roadway in the vicinity of the proposed Project. In this area, Glendale Avenue is a two-lane undivided local roadway that exists between Deodar Drive and Quandt Drive. The City General Plan Circulation Element designates Glendale Avenue as a local roadway.

**Spruce Avenue** is an existing east-west two-lane undivided local roadway in the vicinity of the proposed Project. In this area, Spruce Avenue is a two-lane undivided local roadway that exists between Spring Lane and Ashland Drive. The City General Plan Circulation Element designates Spruce Avenue as a local roadway.

**Hanford-Armona Road** is an existing east-west two-lane arterial in the vicinity of the proposed Project. In this area, Hanford-Armona Road is a two-lane undivided local

roadway west of SR 41, a two- to three-lane arterial divided by a two-way left-turn lane between SR 41 and Lemoore Avenue, a four-lane undivided arterial between Lemoore Avenue and Cinnamon Drive and a two-lane undivided arterial east of Cinnamon Drive. The City General Plan Circulation Element designates Hanford-Armona Road as a four- to six-lane arterial between College Drive and Bennington Avenue.

### Public Transportation Services

Kings Area Rural Transit (KART), the transit operator in the City of Lemoore, provides fixed-route service. At present, there are no KART fixed routes that operate in the vicinity of the proposed Project. The closest is KART Route 20 – Lemoore, which runs on Hanford-Armona Road, approximately 0.71 miles to the southwest corner of the proposed Project. Route 20 operates at 30-minute intervals on Monday through Friday from 6:05 AM to 5:35 PM and 30-minute intervals on Saturday from 9:35 AM to 3:35 PM. The nearest stop to the Project site is located on the north side of Hanford-Armona Road approximately 575 feet east of Lemoore Avenue. This Route provides a direct connection to the KART Transit Center, Armona Senior Center, Heritage Park, Pioneer Square, Lemoore High School, City Park, Lemoore Depot and Liberty Middle school. Retention of the existing and expansion of future transit routes is dependent of transit ridership demand and available funding.

### Non-Motorized Transportation

#### *Bicycle Lanes*

Currently, Class II Bike Lanes exist in the vicinity of the proposed Project site along Hanford-Armona Road, 19<sup>th</sup> Avenue, Lemoore Avenue, Liberty Drive and Cinnamon Drive. The City General Plan and the 2011 Kings County Regional Bicycle Plan proposed to add bike lanes on Spruce Avenue, Cinnamon Drive, Hanford-Armona Road east of SR 41 and on the entirety of the 19<sup>th</sup> Avenue expansion north of Hanford-Armona Road.

#### *Walkways*

Currently, walkways exist in the vicinity of the proposed Project site along Hanford-Armona Road, the south side of Glendale Avenue, Spruce Avenue, 19<sup>th</sup> Avenue, Liberty Drive, Lemoore Avenue and Cinnamon Drive. A goal of the 2011 Kings County Regional Bicycle Plan is to provide for pedestrian-friendly zones in conjunction with the development, redevelopment, and design of mixed-use neighborhood core areas, the downtown center, schools, parks, and other high use areas. The Project is proposing to install approximately 1.64 acres of trail areas within the development.



## Regulatory Setting

### Federal Regulations

Several federal regulations govern transportation issues. They include:

- Title 49, CFR, Sections 171-177 (49 CFR 171-177), governs the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles.
- 49 CFR 350-399, and Appendices A-G, Federal Motor Carrier Safety Regulations, address safety considerations for the transport of goods, materials, and substances over public highways.
- 49 CFR 397.9, the Hazardous Materials Transportation Act of 1974, directs the U.S. Department of Transportation to establish criteria and regulations for the safe transportation of hazardous materials.

### State of California Regulations

#### *California Department of Transportation*

The California State Department of Transportation (Caltrans) has jurisdiction over state highways and sets maximum load limits for trucks and safety requirements for oversized vehicles that operate on California highways. Kings County is under the jurisdiction of Caltrans District 6. The following Caltrans regulations apply to the potential transportation impacts of the Project:

- California Vehicle Code, Division 15, Chapters 1 through 5 (Size, Weight, and Load). Includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways.
- California Street and Highway Code, Sections 660-711, 670-695. Requires permits from Caltrans for any roadway encroachment during truck transportation and delivery, includes regulations for the care and protection of state and county highways and provisions for the issuance of written permits, and requires permits for any load that exceeds Caltrans weight, length, or width standards for public roadways.

#### *Assembly Bill 32 (Global Warming Act of 2006) and Senate Bill 375*

Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006 (Act), requires California to reduce its greenhouse gas (GHG) emissions to levels presented in the year 1990 by

2020. In response, the California Air Resources Board (CARB) is responsible for creating guidelines for this Act. In 2008, CARB adopted its proposed Scoping Plan, which included the approval of Senate Bill (SB) 375 as a means of achieving regional transportation-related GHG targets. SB 375 provides guidance on how curbing emissions from cars and light trucks helps the State comply with AB 32.

Established through CARB, SB 375 lists four major components and requirements: (1) it requires regional GHG emissions targets; (2) it requires creating a Sustainable Communities Strategy (SCS) that provides a plan for meeting the regional targets; (3) it requires that regional housing elements and transportation plans be synchronized on 8-year schedules; and (4) it requires transportation and air pollutant emissions modeling techniques consistent with guidelines prepared by the California Transportation Commission (CTC).

#### *Senate Bill 743*

Senate Bill (SB) 743 was approved by then Governor Brown on September 27, 2013. SB 743 created a path to revise the definition of transportation impacts according to California Environmental Quality Act (CEQA). The revised CEQA Guidelines requiring a vehicle miles traveled (VMT) analysis became effective December 28, 2018; however, agencies had until July 1, 2020 to finalize their local guidelines on VMT analysis. The intent of SB 743 is to align CEQA transportation study methodology with and promote the statewide goals and policies of reducing VMT and greenhouse gases (GHG). Three objectives of SB 743 related to development are to reduce GHG, diversify land uses, and focus on creating a multimodal environment.

#### Local Regulations

##### *Kings County Association of Governments – Regional Transportation Plan*

KCAG is required to develop a comprehensive long-range planning document or Regional Transportation Plan (RTP) every four years. The RTP establishes regional goals, identifies present and future needs, deficiencies and constraints, and fiscally constrained infrastructure improvements. The RTP discusses the major transportation issues in the Kings County region including state highways, transportation systems management, and transportation control measures.

The RTP represents an accumulation of all the plans and programs adopted by the local agencies, including the cities of Avenal, Corcoran, Hanford, and Lemoore in addition to the unincorporated communities of Kings County.

*Lemoore General Plan*

The following lists goals and policies from the Lemoore 2030 General Plan pertaining to transportation that are applicable to the proposed Project.

- C-I-7 Develop and manage the roadway system to obtain Level of Service (LOS) D or better for two hour peak periods (a.m. and p.m.) on all major roadways and arterial intersections in the City. This policy does not extend to local residential streets (i.e., streets with direct driveway access to homes) or state highways and their intersections, where Caltrans policies apply. Exceptions to LOS D policy may be allowed by the City Council in areas, such as Downtown, where allowing a lower LOS would result in clear public benefits, social interaction and economic vitality, and help reduce overall automobile use.

*No new development will be approved unless it can be shown that required LOS can be maintained on affected roadways either through this General Plan documentation or more specific traffic studies conducted through the City where appropriate.*

- C-I-9 Establish a Transportation Performance Monitoring (TPM) program for the Business, Technology, and Industrial Reserve Area, generally located in the southwest quadrant of SR-198 and SR-41, to monitor and control traffic arising from new development.

*Development occurring within the TPM program area or any other such designated portion of the City must submit data to the City Engineer to calculate the number of site trips generated per developable acre. Within this area, development “caps” will be assigned to maintain service levels within traffic analysis zones (TAZs). These “caps” will be developed through density thresholds while monitoring roads and intersections for each land use category allowed per gross 1,000 square feet area. Developers must provide data to the City Traffic Engineer for site trip calculations and reduce the number of housing units or size of non-residential buildings if the number of trips exceeds the allowed cap to gain development approval. The City will maintain a “trip ledger” showing all site trips that have been approved for each TAZ, with allocations made on the basis of receipt of a Certificate of Reservation of Site Trips or a building permit application. The City Council will periodically review the trip generation rates and allowable adjustments and exceptions established for the TPM program and the trip allocations by TAZ, and allow for recalculation of the maximum number of site trips allowed based on approved changes in trip generation rates or other adjustment factors. Details on how trip generation rates are established, how site trips are calculated, how the trip ledger is maintained, how exceptions are granted and what happens when unallocated site trips are unavailable will be included in the ordinance establishing the TPM once a Specific Plan has been developed.*

C-I-10 Require traffic impact studies for any proposed General Plan amendment that will generate significant amounts of traffic (such as 100 or more peak hour trips).

*Specific thresholds will be based on location and project type, and exceptions may be granted where the traffic generation is consistent with the assumptions made for this General Plan or traffic studies have been completed for adjacent development and the City knows what mitigation, if any, will ensure that LOS standards will be maintained. The City's new traffic model developed for the 2030 General Plan will facilitate this analysis. Detailed intersection and queuing analyses may be required to determine site specific improvements as circumstances warrant.*

C-I-11 Establish and implement additional programs to maintain adequate peak hour LOS at intersections and along roadway segments as circumstances warrant, including the following actions:

- Collect and analyze traffic volume data on a regular basis (at least every 5 years) and monitor current intersection and roadway segment levels of service on a regular basis. Use this information to update and refine the City's travel forecasting model, so that estimates of future conditions are more strongly based upon local travel behavior and trends.
- Consider, on a case by case basis, how to shift travel demand away from the peak period by changing work shift starting times, especially in those situations where peak traffic problems result from a few major generators (e.g. the West Hills College area and Bush Street corridor and the Industrial Area south of the City).
- Perform routine, ongoing evaluation of the efficiency of the urban street traffic control system, with emphasis on traffic signal timing, phasing and coordination to optimize traffic flow along arterial corridors. Use traffic control systems to balance arterial street utilization (e.g. timing and phasing for turn movements, peak period and off-peak signal timing plans).

*To assure acceptable traffic operating standards over time, the Public Works Department will conduct on-going traffic counts and the City Engineer or other designee will monitor conditions on an ongoing basis and apply applicable remedial measures as needed.*

## Thresholds of Significance

In accordance with the CEQA Guidelines, a project impact would be considered significant if the project would:

- Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?
- Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- Result in inadequate emergency access?

## Analysis Methodology

The information and analysis presented in this Section are based on the Traffic Impact Analysis and the Vehicle Miles Traveled Analysis prepared for the Project by JLB Traffic Engineering, Inc. a (Appendix I-1 and I-2) These studies analyzed the potential impacts the proposed Project would have on the existing roadway and transportation system. This was prepared in general conformance with City of Lemoore requirements and *Caltrans Guide for the Preparation of Traffic Impact Studies*. The TIA and VMT Reports provide an analysis of the surrounding roadway system and the effects of the proposed Project on the existing and planned roadway infrastructure, including potential mitigation measures to reduce Project transportation impacts.

### Intersection Analysis

#### *Level of Service Analysis Methodology*

Level of Service (LOS) is a qualitative index of the performance of an element of the transportation system. LOS is a rating scale running from “A” to “F”, with “A” indicating no congestion of any kind and “F” indicating unacceptable congestion and delays. LOS in this study describes the operating conditions for signalized and unsignalized intersections.

The *Highway Capacity Manual* (HCM) is the standard reference published by the Transportation Research Board and contains the specific criteria and methods to be used in assessing LOS. Synchro software was used to define LOS in this study. Details regarding these calculations are included in Appendix D of Appendix I-1.

**Criteria of Significance.** The City of Lemoore 2030 General Plan does not currently have any adopted LOS standard. However, recent traffic studies have utilized LOS D as the acceptable level of traffic congestion. Therefore, LOS D is used to evaluate the potential significant of LOS impacts to City of Lemoore roadway facilities.

The County of Kings 2035 General Plan has established a minimum LOS standard within the County, which should be no lower than LOS E for urban areas and LOS D for rural areas. For this TIA, LOS D is used to evaluate the potential significance of LOS impacts to intersections within the County of Kings.

All study facilities studied for the proposed Project fall within either the City or the County of Kings boundaries. Therefore, the County of Kings rural LOS threshold of LOS D is utilized to evaluate the potential significance of LOS impacts.

#### *Analysis Locations*

**Study Facilities.** The study focused on evaluating traffic conditions at the existing study intersections that may potentially be impacted by the proposed Project. The COVID-19 situation impacted traffic volumes in Lemoore for which new physical counts would not be representative to typical conditions. For this reason, historic and current turning movement counts for the study intersections of 19th Avenue and Hanford-Armona Road and Liberty Drive and Hanford-Armona Road were used. The historic turning movement counts were conducted in May 2019 and the new turning movement counts were conducted in October 2020. All of the intersection turning movement counts include pedestrian and bicycles volumes. When the historical and current counts were compared, the historical count had higher volumes. In order to properly analyze the study intersections, an expansion factor between historic and current traffic counts was determined for each peak period based on methodology agreed upon with the City. The expansion factors were calculated to be 48% in the AM peak period and 8% in the PM peak period. All of the current traffic counts were then expanded by these factors in their respective peaks. The volumes resulting from this process were used as the Existing turning movement volumes. The traffic counts for the existing study intersections are contained in Appendix B of Appendix I-1.

#### **Study Intersections:**

1. 18 ¾ Avenue / Lacey Boulevard
2. Lemoore Avenue / Lacey Boulevard
3. Mary Drive / Lacey Boulevard
4. 17th Avenue (North Leg) / Lacey Boulevard
5. 17th Avenue (South Leg) / Lacey Boulevard

6. Lemoore Avenue / Project Driveway
7. Lemoore Avenue / Glendale Avenue
8. Lemoore Avenue / Spruce Avenue
9. 19th Avenue / Hanford-Armona Road
10. Liberty Drive / Hanford-Armona Road
11. Cinnamon Drive / Hanford-Armona Road

**Project Only Trip Assignment to State Facilities:**

1. SR 41 / Lacey Boulevard
2. SR 41 / Hanford-Armona Road

*Analysis Time Periods and Scenarios*

The study time periods include the peak hours determined within each of the following conditions:

- Existing Conditions;
- Existing-Plus-Project Conditions;
- Near-Term Plus-Project Conditions
- Cumulative Year 2042 No-Project Conditions; and
- Cumulative Year 2042 Plus-Project Conditions.

The Project will develop approximately 156 acres of vacant land into an 825-unit residential community with a mix of single-family and multi-family housing units.

## **Impacts and Mitigation Measures**

**Impact 3.14-1:** *Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*

**Less than Significant Impact With Mitigation.**

Construction Traffic

Construction of the Project could result in temporary increase in traffic volumes and disruption of traffic flow during construction activities. The Project may require lane closures, minor detours and other traffic disrupting activities during construction. However, the Project site will be accessible via the surrounding roadways, temporary access lanes and/or other methods to ensure

that emergency access will be maintained throughout construction. The construction contractor will be required to coordinate with the City during construction activities to maintain adequate emergency access. Mitigation measure TRA-2 includes a requirement to prepare a Traffic Control Plan during construction which will ensure that impacts from construction traffic are less than significant.

### Existing Traffic

Table 3.14-1 presents pre-Project (existing) traffic conditions in the Project area. As of October 2021, all study intersections operate at an acceptable LOS during both peak periods.

**Table 3.14-1  
Existing Intersection LOS Results**

ID	Intersection	Intersection Control	AM (7-9) Peak Hour		PM (4-6) Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	18 ¾ Avenue / Lacey Boulevard	One-Way Stop	10.6	B	9.8	A
2	Lemoore Avenue / Lacey Boulevard	All-Way Stop	10.8	B	11.2	B
3	Mary Drive / Lacey Boulevard	Does Not Exist	N/A	N/A	N/A	N/A
4	17 <sup>th</sup> Avenue (NL) / Lacey Boulevard	One-Way Stop	10.2	B	11.1	B
5	17 <sup>th</sup> Avenue (SL) / Lacey Boulevard	One-Way Stop	10.3	B	10.6	B
6	Lemoore Avenue / Street 'S'	Does Not Exist	N/A	N/A	N/A	N/A
7	Lemoore Avenue / Glendale Avenue	Two-Way Stop	13.9	B	12.4	B
8	Lemoore Avenue / Spruce Avenue	Two-Way Stop	16.7	C	13.7	B
9	19 <sup>th</sup> Avenue / Hanford-Armona Road	One-Way Stop	11.6	B	12.4	B
10	Liberty Drive / Hanford-Armona Road	One-Way Stop	21.1	C	18.8	C
11	Cinnamon Drive/ Hanford-Armona Road	One-Way Stop	15.9	C	20.0	C

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls  
LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

### Project Access

Based on the proposed Tentative Tract Map (See Figure 4 – Site Plan in Chapter Two – Project Description), access to and from the Project site will be from a total eight main access points. Two of the access points will be located along the south side of Lacey Boulevard approximately 1,300 and 2,600 feet east of Lemoore Avenue and are proposed as full access. The easternmost of these two access points will initially act as an emergency access only but will be built out as a local roadway upon completion of Phase II of the Project. Three of the access points will be located along the east side of Lemoore Avenue approximately 820, 1,535 and 1,885 feet south of Lacey Boulevard and are all currently proposed as full access points. One of the access points will be



located along the north side of Glendale approximately 345 feet east of Lemoore Avenue and is proposed as full access. One of the access points will be on the south side of the Project at Ashland Drive. A ninth access point will be located along the east side of the Project but will not be connected to any exterior roads at initial Project buildout. The location of the proposed access points was analyzed relative to the existing local roads and driveways in the Project’s vicinity. A review of the Project access points to be constructed indicates that they are located at points that minimize traffic operational impacts to the existing roadway network.

Trip Generation

Trip generation rates for the proposed Project were obtained from the 10th Edition of the Trip Generation Manual published by the Institute of Transportation Engineers (ITE). Table 3.14-2 presents the trip generation for the proposed Project with trip generation rates for Single-Family Detached Housing (210), Multifamily Housing (Low-Rise) (220) and Public Park (411). As shown in Table 3.14-2, the proposed Project is estimated to generate a maximum of 7,362 daily trips, 554 AM peak hour trips and 730 PM peak hour trips.

**Table 3.14-2  
Proposed Project Trip Generation**

Land Use (ITE Code)	Size	Unit	Daily		AM (7-9) Peak Hour						PM (4-6) Peak Hour					
			Rate	Total	Trip Rate	In	Out	In	Out	Total	Trip Rate	In	Out	In	Out	Total
						%						%				
Single-Family Detached Housing (210)	621	d.u.	9.44	5,862	0.74	25	75	115	345	460	0.99	63	37	387	228	615
Multifamily Housing (Low-Rise) (220)	204	d.u.	7.32	1,493	0.46	23	77	22	72	94	0.56	63	37	72	42	114
Public Park (411)	9.540	acres	0.78	7	0.02	59	41	0	0	0	0.11	55	45	1	0	1
<b>Total Project Trips</b>				<b>7,362</b>				<b>137</b>	<b>417</b>	<b>554</b>				<b>460</b>	<b>270</b>	<b>730</b>

Note: d.u. = Dwelling Units

Existing Plus Project

The Existing plus Project Traffic Conditions scenario assumes that internal streets including Mary Drive and Street 'S' are added to the roadway network. It is also assumed that additions include a westbound left-turn lane at the intersection of Mary Drive and Lacey Boulevard and a two-way left-turn lane along Lemoore Avenue between Lacey Boulevard and approximately 600 feet north of Glendale Avenue. Figure 5 of Appendix I-1 illustrates the Existing plus Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Existing plus Project Traffic Conditions scenario are provided in Appendix F of Appendix I-1. Table 3.14-3 presents a summary of the Existing plus Project peak hour LOS at the study intersections.

**Table 3.14-3  
Existing Plus Project Intersection LOS Results**

ID	Intersection	Intersection Control	AM (7-9) Peak Hour		PM (4-6) Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	18 ¾ Avenue / Lacey Boulevard	One-Way Stop	10.7	B	9.9	A
2	Lemoore Avenue / Lacey Boulevard	All-Way Stop	11.4	B	12.3	B
3	Mary Drive / Lacey Boulevard	One-Way Stop	10.1	B	10.4	B
4	17 <sup>th</sup> Avenue / Lacey Boulevard (North Leg)	One-Way Stop	11.0	B	12.5	B
5	17 <sup>th</sup> Avenue / Lacey Boulevard (South Leg)	One-Way Stop	11.2	B	11.9	B
6	Lemoore Avenue / Street S	One-Way Stop	13.7	B	14.5	B
7	Lemoore Avenue / Glendale Avenue	Two-Way Stop	21.2	C	23.0	C
8	Lemoore Avenue / Spruce Avenue	Two-Way Stop	30.2	D	23.8	C
9	19 <sup>th</sup> Avenue / Hanford-Armona Road	One-Way Stop	11.8	B	12.9	B
10	Liberty Drive / Hanford-Armona Road	Two-Way Stop	23.9	C	20.6	C
11	Cinnamon Drive / Hanford-Armona Road	Two-Way Stop	16.4	C	20.6	C

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls  
LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

Under this scenario, all study intersections are projected to operate at an acceptable LOS during both peak periods.

#### Near Term Plus Project

This scenario analyzes the impacts of the Near Term Plus Project. This consists of an analysis of the Project's impacts in the Near Term along with Approved and Pipeline Projects that consist of developments that are either under construction, built but not fully occupied, are not built but have final site development review (SDR) approval, or for which the lead agency or responsible agencies have knowledge of. The City of Lemoore, County of Kings and Caltrans staff were consulted throughout the preparation of the TIA regarding approved and/or known projects that could potentially impact the study intersections.

The Near Term plus Project Traffic Conditions scenario assumes that the Existing plus Project roadway geometrics and traffic controls will remain in place. Figure 7 of Appendix I-1 illustrates the Near Term plus Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Near Term plus Project Traffic Conditions scenario are provided in Appendix G of Appendix I-1. Table 3.14-4 presents a summary of the Near Term plus Project peak hour LOS at the study intersections.

**Table 3.14-4  
Near Term Plus Project Intersection LOS Results**

ID	Intersection	Intersection Control	AM (7-9) Peak Hour		PM (4-6) Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	18 ¾ Avenue / Lacey Boulevard	One-Way Stop	10.9	B	10.2	B
2	Lemoore Avenue / Lacey Boulevard	All-Way Stop	11.5	B	12.6	B
3	Mary Drive / Lacey Boulevard	One-Way Stop	10.2	B	10.6	B
4	17 <sup>th</sup> Avenue / Lacey Boulevard (North Leg)	One-Way Stop	11.1	B	12.7	B
5	17 <sup>th</sup> Avenue / Lacey Boulevard (South Leg)	One-Way Stop	11.3	B	12.0	B
6	Lemoore Avenue / Street S	One-Way Stop	13.7	B	14.5	B
7	Lemoore Avenue / Glendale Avenue	Two-Way Stop	21.4	C	23.3	C
8	Lemoore Avenue / Spruce Avenue	Two-Way Stop	31.1	D	24.1	C
9	19 <sup>th</sup> Avenue / Hanford-Armona Road	One-Way Stop	15.1	C	15.5	C
10	Liberty Drive / Hanford-Armona Road	Two-Way Stop	<b>46.5</b>	<b>E</b>	32.5	D
		Signalized (Improved)	17.1	B	16.3	B
11	Cinnamon Drive / Hanford-Armona Road	Two-Way Stop	16.7	C	20.8	C

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls  
 LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

Under this scenario, the study intersection of Liberty Drive and Hanford-Armona Road is projected to operate at an unacceptable LOS during the AM peak period. To improve the LOS at this intersection, it is recommended that the following improvement be implemented.

- Liberty Drive / Hanford-Armona Road
  - Signalize the intersection with protected left-turn phasing in all directions while retaining the existing lane geometrics.

Cumulative Year 2042 Plus Project Scenario

The Cumulative Year 2042 plus Project Traffic Conditions scenario assumes that the existing plus Project roadway geometrics and traffic controls will remain in place. Figure 9 of Appendix I-1 illustrates the Cumulative Year 2042 plus Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Cumulative Year 2042 plus Project Traffic Conditions scenario are provided in Appendix I of Appendix I-1. Table 3.14-5 presents a summary of the Cumulative Year 2042 plus Project peak hour LOS at the study intersections.

**Table 3.14-5  
Cumulative Year 2042 Plus Project Intersection LOS Results**

ID	Intersection	Intersection Control	AM (7-9) Peak Hour		PM (4-6) Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	18 ¾ Avenue / Lacey Boulevard	One-Way Stop	11.2	B	10.4	B
2	Lemoore Avenue / Lacey Boulevard	All-Way Stop	12.1	B	15.2	C
3	Mary Drive / Lacey Boulevard	One-Way Stop	10.2	B	10.7	B
4	17 <sup>th</sup> Avenue / Lacey Boulevard (North Leg)	One-Way Stop	11.1	B	13.0	B
5	17 <sup>th</sup> Avenue / Lacey Boulevard (South Leg)	One-Way Stop	11.4	B	16.2	C
6	Lemoore Avenue / Street S	One-Way Stop	13.7	B	14.8	B
7	Lemoore Avenue / Glendale Avenue	Two-Way Stop	27.1	D	28.8	D
8	Lemoore Avenue / Spruce Avenue	Two-Way Stop	32.3	D	24.1	C
9	19 <sup>th</sup> Avenue / Hanford-Armona Road	One-Way Stop	15.1	C	16.1	C
10	Liberty Drive / Hanford-Armona Road	Two-Way Stop	<b>46.5</b>	<b>E</b>	<b>36.0</b>	<b>E</b>
		Signalized (Improved)	17.1	B	19.6	B
11	Cinnamon Drive / Hanford-Armona Road	Two-Way Stop	17.9	C	25.9	D

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls.  
LOS for two-way STOP controlled intersections are based on the worst approach/movement of the minor street.

Under this scenario, the study intersection of Liberty Drive and Hanford-Armona Road is projected to operate at an unacceptable LOS during both peak periods. To improve the LOS at this intersection, it is recommended that the following improvement be implemented.

- Liberty Drive / Hanford-Armona Road
  - Signalize the intersection with protected left-turn phasing in all directions while retaining the existing lane geometrics.

Mitigation measure TRA-1 will require the developer to pay a per rata share for the improvement needed at the intersection of Liberty Drive and Hanford-Armona Road. With implementation of TRA-1, the level of service and traffic flow in the Project area will remain acceptable and impacts would be less than significant.

Traffic Control Planning

Because traffic volumes on many of the roadways are minimal, utilization of traffic control signs acceptable to the City are recommended to identify locations where construction workers or construction-related trucks and heavy equipment would turn onto and off local roadways to access the project site. Mitigation Measure TRA-2 would require that all oversize vehicles used on public roadways during construction obtain required permits and obtain approval of a Construction Traffic Control Plan, as well as identify anticipated construction delivery times and vehicle travel routes in advance to minimize construction traffic during a.m. and p.m. peak hours.

This would ensure that construction-related oversized vehicle loads are in compliance with applicable California Vehicle Code sections and California Street and Highway Codes applicable to licensing, size, weight, load, and roadway encroachment of construction vehicles. Implementation of TRA-2 would reduce temporary construction related traffic impacts to less than significant levels.

**Mitigation Measures:**

**TRA-1** Prior to issuance of building permit, the Project shall pay its fair share cost percentages and/or construct the recommended improvements as determined by the City. The following are the required improvements:

- **Liberty Drive / Hanford-Armona Road**
  - Signalize the intersection with protected left-turn phasing in all directions while retaining the existing lane geometrics.

**TRA-2** Prior to the issuance of construction or building permits, the project developer shall:

1. Obtain all necessary encroachment permits for work within the road right-of-way or use of oversized/overweight vehicles that will utilize City-maintained roads, which may require California Highway Patrol or a pilot car escort. Copies of the approved traffic plan and issued permits shall be submitted to the City of Lemoore Community Development Department and Public Works Department-Development Review.
2. Prepare and submit a Construction Traffic Control Plan to City of Lemoore Public Works Department-Development Review and the Community Development Department, as appropriate, for approval. The Construction Traffic Control Plan shall 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. Directing construction traffic with a flag person;
  - c. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;
  - d. Ensuring access for emergency vehicles to the project site;

- e. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;
- f. Maintaining access to adjacent property; and,
- g. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hour, distributing construction traffic flow across alternative routes to access the project sites, and avoiding residential neighborhoods to the maximum extent feasible.

After implementation of Mitigation Measure TRA-1 and TRA-2, the Project's impacts would be reduced to a *less than significant* level.

**Impact 3.14-2:** *Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

**Significant and Unavoidable With Mitigation.** JLB Traffic Engineering, Inc. prepared a Vehicle Miles Traveled Analysis (Appendix I-2) that analyzes the potential impacts the proposed Project would have on the existing roadway and transportation system. Neither the City of Lemoore nor Kings CAG have adopted guidelines or thresholds for VMT pursuant to Senate Bill 743. For this reason, this VMT analysis follows the guide of the December 2018 *Technical Advisory on Evaluating Transportation Impacts in CEQA* (TA) published by the Governor's Office of Planning and Research (OPR) and the August 2010 *Quantifying Greenhouse Gas Mitigation Measures* published by the California Air Pollution Control Officers Association (CAPCOA) to analyze the Project's VMT.

The TA contains screening standard and criteria that can be used to screen out qualified development projects that meet the adopted criteria from needing to prepare a detailed VMT Analysis. These criteria may be size, location, proximity to transit or trip making potential. In general development projects that meet one or more of the following criteria can be screened out from a quantitative VMT analysis. In this case, the Project does not meet any of the screening criteria.

For projects that are not screened out, a quantitative analysis of VMT impacts must be prepared and compared against the adopted VMT thresholds of significance. According to the TA, residential developments that generate vehicle travel that is 15 percent or more below the existing residential VMT per capita, measured against the region, are considered to have a less-than-significant transportation impact. The threshold of significance was developed using the County of Kings as the applicable region, and the required reduction of VMT corresponds to Kings

County's contribution to the statewide GHG emission reduction target. In order to reach the statewide GHG reduction target of 15%, County of Kings must reduce its GHG emissions by 15%. The method of reducing GHG by 15% is to reduce VMT by 15% as well.

### **Baseline VMT**

The Project's trip generation, number of residential units, and square footages of non-residential uses were provided to KCAG in order to conduct a Project-specific VMT analysis using the KCAG model for specific Project components. Based on KCAG VMT results, Project components containing residential land uses are projected to yield an average VMT per capita of 9.29, which exceeds the VMT threshold for residential uses of 8.16 VMT per capita. As a result, it is recommended that the Project implement VMT mitigation measures for the residential component to reduce VMT per Capita. Appendix A of Appendix I-1 presents the Project VMT outputs from the KCAG model.

### **Development of VMT Mitigation Measures**

The VMT mitigation measures that were considered feasible for this Project include the following: increasing destination accessibility, locate project near bike path/bike lane, improve design of development, provide pedestrian network improvements, provide traffic calming measures, incorporate bike lane street design (on-site), provide bike parking with multi-unit residential projects and dedicate land for bike trails. Worth noting that VMT mitigation measures such as utilize neighborhood electric vehicles (NEVs), provide electric vehicle parking and expanding transit network, to name a few, were not accounted for in the VMT analysis for the proposed Project. For example, the Project will be fitted with bus bays, but due to the improbability that a transit route gets added or expanded, the VMT reduction from this mitigation were not included in the calculations to present a conservative analysis of the Project's VMT. Also, providing NEVs to residents will not effectively reduce VMT per capita unless the Project connects to a greater NEV network that provides NEV access to a variety of land uses. It is estimated that given the design elements associated with the Project and the surrounding multi-modal network, the Project will benefit from reductions in VMT as a result of other measures. Since these measures are not implemented without justification, only the measures presented within this report were considered for this analysis as part of the VMT mitigation measures. These measures are appropriate for residential, office, retail, mixed-use and industrial projects in urban or suburban context. A description of the VMT mitigation measures and reduction rates are as follows:

Land-Use/Location (Maximum Reduction: 5.00%)

- **LUT-4: Increase Destination Accessibility**
  - VMT Mitigation Method:  $VMT \text{ Reduction } (\%) = (12 - 8)/12 * 0.2 = 6.67\%$  (CAPCOA 2010)
    - $VMT \text{ Reduction } (\%) = \text{Center Distance} * B$  (not to exceed 30%), where
      - Center Distance =  $(12 - \text{Distance to downtown/job center for Project}) / 12$
      - B = Elasticity of VMT with respect to distance to downtown or major job center [use 0.2]
  - It is recommended that the Project implement bicycle facilities within and adjacent to the Project site. Within the Project boundaries the following is recommended:
    - Class I Bikeways be constructed along:
      - South side of Street 'S' between Lemoore Avenue and the eastern boundary of the Project and
      - Street 'G' between Street 'S' and Street 'P'.
    - Class II Bikeways be constructed along
      - Street 'S' between Lemoore Avenue and the eastern boundary of the Project
      - Mary Drive between Street 'T' and Lacey Boulevard.
      - Project frontages along Lemoore Avenue between Lacey Boulevard and Glendale Avenue
      - Project frontage along Lacey Boulevard between Lemoore Avenue and the eastern boundary of the Project.
  - The effectiveness of this measure will depend largely on the Project location and increasing potential for pedestrians to walk and bike to central locations (CAPCOA 2010).
  
- **LUT-8: Locate project near bike path/bike lane**
  - It is recommended that the Project implement bicycle facilities within and adjacent to the Project site. Within the Project boundaries it is recommended that Class I Bikeways the following is recommended:
    - South side of Street 'S' between Lemoore Avenue and the eastern boundary of the Project.
    - Street 'G' between Street 'S' and Street 'P'.
  - Class II Bikeways be constructed along:



- Street 'S' between Lemoore Avenue and the eastern boundary of the Project
  - Mary Drive between Street 'T' and Lacey Boulevard.
  - Project frontages to Lemoore Avenue between Lacey Boulevard and Glendale Avenue.
  - Project frontages along Lacey Boulevard between Lemoore Avenue the eastern boundary of the Project. The effectiveness of this measure will depend largely on its implementation as a stand-alone strategy or in combination with multiple design elements that increase opportunities for multi-modal travel (CAPCOA 2010).
- **LUT-9: Improve Design of Development**
    - VMT Mitigation Measure:  $VMT\ Reduction\ (\%) = ((58-36)/36) * 0.12 = 7.33\%$   
(CAPCOA 2010)
      - $VMT\ Reduction\ (\%) = (Intersection\ per\ square\ mile\ of\ project - Typical\ intersection\ per\ square\ mile) / Typical\ intersection\ per\ square\ mile$  (not to exceed 500%), where:
        - Intersection per square mile of project = 14 intersections / 0.24 square miles = 58.33
        - Typical intersection per square mile = 36
    - The effectiveness of this measure will depend largely on its implementation as a stand-alone strategy or in combination with multiple design elements that increase opportunities for multi-modal travel (CAPCOA 2010).

Neighborhood/Site Design (Max. Reduction: 5.00%)

- **SDT-1: Provide Pedestrian Network Improvements**
  - It is recommended that the Project implement bicycle facilities within and adjacent to the Project site.
  - Within the Project it is recommended that Class I Bikeways be constructed along the following:
    - South side of Street 'S' between Lemoore Avenue and the eastern boundary of the Project.
    - Street 'G' between Street 'S' and Street 'P'.
  - Also, within the Project it is recommended that Class II Bikeways be constructed along the following:
    - Street 'S' between Lemoore Avenue and the eastern boundary of the Project.
    - Mary Drive between Street 'T' and Lacey Boulevard.

- Project frontages along Lemoore Avenue between Lacey Boulevard and Glendale Avenue.
  - Project frontages along Lacey Boulevard between Lemoore Avenue the eastern boundary of the Project.
  - The effectiveness of this measure requires providing a pedestrian access network that internally links all uses and connects to all existing or planned external streets and pedestrian facilities contiguous with the Project site (CAPCOA 2010).
- **SDT-2: Provide Traffic Calming Measures**
    - Percentage of intersections with improvement: 25%
    - Percentage of streets with improvements: 100%
    - The Project will incorporate intersection traffic calming features such as mini-circles at the following intersections
      - Beverly Drive and Street 'S',
      - Street 'G' and Street 'S',
      - Street 'L' and Street 'S',
      - Street 'C' and Street 'I',
      - Street 'D' and Street 'I',
      - Mary Drive and Street 'I'
      - Street 'A' and Street 'F'.
    - The Project will incorporate street traffic calming features including on street parking throughout the Project (excluding Street 'S') along the following:
      - Between Lemoore Avenue and the eastern boundary of the Project
      - Mary Drive between Lacey Boulevard and Street 'J',
      - Median islands on Street 'S' between Lemoore Avenue and the Street 'D'
      - Mary Drive between Lacey Boulevard and Street 'I',
      - Planter strips with street trees throughout the Project.
    - The effectiveness of this measure requires roadways be designed to reduce motor vehicle speeds and encourage pedestrian and bicycle trips with calming features such as marked crosswalks, curb extensions, raised crosswalks, raised intersections, median islands, tight corner radii, roundabouts or mini-circles, on-street parking, planter strips with trees, chicanes/chokers and others (CAPCOA 2010).

- **SDT-5: Incorporate Bike Lane Street Design (on-site)**
  - It is recommended that the Project implement of bicycle facilities within and adjacent to the Project site. Within the Project it is recommended that Class I Bikeways be constructed along the following;
    - South side of Street 'S' between Lemoore Avenue and the eastern boundary of the Project.
    - Street 'G' between Street 'S' and Street 'P'.
  - Also, within the Project it is recommended that Class II Bikeways be constructed along the following:
    - Street 'S' between Lemoore Avenue and the eastern boundary of the Project
    - Mary Drive between Street 'T' and Lacey Boulevard.
    - Project frontages along Lemoore Avenue between Lacey Boulevard and Glendale Avenue.
    - Lacey Boulevard between Lemoore Avenue the eastern boundary of the Project.
  - The effectiveness of this measure will depend largely on its implementation as a stand-alone strategy or in combination with multiple design elements to strengthen street network characteristics and enhance multi-modal environments (CAPCOA 2010).
  
- **SDT-7: Provide Bike Parking with Multi-Unit Residential Projects**
  - It is recommended that the Project implement a minimum of 14 bike parking spaces within the multi-family residential component.
  - The effectiveness of this measure will depend largely on its implementation as a stand-alone strategy or in combination with multiple design elements to strengthen street network characteristics and enhance multi-modal environments (CAPCOA 2010).
  
- **SDT-9: Dedicate Land for Bike Trails**
  - It is recommended that Class I Bikeways be constructed along the south side of Street 'S' between Lemoore Avenue and the eastern boundary of the Project and along Street 'G' between Street 'S' and Street 'P'.
  - The effectiveness of this measure will depend largely on its implementation as a stand-alone strategy or in combination with multiple design elements to strengthen street network characteristics and enhance multi-modal environments (CAPCOA 2010).

### Effectiveness of VMT Mitigation Measures

Table 3.14-6 identifies and summarizes the recommended VMT mitigation measures appropriate for residential land uses, the recommended VMT reduction rates per the *Quantifying Greenhouse Gas Mitigation Measures* published by CAPCOA. These measures are reflected in mitigation measures TRA-4, TRA-5, and TRA-6.

**Table 3.14-6  
Summary of Required VMT Mitigation Measures**

VMT Category	Transportation Categories							
VMT Sub-Categories	Land-Use/Location			Neighborhood / Site Enhancement				
VMT Measures	LUT-4: Increase Destination Accessibility	LUT-8: Locate Project near Bike Path/Bike Lane	LUT-9: Improve Design of Development	SDT-1: Provide Pedestrian Network Improvements	SDT-2: Provide Traffic Calming Measures	SDT-5: Incorporate Bike Lane Street Design (on-site)	SDT-7: Provide Bike Parking with Multi-Unit Residential Projects	SDT-9: Dedicate Land for Bike Trails
VMT Measure Reduction Rate <sup>1</sup> (%)	6.67	N/A	7.33	2.00	0.5	N/A	N/A	N/A
Max. VMT Measure Reduction Rate <sup>2</sup> (%)	20.00	N/A	21.30	2.00	1.00	N/A	N/A	N/A
Category VMT Reduction Rate (%)	13.51			2.49				
Max. Category VMT Reduction Rate <sup>2</sup> (%)	5.00			5.00				
Transportation VMT Reduction Rate (%)	7.37 <sup>3</sup>							
Max. Transportation VMT Reduction Rate <sup>2</sup> (%)	10.00							

Note: 1 = VMT Reduction Rate based on engineering judgement, data provided by the developer and CAPCOA *Quantifying Greenhouse Gas Mitigation Measures*  
 2 = Maximum Reduction Rates are derived from CAPCOA *Quantifying Greenhouse Gas Mitigation Measures*  
 3 = Calculated using the Max. Category VMT Reduction Rate if the Category VMT Reduction Rate is greater than the Max. Category Reduction Rate

As shown in Table 3.14-7, VMT mitigation measures and internal capture are projected to reduce the residential VMT per capita from 9.29 to 8.61. This reduction does not reduce the Project’s VMTs to below the threshold of 8.16 VMT per capita.

**Table 3.14-7  
VMT Results**

<b>Project Components</b>	<b>Kings CAG plus Project VMT Results<sup>1</sup></b>	<b>Reduction in VMT from Mitigation<sup>2</sup></b>	<b>VMT (With Mitigations)</b>	<b>City of Lemoore VMT Threshold</b>	<b>Significant VMT Impact?</b>
Residential	9.29 / capita	-0.68 / capita	8.61 / capita	8.16 / capita	Yes

Note: 1 = VMT Results per Kings CAG model  
2 = VMT Mitigation Measures from CAPCOA Quantifying Greenhouse Gas Mitigation Measures

Therefore, even after implementation of feasible VMT mitigation measures TRA-4 through TRA-6, which requires the construction of bike lanes and traffic calming features, the Project exceeds the threshold of 8.16 VMT per capita and is determined to be *significant and unavoidable*.

**Mitigation Measures:**

**TRA-3** a) Prior to a Subdivision Notice of Completion, the Project shall construct Class I Bikeways along the following:

- South side of Street 'S' between Lemoore Avenue and the eastern boundary of the Project.
- Street 'G' between Street 'S' and Street 'P'. the Project shall install Class II Bikeways along Street 'S' between Lemoore Avenue and the eastern boundary of the Project and along Mary Drive between Street 'T' and Lacey Boulevard.

- b) Adjacent to the Project, Class II Bikeways shall be constructed along the following:
- The frontage along Lemoore Avenue between Lacey Boulevard and Glendale Avenue
  - The frontage along Lacey Boulevard between Lemoore Avenue the eastern boundary of the Project.

**TRA-4** Prior to a Subdivision Notice of Completion the Project shall incorporate:

- a) Intersection traffic calming features such as mini-circles at the following intersections:
- Beverly Drive and Street 'S',
  - Street 'G' and Street 'S',
  - Street 'L' and Street 'S',

- Street 'C' and Street 'I',
  - Street 'D' and Street 'I',
  - Mary Drive and Street 'I',
  - Street 'A' and Street 'F'.
- b) Street traffic calming features including on street parking throughout the Project (excluding Street 'S') at the following:
- Between Lemoore Avenue and the eastern boundary of the Project,
  - Along Mary Drive between Lacey Boulevard and Street 'J',
  - Along median islands on Street 'S' between Lemoore Avenue and Street 'D'
  - Along Mary Drive between Lacey Boulevard and Street 'I',
  - Planter strips with street trees throughout the Project.

**TRA-5** Prior to issuance of an Occupancy permit for the multi-family residential component, the Project shall implement a minimum of 14 bike parking spaces.

**Impact 3.14-3:** *Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

**Less Than Significant Impact.** As noted in Impact 3.14-1, access to and from the Project site will be from eight main access points. All proposed internal roadways will be constructed to meet local and State standards and requirements. No sharp roadway curves currently exist in the proposed Project area, nor would such curves be created by the proposed Project. No roadway design features associated with this proposed Project would result in an increase in hazards due to a design feature or be an incompatible use. The internal road system has been designed with traffic calming features such as curved roadways, mini-circles at some intersections and relatively short blocks of housing. There are no non-residential uses (such as farm equipment) associated with the Project. Any impacts would be *less than significant*.

### **Mitigation Measures**

None are required.

**Impact 3.14-4: Result in inadequate emergency access?**

**Less Than Significant Impact With Mitigation.** Preparation of a detailed Traffic Management Plan (TMP) as required by TRA-2, would be required prior to construction of the proposed Project. The TMP would delineate all road closures provisions to maintain access to adjacent residential properties at all times, prior notices, adequate sign-postings, detours, provisions for pedestrian and bicycle transportation and permitted hours of construction activity. Proper detours and warning signs would be established along the project perimeter to ensure public safety. The TMP shall be devised so that construction would not interfere with emergency response or evacuation plans. With implementation of the TMP and mitigation measures, less than significant impacts are anticipated. Therefore, no significant impacts to vehicular and emergency access would occur during construction activities.

Once constructed the proposed Project includes multiple access roads allowing adequate egress and ingress to the residential development in the event of an emergency. Additionally, as part of the proposed Project, internal access roadways would be constructed to City standards. The City has reviewed the site layout and determined that the Project provides adequate emergency access. Therefore, after mitigation, there is a *less than significant impact*.

**Mitigation Measures:**

Implementation of Mitigation Measure TRA-2.

**Cumulative Impacts**

The potential for cumulative transportation impacts exists where there are multiple projects proposed in an area that have overlapping operational phases that could affect similar resources. Projects with overlapping schedules for operations could result in a substantial contribution to increased traffic levels throughout the surrounding roadway network. Cumulative impacts from the project, when considered with nearby, reasonably foreseeable planned projects, would occur once the Project was constructed have been determined for each impact area below.

**Impact 3.14-1: Less Than Cumulatively Considerable With Mitigation.** As discussed previously, the study intersection of Liberty Drive and Hanford-Armona Road is projected to operate at an unacceptable LOS during both peak periods under cumulative (Year 2042). To improve the LOS at this intersection, it is recommended that the following improvement be implemented.

- Liberty Drive / Hanford-Armona Road

- Signalize the intersection with protected left-turn phasing in all directions while retaining the existing lane geometrics.

Mitigation measure TRA-1 will require the developer to pay a per rata share for the improvement needed at the intersection of Liberty Drive and Hanford-Armona Road. With implementation of TRA-1, the level of service and traffic flow in the Project area will remain acceptable. Mitigation measure TRA-2 requires the developer to develop a Construction Traffic Management Plan and to obtain encroachment permits for road work. Therefore, impacts would be *less than cumulatively considerable*.

**Impact 3.14-2: Cumulatively Considerable With Mitigation.** Construction of the individual development projects allowed under the land use designations of the City General Plan may result in the generation of traffic increases and may contribute incrementally to Citywide VMTs. While all feasible and reasonable mitigation has been imposed on the Project, VMTs remains above the City's threshold and therefore is a cumulatively considerable impact. Mitigation measures TRA – 3 through TRA – 5 will require the developer to install bicycle lanes, bicycle parking, and traffic calming features. VMT mitigation measures and internal capture are projected to reduce the residential VMT per capita from 9.29 to 8.61. This reduction does not reduce the Project's VMTs to below the threshold of 8.16 VMT per capita. Therefore, after mitigation, this impact is *cumulatively considerable*.

**Impact 3.14-3: Less Than Cumulatively Considerable With Mitigation.** TRA -2 will require the developer to develop a Construction Traffic Management Plan and to obtain encroachment permits for road work. As such, impacts associated with this topic are *less than cumulatively considerable with mitigation*.

**Impact 3.14-4: Less Than Cumulatively Considerable.** As discussed previously, once constructed, the proposed Project includes multiple access roads allowing adequate egress and ingress to the residential development in the event of an emergency. Additionally, as part of the proposed Project, internal access roadways would be constructed to City standards. The City has reviewed the site layout and determined that the Project provides adequate emergency access. In addition, a Traffic Management Plan will be devised so that construction would not interfere with emergency response or evacuation plans. Therefore, impacts associated with this topic are *less than cumulatively considerable*.



### 3.15 Tribal Cultural Resources

This section of the DEIR evaluates the potential impacts to Tribal Cultural Resources (TCRs) associated with Project implementation. A Cultural Resources Survey was prepared for the Project (see Appendix C). In addition, the City of Lemoore notified applicable Tribes to request consultation on the Project.

#### **Environmental Setting**

##### Environmental Background

The study area is located at an elevation of 230 feet above mean sea level on the open flats of the San Joaquin Valley north of the City of Lemoore, Kings County, California. Currently this region can be characterized as a dry open valley bottom now utilized for suburban or agricultural uses. The study area is north of the former shoreline of Tulare Lake, at roughly 200 feet above mean sea level. Prior to reclamation and channelization, the region would have been a low-lying, water-rich area characterized by streams, sloughs, marshes, and swamps. Occasionally inundated by floodwaters, in many years portions of this region would have been swampy during the winter rainy season and marsh land during other parts of the year. Historical and recent land-use has changed the vegetation that was once present within and near the Project area. The immediate Project location historically most likely fell within the Valley Grassland community, however, with Riparian Woodlands present along streams and freshwater marshes common in the area.<sup>1</sup>

##### Ethnographic Background

Penutian-speaking Yokuts tribal groups occupied the southern San Joaquin Valley region and much of the nearby Sierra Nevada. Ethnographic information about the Yokuts was collected primarily by Powers (Appendix C). For a variety of historical reasons, existing research information emphasizes the central Yokuts tribes who occupied both the valley and particularly the foothills of the Sierra. The northernmost tribes suffered from the influx of Euro-Americans during the Gold Rush and their populations were in substantial decline by the time ethnographic studies began in the early twentieth century. In contrast, the southernmost tribes were partially removed by the Spanish to missions and eventually absorbed into multi-tribal communities on the Sebastian Indian Reservation (on Tejon Ranch), and later the Tule River Reservation and Santa Rosa Rancheria to the north. The result is an unfortunate scarcity of ethnographic detail on

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<sup>1</sup> Phase I Survey, Lacey Ranch Project, Lemoore, Kings County, California. Prepared by ASM Affiliates, Inc. May 2021. Appendix C. Page 5.

southern Valley tribes, especially in relation to the rich information collected from the central foothills tribes where native speakers of the Yokuts dialects are still found. Regardless, the general details of indigenous life-ways were similar across the broad expanse of Yokuts territory, particularly in terms of environmentally influenced subsistence and adaptation and with regard to religion and belief, which were similar everywhere.

This scarcity of specific detail is particularly apparent in terms of southern valley tribal group distribution. Latta places the north shore of Tulare Lake east of Fish Slough in Nutúnutu territory, with the closest village being Wiu nearer the Mussel Slough inlet. Kroeber however, indicates that Nutúnutu territory did not include the north shore of Tulare Lake, but that the north shore, including Fish Slough, was Tachi territory. The village of Wiu remains near the inlet of Cottonwood Creek and Mussel Slough.

The Yokuts settlement pattern was largely consistent, regardless of specific tribe involved. Winter villages were typically located along lakeshores and major stream courses (as these existed circa AD 1800), with dispersal phase family camps located at elevated spots on the valley floor and near gathering areas in the foothills.

Most Yokuts groups, again regardless of specific tribal affiliation, were organized as a recognized and distinct tribelet; a circumstance that almost certainly pertained to the tribal groups noted above. Tribelets were land-owning groups organized around a central village and linked by shared territory and descent from a common ancestor. The population of most tribelets ranged from about 150 to 500 peoples.

Each tribelet was headed by a chief who was assisted by a variety of assistants, the most important of whom was the winatum, a herald or messenger and assistant chief. A shaman also served as religious officer. While shamans did not have any direct political authority, they maintained substantial influence within their tribelet (Appendix C).

Shamanism is a religious system common to most Native American tribes. It involves a direct and personal relationship between the individual and the supernatural world enacted by entering a trance or hallucinatory state (usually based on the ingestion of psychotropic plants, such as jimsonweed or more typically native tobacco). Shamans were considered individuals with an unusual degree of supernatural power, serving as healers or curers, diviners, and controllers of natural phenomena (such as rain or thunder). Shamans also produced the rock art of this region, depicting the visions they experienced in vision quests believed to represent their spirit helpers and events in the supernatural realm (Appendix C).

The centrality of shamanism to the religious and spiritual life of the Yokuts was demonstrated by the role of shamans in the yearly ceremonial round. The ritual round, performed the same each year, started in the spring with the jimsonweed ceremony, followed by rattlesnake dance and (where appropriate) first salmon ceremony. After returning from seed camps, fall rituals began in the late summer with the mourning ceremony, followed by first seed and acorn rites and then bear dance. In each case, shamans served as ceremonial officials responsible for specific dances involving a display of their supernatural powers.

Subsistence practices varied from tribelet to tribelet based on the environment of residence. Throughout Native California, and Yokuts territory in general, the acorn was a primary dietary component, along with a variety of gathered seeds. Valley tribes augmented this resource with lacustrine and riverine foods, especially fish and wildfowl. As with many Native California tribes, the settlement and subsistence rounds included the winter aggregation into a few large villages, where stored resources (like acorns) served as staples, followed by dispersal into smaller camps, often occupied by extended families, where seasonally available resources would be gathered and consumed.

Although population estimates vary and population size was greatly affected by the introduction of Euro-American diseases and social disruption, the Yokuts were one of the largest, most successful groups in Native California. Cook estimates that the Yokuts region contained 27 percent of the aboriginal population in the state at the time of contact; other estimates are even higher. Many Yokuts people continue to reside in the southern San Joaquin Valley today, including at the nearby Santa Rosa Rancheria.<sup>2</sup>

## Regulatory Setting

### State of California Regulations

#### *Assembly Bill (AB) 52*

AB 52, which was approved in September 2014 and became effective on July 1, 2015, requires that CEQA lead agencies consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of a proposed project, if requested by the tribe. A provision of the bill, chaptered in CEQA Section 21086.21, also specifies that a project with an

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<sup>2</sup> Phase I Survey, Lacey Ranch Project, Lemoore, Kings County, California. Prepared by ASM Affiliates, Inc. May 2021. Appendix C. Pages 5-7.

effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment.

Defined in Section 21074(a) of the Public Resources Code, TCRs are:

1. Sites, features, places, cultural landscapes, sacred places and objects with cultural value to a California Native American tribe that are either of the following:
  - a. Included or determined to be eligible for inclusion in the California Register of Historical Resources; or
  - b. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

TCRs are further defined under Section 21074 as follows:

- a. A cultural landscape that meets the criteria of subdivision (a) is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape; and
- b. A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a “non-unique archaeological resource” as defined in subdivision (h) of Section 21083.2 may also be a TCR if it conforms with the criteria of subdivision (a).

Mitigation measures for TCRs must be developed in consultation with the affected California Native American tribe pursuant to newly chaptered Section 21080.3.2, or according to Section 21084.3. Section 21084.3 identifies mitigation measures that include avoidance and preservation of TCRs and treating TRCs with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource.

According to AB 52, it is the responsibility of the tribes to formally request of a lead agency that they be notified of projects in the lead agency’s jurisdiction so that they may request consultation

related to TCRs. The City of Lemoore conducted their required tribal outreach related to the proposed Project in 2020.

#### *Native American Heritage Commission*

PRC Section 5097.91 established the NAHC, the duties of which include inventorying places of religious or social significance to Native Americans and identifying known graves and cemeteries of Native Americans on private lands. Section 5097.98 of the PRC specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner

#### *Senate Bill 18*

SB 18 (Statutes of 2004, Chapter 905), which went into effect January 1, 2005, requires local governments (city and county) to consult with Native American tribes before making certain planning decisions and to provide notice to tribes at certain key points in the planning process. The intent is to “provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places” (Governor’s Office of Planning and Research, 2005).

The purpose of involving tribes at these early planning stages is to allow consideration of cultural places in the context of broad local land use policy, before individual site-specific, project-level, land use designations are made by a local government. The consultation requirements of SB 18 apply to general plan or specific plan processes proposed on or after March 1, 2005.

According to the Tribal Consultation Guidelines: Supplement to General Plan Guidelines (Governor’s Office of Planning and Research, 2005), the following are the contact and notification responsibilities of local governments:

- Prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes (on the contact list maintained by the NAHC) of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to, cultural places located on land within the local government’s jurisdiction that is affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe (Government Code Section 65352.3).
- Prior to the adoption or substantial amendment of a general plan or specific plan, a local government must refer the proposed action to those tribes that are on the NAHC

contact list and have traditional lands located within the city or county's jurisdiction. The referral must allow a 45-day comment period (Government Code Section 65352). Notice must be sent regardless of whether prior consultation has taken place. Such notice does not initiate a new consultation process.

- Local government must send a notice of a public hearing, at least 10 days prior to the hearing, to tribes who have filed a written request for such notice (Government Code Section 65092).

## Thresholds of Significance

The thresholds of significance for this section are established by the CEQA Checklist Item.

- Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
  - i. Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code Section 5020.1j(k) or
  - ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

As described in detail above, to evaluate the project's potential effects on tribal cultural resources a SLF search was conducted by the NAHC, and SB 18 and AB 52 notification letters were sent to Native American groups and individuals indicated by the NAHC to solicit information regarding the presence of tribal cultural resources. Impacts to tribal cultural resources may include direct impacts resulting from ground-disturbing activities or indirect visual impacts associated with the construction of above ground structures within the view shed of an identified tribal cultural resource.

## Impacts and Mitigation Measures

**Impact 3.15-1:** *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:*

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

**Less Than Significant with Mitigation.** As previously discussed, the City of Lemoore conducted their required tribal outreach related to the proposed Project in March of 2020. According to AB 52, the tribes had 90 days from the receipt of the letter to request consultation with the City of Lemoore. Of the tribes that were notified, the City received one response from the Santa Rosa Rancheria Tachi Yokut Tribe, who requested that a Tribal representative be retained to provide a cultural presentation to all construction staff and the landowner within 20 days prior to the start of initial ground-breaking.

As previously discussed in Chapter 3.4 – Cultural Resources, the subject site is not known to contain any tribal cultural resources (TCRs). As further noted in that chapter, with respect to archaeological resources and human remains that may be present in areas where there would be some ground disturbance, mitigation measures set forth in the section would be implemented to ensure that should resources be encountered, they would be protected from damage. Therefore, while no TCRs are expected to be affected by the proposed Project, the mitigation measures set forth in Chapter 3.4 - Cultural Resources as well as within this section, would further ensure that any resources encountered would not be adversely affected.

Although construction and operation would occur on previously disturbed land, unknown historical resources may be discovered during ground-disturbing activities. In order to account for unanticipated discoveries and the potential to impact previously undocumented or unknown resources, the following mitigation measures are recommended. With the implementation of

Mitigation Measures TRI-1 through TRI-4, impacts under this criterion would be less than significant with mitigation.

Based on the above, the proposed Project is not expected to result in a substantial adverse change in the significance of TCRs, and this impact is considered *less than significant with mitigation*.

### Mitigation Measures

**TRI-1:** Prior to any ground disturbance, a surface inspection of the site shall be conducted by a Tribal Monitor. The Tribal Cultural Staff shall monitor the site during grading activities. The Tribal Staff shall provide pre-project-related activities briefings to supervisory personnel and any excavation contractor, which will include information on potential cultural material finds, and any excavation contractor, which will include information on potential cultural material finds, and on the procedures, to be enacted if resources are found. Prior to any ground disturbance, the applicant shall offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground-disturbing activities. Tribal participation would be dependent upon the availability and interest of the tribe.

**TRI-2:** In the event that historical or archaeological cultural resources are discovered during project-related activities or decommissioning, operations shall stop within 100 feet of the find, and a qualified archeologist shall determine whether the resource requires further study. The qualified archeologist shall determine the measures that shall be implemented to protect the discovered resources including, but not limited to, excavation of the finds and evaluation of the finds and evaluation of the finds in accordance with § 15064.5 of the CEQA Guidelines. Measures may include avoidance, preservation in-place, recordation, additional archaeological resting, and data recovery, among other options. Any previously undiscovered resources found during project-related activities within the project area shall be recorded on appropriate Department of Parks and Recreation forms and evaluated for significance. No further ground disturbance shall occur in the immediate vicinity of the discovery until approved by the qualified archaeologist.

The Lead Agency, along with other relevant or tribal officials, shall be contacted upon the discovery of cultural resources to begin coordination on the disposition



of the find(s). Treatment of any significant cultural resources shall be undertaken with the approval of the Lead Agency.

**TRI-3:** Upon coordination with the Lead Agency, any archaeological artifacts recovered shall be donated to an appropriate tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.

**TRI-4:** If human remains are discovered during project-related activities or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987) shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of discovery of human remains, at the direction of the County Coroner.

## Cumulative Impacts

**Less Than Cumulatively Considerable.** The scope for considering cumulative impacts to tribal cultural resources are the geographic areas in Kings County as well as the areas designated by the Native American Heritage Commission as having potential to impact TCRs as a result of the Project. As discussed above, the proposed Project area is not known to contain any TRCs; however, mitigation is included to reduce any potential impacts to Tribal Resources. With implementation of Mitigation Measures TRI-1 through TRI-4, cumulative impacts are considered *less than cumulatively considerable*.

### 3.16 Utilities and Service Systems

This section of the DEIR identifies potential impacts of the proposed Project pertaining to water supply and infrastructure, wastewater service, solid waste and other utility services. To assist in evaluation of this environmental impact, a Water Supply Analysis (Appendix G) was prepared.

#### **Environmental Setting**

##### *Project Site*

As described in Section 2.1, the Project site is located immediately north of the City of Lemoore in Kings County, in an area dominated by rural agricultural land and homesteads to the north, east and west, and residential development associated with the City of Lemoore immediately to the south. The site is partially designated by the City of Lemoore General Plan for future residential uses and is currently zoned as Limited Agricultural-10 District (AL-10) by Kings County. Approximately one-third of the site (the southern one-third) is within the City's Sphere of Influence (SOI) while the remaining two-thirds are currently outside the SOI. The entire site is within the adopted Urban Development Boundary and is proposed for annexation into the City limits of Lemoore.

Project site topography is relatively flat, varying in elevation from 212 to 230 feet above mean sea level, with the lowest elevation occurring along the northern boundary of the site and the highest elevation occurring along the most southeastern portion. The Project site is underlain by a mix of Nord complex and Whitewolf coarse sandy loam (Colibri, 2020). As of Summer 2021, the land is being farmed for alfalfa and utilizes on-site agricultural wells for irrigation.

The site has been used to grow alfalfa for at least the last five years. Of the 155-acre site, approximately 154 acres are used for growing with approximately 1 acre used for dirt access roads. Alfalfa requires at least 4 acre-feet per year per acre in the San Joaquin Valley of California.<sup>1</sup> Based on 154 acres of alfalfa production, the site uses approximately 616 acre-feet (AF) of water per year (154 acres X 4 AFY = 616 AFY). If the proposed Project is approved and annexed into the City, the Project will tie into the City's existing water system. The Project will also require connection to the City's wastewater treatment (sewer) system and will require other utilities such as electrical and solid waste. Each utility is discussed individually herein.

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<sup>1</sup> [https://alfalfa.ucdavis.edu/irrigatedalfalfa/pdfs/ucalfalfa8287prodsystems\\_free.pdf](https://alfalfa.ucdavis.edu/irrigatedalfalfa/pdfs/ucalfalfa8287prodsystems_free.pdf), page 12 (accessed Oct. 2021).

### *Local Groundwater Basin*

The groundwater subbasin underlying the City of Lemoore is the Tulare Lake Subbasin (Groundwater Basin No. 5-022.12). The Tulare Lake Subbasin is one of eight subbasins within the Tulare Lake Hydrologic Region that transport, filter, and store water. The major rivers in the Subbasin that provide most of the surface water runoff for the Region is the Kings River. The Tulare Lake Subbasin is a non-adjudicated basin, meaning there are no restrictions on groundwater pumping.

Of the 5.1 million acres of the San Joaquin Valley Basin, the Tulare Lake Subbasin has a surface area of approximately 524 thousand acres (818 square miles). The Tulare Lake Subbasin is bounded on the south by the Kings-Kern county line, on the west by the California Aqueduct, the eastern boundary of Westside Groundwater Subbasin, and Tertiary marine sediments of the Kettleman Hills. It is bounded on the north by the southern boundary of the Kings Groundwater Subbasin, and on the east by the westerly boundaries of the Kaweah and Tule Groundwater Subbasins. The southern half of the Tulare Lake Subbasin consists of lands in the former Tulare Lake bed in Kings County. The San Joaquin River Groundwater Basin is not an adjudicated groundwater basin.<sup>2</sup>

The Tulare Lake Subbasin Groundwater Sustainability Plan (Groundwater Sustainability Plan) (January 2020) provided historical information related to groundwater in the Subbasin. The Subbasin groundwater model and Department of Water Resources (DWR) estimates were used to calculate groundwater in storage for the principal aquifers within the Subbasin boundaries based on 2016 conditions. The unconfined aquifer has an average specific yield of 8.5% and an average saturated thickness of 451 feet over the 535,869 acres of the Subbasin. This yields an estimated 20.5 million AF of groundwater in storage in the unconfined aquifer. The confined aquifer has an estimated average specific yield of 4.91% and an average saturated thickness of 2,294 feet over the 535,869 acres of the Subbasin. This yields an estimated 60.4 million AF of groundwater in storage in the confined aquifer zone. Total estimated groundwater in storage as of 2016 is approximately 80.9 million AF, which is slightly less than the DWR estimate of 82.5 million AF.<sup>3</sup>

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<sup>2</sup> City of Lemoore 2015 UWMP, page 33.

<sup>3</sup> Tulare Lake Subbasin Groundwater Sustainability Plan (Jan. 2020), page 3-30.

According to the Groundwater Sustainability Plan, the estimated groundwater in storage in the Subbasin above the base of fresh groundwater is roughly 82.5 million AF while groundwater use in the Subbasin is in overdraft by an average of roughly 0.07 million AF/Y. Although the reductions in groundwater storage will be addressed through the Groundwater Sustainability Plan implementation period, the long-term regional overdraft could continue for many years without significant risk to the beneficial uses and users of groundwater in the Subbasin.<sup>4</sup>

The Groundwater Sustainability Plan also indicated that for the areas covered by the South Fork Kings Groundwater Sustainability Agency (includes the City of Lemoore), the average annual storage change for this area is estimated at a negative 37,840 AF.

#### *Existing Water Infrastructure*

The City provides water distribution to approximately 26,000 residents, industrial and commercial users. The water distribution system consists of approximately 115 miles of active water pipelines, ranging from 1 to 18 inches, 10 active wells, 5 storage tanks and 4 pump stations.<sup>5</sup>

The City's existing groundwater wells and capacity are summarized as follows:<sup>6</sup>

<u>Well Name</u>	<u>Current Status</u>	<u>Well Capacity (GPM)</u>
Well 2	Inactive	--
Well 3	Abandoned	--
Well 4	Active	1,850
Well 5	Active	1,850
Well 6	Active	1,100
Well 7	Active	1,200
Well 8	Abandoned	--
Well 9	Emergency	1,200
Well 10	Seasonal	2,000
Well 11	Active	800
Well 12	Backup	1,150
Well 13	Active	1,000
Well 14	Active	<u>1,000</u>
	<b>Total:</b>	<b>13,150</b>

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<sup>4</sup> Tulare Lake Subbasin Groundwater Sustainability Plan (Jan. 2020), page 4-13.

<sup>5</sup> City of Lemoore – Water Master Plan (Feb. 2020), page 1-1.

<sup>6</sup> Ibid, page 3-1.

Based on the capacity of the existing wells, the City is capable of producing of up to 6,912 million gallons (MG) per year (13,150 GPM @ 24 hours/day X 365 days per year = 6,912 MG).

#### *Existing Wastewater Infrastructure*

The City of Lemoore owns and operates a wastewater treatment facility (WWTF) located at 1145 Vine Street, Lemoore, California. The WWTF is equipped with an influent pump station, Old Headworks, New Headworks, four lagoon ponds, choline gas injection, and an effluent pump station. Raw wastewater from the collection system is pumped to the Old Headworks structure where it then flows by gravity to the New Headworks. The City provides wastewater services to approximately 26,000 residents, industrial and commercial users. The wastewater system includes approximately 82 miles of active gravity sewer lines, ranging from 6 to 21 inches in diameter, 17 lift stations and associated force mains.<sup>7</sup>

#### *Solid Waste*

Solid waste disposal for Lemoore is managed by Kings Waste and Recycling Authority (KWRA). The City's PWD Refuse Division is responsible for solid waste collection services. The majority of the City's solid waste is taken to Kettleman Hills Landfill Facility, a Class II/III facility owned by Chemical Waste Management (CWMI).<sup>8</sup>

#### *Electrical and Natural Gas*

##### Electricity

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of system components, including substations and transformers that lower transmission line power (voltage) to a level appropriate for on-site distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Conveyance of electricity through transmission lines is typically responsive to market demands. Electricity is provided to the Project area by PG&E.

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<sup>7</sup> Lemoore Wastewater Treatment and Collection System Master Plan (2020), page ES-6.

<sup>8</sup> Lemoore General Plan EIR, page 6-11.

### Energy Usage

Energy usage is typically quantified using the British Thermal Unit (BTU). Total energy consumption in California was 7,967 trillion BTU's in 2018 (the most recent year for which this specific data is available), which equates to an average of 202 million BTU's per capita.<sup>9</sup> Of California's total energy usage, the breakdown by sector is 40 percent transportation, 23 percent industrial, 19 percent commercial, and 18 percent residential.<sup>10</sup> Electricity and natural gas in California are generally consumed by stationary users such as residences and commercial and industrial facilities, whereas petroleum consumption is generally accounted for by transportation-related energy use.

While BTUs measure total energy usage, electricity is generally measured in kilowatt-hours (kWh) which is the standard billing unit for energy delivered to consumers by electrical utilities.

The electricity consumption attributable to Kings County from 2009 to 2019 is shown in Table 3.16-1. As indicated, energy consumption in Kings County varied approximately 22 percent over the last 10 years.

**Table 3.16-1  
Electricity Consumption in Kings County 2009 – 2019<sup>11</sup>**

Year	Electricity Consumption (in millions of kilowatt hours)
2009	1,585
2010	1,452
2011	1,423
2012	1,680
2013	1,785
2014	1,817
2015	1,774

<sup>9</sup> U.S. Energy Information Administration, California State Profile and Energy Estimates. <https://www.eia.gov/state/print.php?sid=CA>. Accessed February 2021.

<sup>10</sup> Ibid.

<sup>11</sup> California Energy Commission. Energy Reports. Electricity Consumption by County. <https://ecdms.energy.ca.gov/elecbycounty.aspx>. Accessed February 2021.

2016	1,779
2017	1,498
2018	1,758
2019	1,583

### Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs, mainly located outside the State, and delivered through high-pressure transmission pipelines. The natural gas transportation system is a nationwide network, and, therefore, resource availability is typically not an issue. Natural gas provides almost one-third of the state's total energy requirements and is used in electricity generation, space heating, cooking, water heating, industrial processes, and as a transportation fuel.

Natural gas is provided to the Project area by Southern California Gas. The natural gas consumption attributable to Kings County from 2009 to 2019 is provided in Table 3.16-2, Natural Gas Consumption in Kings County 2009-2019. Natural gas consumption in Kings County varied 9% over the 10-year span.

**Table 3.16-2  
Natural Gas Consumption in Kings County 2009 – 2019<sup>12</sup>**

<b>Year</b>	<b>Natural Gas Consumption (in millions of therms)</b>
2009	68
2010	69
2011	71
2012	68
2013	70

<sup>12</sup> California Energy Commission. Energy Reports. Gas Consumption by County. <http://www.ecdms.energy.ca.gov/gasbycounty.aspx> Accessed February 2021.

2014	66
2015	67
2016	67
2017	64
2018	70
2019	69

## Regulatory Setting

### Federal Agencies and Regulations

#### *Clean Water Act (CWA)*

The Clean Water Act (CWA) is intended to restore and maintain the chemical, physical, and biological integrity of the nation's waters (33 CFR 1251). The regulations implementing the CWA protect waters of the U.S. including streams and wetlands (33 CFR 328.3). The CWA requires states to set standards to protect, maintain, and restore water quality by regulating point source and some non-point source discharges. Under Section 402 of the CWA, the National Pollutant Discharge Elimination System (NPDES) permit process was established to regulate these discharges.

#### *Safe Drinking Water Act*

The Safe Drinking Water Act (SDWA) was established to protect the quality of drinking water in the United States. This SDWA focuses on all waters either designed or potentially designed for drinking water use, whether from surface water or groundwater sources. The SDWA and subsequent amendments authorized the EPA to establish health-based standards, or maximum contaminant levels (MCLs), for drinking water to protect public health against both natural and anthropogenic contaminants. All owners or operators of public water systems are required to comply with these primary (health-related) standards. State governments, which can be approved to implement these primary standards for the EPA, also encourage attainment of secondary (nuisance-related) standards. At the federal level, the EPA administers the SDWA and establishes MCLs for bacteriological, organic, inorganic, and radiological constituents (United States Code Title 42, and Code of Federal Regulations Title 40). At the State level, California has adopted its own SDWA, which incorporates the federal SDWA standards with some other requirements specific only to California (California Health and Safety Code, Section 116350 et seq.).



The 1996 Federal SDWA amendments established source water assessment programs pertaining to untreated water from rivers, lakes, streams, and groundwater aquifers used for drinking water supply. According to these amendments, the EPA must consider a detailed risk and cost assessment, as well as best available peer-reviewed science, when developing standards for drinking water. These programs are the foundation of protecting drinking water resources from contamination and avoiding costly treatment to remove pollutants. In California, the Drinking Water Source Assessment and Protection (DWSAP) Program fulfills these federal mandates. The California State Water Resources Control Board: Division of Drinking Water (SWRCB-DDW) is the primary agency for developing and implementing the DWSAP Program and is responsible for performing the assessments of existing groundwater sources.

#### *Federal Emergency Management Agency (FEMA)*

The National Flood Insurance Act (1968) makes available federally subsidized flood insurance to owners of flood-prone properties. To facilitate identifying areas with flood potential, Federal Emergency Management Agency (FEMA) has developed Flood Insurance Rate Maps (FIRM) that can be used for planning purposes.

#### *Central Valley Project Improvement Act*

The Reclamation Projects Authorization and Adjustment Act of 1992 (Public Law 102-575) includes Title 34, the Central Valley Project Improvement Act (CVPIA). The CVPIA amended the previous authorizations of the California CVP to include fish and wildlife protection, restoration, and mitigation as project purposes having equal priority with irrigation and domestic uses and fish and wildlife enhancement as a project purpose equal to power generation. The CVPIA identifies specific measures to meet the CVPIA's multiple purposes.

#### State of California Regulations

##### *California Green Building Standards Code*

Construction- and demolition-generated (C&D) waste is heavy, inert material. This material creates significant problems when disposed of in landfills. Since C&D debris is heavier than paper and plastic, it is more difficult for counties and cities to reduce the tonnage of disposed waste. For this reason, C&D waste debris has been specifically targeted by the State of California for diversion from the waste stream.

The California Green Building Standards Code (Standards Code) will apply to the construction related activities of this Project. The purpose of the Standards Code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings using building concepts that

have a positive environmental impact and encouraging sustainable construction practices. Provisions of the Standards Code shall apply to the design and construction of building structures subject to State regulation.

*California Department of Resources Recycling and Recovery (CalRecycle)*

CalRecycle is the State agency designated to oversee, manage, and track California's 76 million tons of waste generated each year. It is one of the six agencies under the umbrella of the California Environmental Protection Agency. CalRecycle develops regulations to control and manage waste, for which enforcement authority is typically delegated to the local government. The Board works jointly with local government to implement regulations and fund programs.

*Assembly Bill 939 and Senate Bill 1016*

The California Integrated Waste Management Act of 1989, or Assembly Bill (AB) 939, established the Integrated Waste Management Board, required the implementation of integrated waste management plans, and mandated that local jurisdictions divert at least 50 percent of all solid waste generated (from 1990 levels), beginning January 1, 2000, and divert at least 75 percent by 2010. Projects that would have an adverse effect on waste diversion goals are required to include waste diversion mitigation measures to assist in reducing these impacts to less-than-significant levels. With the passage of Senate Bill (SB) 1016 (the Per Capita Disposal Measurement System) in 2006, only per capita disposal rates are measured to determine if a jurisdiction's efforts are meeting the intent of AB 939.

*State Water Resources Control Board*

The State Water Resources Control Board (SWRCB), located in Sacramento, is the agency with jurisdiction over water quality issues in the State of California. The SWRCB is governed by the Porter-Cologne Water Quality Act (Division 7 of the California Water Code), which establishes the legal framework for water quality control activities by the SWRCB. The intent of the Porter-Cologne Act is to regulate activities which may adversely affect the quality of waters of the State to attain the highest water quality which is reasonable, considering a full range of demands and values. The act authorizes the SWRCB to establish water quality principles and guidelines for long-range resource planning including groundwater and surface water management programs and control and use of recycled water. Much of the implementation of the SWRCB's responsibilities is delegated to nine Regional Water Quality Control Boards (RWQCBs). The proposed Project site is located within the jurisdiction of the Central Valley RWQCB.

*California Water Code (CWA)*

The Federal CWA establishes certain guidelines for the states to follow in developing programs for the control of surface water pollution and for planning the development and use of water resources. Under certain circumstances, the CWA allows the federal Environmental Protection Agency (EPA) to withdraw the primary responsibility for these programs from states with inadequate implementation mechanisms.

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal CWA. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region. The regional plans must conform with the policies set forth in the Porter-Cologne Act and established by the State water policy adopted by the SWRCB. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

- (a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:
  - (1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.
  - (2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the

boundaries of the state in a manner that could affect the quality of the waters of the state within any region.

- (3) A person operating, or proposing to construct, an injection well.
- (b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.
- (c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

*Water Code section 10910 (SB 610)*

Water Code section 10910 (SB 610) requires that a lead agency obtain a water supply assessment from an applicable public water system for certain projects subject to the California Environmental Quality Act, which are defined as (a) a residential development of more than 500 dwelling units; (b) a shopping center or business employing more than 1,000 persons or having more than 500,000 square feet of floor space; (c) a commercial office building employing more than 1,000 persons or having more than 250,000 square feet; (d) a hotel or motel with more than 500 rooms; (e) an industrial or manufacturing establishment housing more than 1,000 persons or having more than 650,000 square feet or 40 acres; (f) a mixed use project containing any of the foregoing; or (g) any other project that would have a water demand at least equal to a 500 dwelling unit project. Refer to Impact Section 3.9-2 herein for the discussion pertaining to the Water Supply Assessment that was prepared for the Project.

*Regional Water Quality Board*

The Central Valley RWQCB administers the NPDES storm water-permitting program in the Central Valley region, including Lemoore. Construction activities on one acre or more are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). The General Construction Permit requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The plan must include specifications for Best Management Practices (BMPs) that will be implemented during proposed construction to control degradation of surface water by preventing the potential erosion of sediments or discharge of pollutants from the construction area. The General Construction Permit program was established by the SWRCB and the Central Valley RWQCB for the specific purpose of reducing impacts to surface waters that may occur due to construction activities. BMPs have been established in the California Storm

Water Best Management Practice Handbook (2003), and are recognized as effectively reducing degradation of surface waters to an acceptable level. Additionally, the SWPPP describes measures to prevent or control runoff degradation after construction is complete, and identifies a plan to inspect and maintain these facilities or project elements.

#### *Waste Discharge Requirements*

The Central Valley RWQCB typically requires a Waste Discharge Requirements (WDR) permit for any facility or person discharging or proposing to discharge waste that could affect the quality of the waters of the state, other than into a community sewer system. Those discharging pollutants (or proposing to discharge pollutants) into surface waters must obtain an NPDES permit from the Central Valley RWQCB.

The NPDES serves as the WDR. For other types of discharges, such as those affecting groundwater or in a diffused manner (e.g., erosion from soil disturbance or waste discharges to land), a Report of Waste Discharge must be filed with the Central Valley RWQCB in order to obtain a WDR. For specific situations, the Central Valley RWQCB may waive the requirement to obtain a WDR for discharges to land or may determine that a proposed discharge can be permitted more effectively through enrollment in a general NPDES permit or general WDR.

#### *Porter-Cologne Water Quality Control Act*

Under the Porter-Cologne Water Quality Control Act, waters of the state fall under the jurisdiction of the appropriate Regional Water Quality and Control Board (RWQCB). Under the act, the RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Projects that affect wetlands or waters must meet waste discharge requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under CWA Section 401.

#### *Assembly Bill 1881*

AB 1881 expanded previous legislation related to landscape water use efficiency. AB 1881, the Water Conservation in Landscaping Act of 2006, enacted landscape efficiency recommendations of the California Urban Water Conservation Council (CUWCC) for improving the efficiency of water use in new and existing urban irrigated landscapes in California. AB 1881 required the DWR to update the existing Model Local Water Efficient Landscape Ordinance and local agencies to adopt the updated model ordinance or an equivalent. The law also requires the California Energy Commission to adopt

performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

*Assembly Bill 2882*

AB was passed in 2008 and encourages public water agencies throughout California to adopt conservation rate structures that reward consumers who conserve water. AB 2882 clarifies the allocation-based rate structures and establishes standards that protect consumers by ensuring a lower base rate for those who conserve water.

*Sustainable Groundwater Management Act*

In 2014, California enacted the Sustainable Groundwater Management Act (SGMA) (Water Code §10720 et seq.). SGMA requires that groundwater basins designated by the state Department of Water Resources (DWR) as high priority and/or critically overdrafted must be managed under a Groundwater Sustainability Plan (GSP) that avoids “undesirable results” as defined in the Act within 20 years from January 31, 2020. The GSP must be developed by a Groundwater Sustainability Agency (GSA) approved by the DWR. The WWD service area boundary largely overlaps with DWR-designated San Joaquin Valley groundwater subbasin 5.22-9, which is commonly called the “Westside Subbasin.” The DWR has designated the Westside Subbasin as high priority and critically overdrafted, and SGMA requires that a GSP be adopted by an approved GSA for the subbasin by January 31, 2020. The City of Lemoore is part of the South Fork Kings Groundwater Sustainability Agency.

*Senate Bills 610 (Chapter 643, Statutes of 2001) and 221 (Chapter 642, Statues of 2001)*

SB 610 and SB 221 are companion measures that seek to promote more collaborative planning among local water suppliers and cities and counties. They require that water supply assessments occur early in the land use planning process for all large-scale development projects. If groundwater is the supply source, the required assessments must include detailed analyses of historic, current, and projected groundwater pumping and an evaluation of the sufficiency of the groundwater basin to sustain a new project’s demands. They also require an identification of existing water entitlements, rights, and contracts and a quantification of the prior year’s water deliveries. In addition, the supply and demand analysis must address water supplies during single and multiple dry years presented in five-year increments for a 20-year projection. Under SB 221, approval by a county of a subdivision of more than 500 homes requires an affirmative written verification of a sufficient water supply.

### *California Drought Regulations*

Beginning in January 2014, Governor Jerry Brown issued three Executive Orders (EOs), B-26-14, B-28-14, and B-29-15, regarding water supply, water demand, and water use within the State during severe drought conditions. EO B-29-15, issued April 1, 2015, sets limitations not only for existing land uses and water supply systems, but also for new construction. Some of these restrictions include:

- The Water Board shall prohibit irrigation with potable water of ornamental turf on public street medians.
- The Water Board shall prohibit irrigation with potable water outside of newly constructed homes and buildings that is not delivered by drip or microspray systems.
- The California Energy Commission shall adopt emergency regulations establishing standards that improve the efficiency of water appliances, including toilets, urinals, and faucets available for sale and installation in new and existing buildings.

In addition, EO B-29-15 requires that DWR update the State Model Water Efficient Landscape Ordinance through expedited regulation by the end of 2015. This ordinance will increase water efficiency standards for new and existing landscapes through more efficient irrigation systems, greywater usage, onsite storm water capture, and by limiting the portion of landscapes that can be covered in turf (EO B-29-15, Increase Enforcement Against Water Waste, Action #11, 2015).

On November 13, 2015, Governor Brown issued EO B-36-15, which upheld the previous EOs, and directs the SWRCB to extend of urban water use restrictions through October 31, 2016 based on drought conditions known through January 2016. The SWRCB issued emergency regulations on February 2, 2016, in compliance with EO B-36-15. These emergency regulations maintain the current tiers of required water reductions; however, additional adjustments in response to stakeholders; equity concerns were included in the emergency regulations.

### *Resource Conservation and Recovery Act*

The Resource Conservation and Recovery Act (RCRA) was enacted in 1976 to address the huge volumes of municipal and industrial solid waste generated nationwide. After several amendments, the Act as it stands today governs the management of solid and hazardous waste and underground storage tanks (USTs). RCRA is an amendment to the Solid Waste Disposal Act of 1965. RCRA has been amended several times, most significantly by the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA is a combination of the first solid waste statutes and all subsequent amendments. RCRA authorizes the EPA to regulate waste management activities. RCRA authorizes states to develop and enforce their own waste management programs, in lieu

of the federal program, if a state’s waste management program is substantially equivalent to, consistent with, and no less stringent than the federal program.

#### *California Integrated Waste Management Act*

To minimize the amount of solid waste that must be disposed of by transformation and land disposal, the State Legislature passed the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties are required to divert 25 percent of all solid waste from landfill facilities by January 1, 1995, and 50 percent by January 1, 2000, and beyond. Solid waste plans are required to explain how each city’s AB 939 plan will be integrated with the respective county plan. They must promote (in order of priority) source reduction, recycling and composting, and environmentally safe transformation and land disposal.

#### Local Regulations

##### *City of Lemoore 2030 General Plan*

The following lists policies and implementing actions from the City of Lemoore General Plan pertaining to hydrology and water quality that are applicable to the proposed Project.

#### **GUIDING POLICIES**

- PU-G-1      Maintain and enhance water resources to ensure that Lemoore has an adequate, affordable, water supply to sustain the City’s quality of life and support existing and future development—without jeopardizing water supply for future generations.
- PU-G-2      Conserve water through supply-side efficiencies and water conservation programs.

#### **IMPLEMENTING ACTIONS**

##### **Water Supply Management**

- PU-I-1      Update the City’s Urban Water Management Plan every five years and ensure its contents are consistent with the California Water Code and General Plan policies, including prioritization and identification of funding sources.



- PU-I-2 Provide and maintain a system of water supply distribution facilities capable of meeting existing and future daily and peak demands, including fire flow requirements, in a timely and cost effective manner.
- PU-I-3 Monitor the demands on the water system and, as necessary, manage development to mitigate impacts and/or facilitate improvements to the water supply and distribution systems.
- PU-I-4 Continue to support the Laguna Irrigation District’s ground water recharging (water banking) efforts, in consultation with the State Department of Water Resources and county water management authorities.

**Land Use/New Development**

- PU-I-5 Require that necessary water supply infrastructure and storage facilities are in place concurrently with new development, and approve development plans only when a dependable and adequate water supply for the development is assured.
- PU-I-6 Require water meters in all new development.
- PU-I-7 Require all major new development projects with more than 200,000 square feet of floor area overall to have a water management plan, in accordance with State law:
  - Large projects will be required to submit planting plans, irrigation plans, schedules, and water use estimates for City approval prior to issuance of building permits;
  - Industrial projects will be required to submit water recycling plans and irrigation plans for proposed landscaping.
- PU-I-8 Require water bubblers for street trees, separate from surface irrigation used for turf.
- PU-I-9 Promote the use of evapotranspiration (ET) water systems in irrigating large parks and large landscaped areas.
 

ET water systems are “smart water systems” that can be programmed with data such as the type of soil, slope of landscape, type of vegetation, and daily weather conditions, so that they can automatically adjust irrigation schedules based on those conditions. The result is lower water bills and a healthier environment.

PU-I-10 Require that developers of agricultural land to be annexed to the City offer the water rights associated with this land to the City.

**New Water Sources**

PU-I-11 Revise regulations to allow the safe use of reclaimed water (“gray water”) by homes and businesses where feasible. Examples of areas where “gray water” might be safely used include:

- Irrigation of parks and residential yards, and irrigation for farming;
- Cooling towers and HVAC systems in commercial or industrial buildings; and
- Water cisterns in flush toilets.

PU-I-12 Establish and implement a program of cooperative surface water use with local water purveyors and irrigation districts to retain surface water rights and supply following annexation and urban development so as to protect against aquifer overdrafts and water quality degradation.

PU-I-13 Promote the continued use of surface water for agriculture to reduce groundwater table reductions.

PU-I-14 Drill additional wells within the City when other water supply alternatives are not feasible, and demand warrants their development.

**GUIDING POLICY**

PU-G-3 Ensure that adequate wastewater collection, treatment, and disposal facilities are provided in a timely fashion to serve existing and future needs of the City.

**IMPLEMENTING ACTIONS**

PU-I-15 Maintain existing levels of wastewater service by expanding treatment plant and disposal facilities as required by growth and by the Regional Water Quality Control Board.

PU-I-16 Update the Wastewater Master Plan by 2010 and construct planned facilities to serve development under this General Plan.

PU-I-17 Establish impact fees and sewer rates adequate to finance required wastewater treatment and disposal facilities upgrades or replacements.

- LU-I-7 Create, maintain, or upgrade Lemoore’s public and private infrastructure to support future land use and planned development under the General Plan.
- LU-I-8 Require new development to pay its fair share of the costs of public infrastructure, services and transportation facilities, in accordance with State law.

## Thresholds of Significance

The thresholds of significance for this section are established by the CEQA Checklist Item.

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?
- Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?
- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?
- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

## Impacts and Mitigation Measures

**Impact 3.16-1:** *Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

**Less Than Significant Impact With Mitigation.** Implementation of the proposed Project would include up to 825 residential units on the site. The Project will require that utilities be extended to serve the proposed development, including water, wastewater, stormwater, electric power, natural gas and telecommunications facilities.

*Wastewater / Sewer*

As noted in Section 3.9 Hydrology and Water Quality, once annexed into the City, the Project site would be located within the service area of the City of Lemoore WWTF. Since the WWTF is considered a publicly owned treatment facility, operational discharge flows treated at the WWTF would be required to comply with applicable water discharge requirements issued by the Regional Water Quality Control Board (RWQCB). Compliance with conditions or permit requirements established by the City as well as water discharge requirements outlined by the RWQCB would ensure that wastewater discharges coming from the proposed Project site and treated by the WWTP system would not exceed applicable Central RWQCB wastewater treatment requirements. See also Response 3.16-3, below, which describes the Project's wastewater demands/characteristics and the City's capacity to handle those demands/characteristics.

*Stormwater*

As discussed in Section 3.9 - Hydrology and Water Quality, the proposed Project would result in new impervious areas associated with site improvements and would therefore require new storm water drainage facilities. The proposed Project would install storm water drainage facilities (e.g. storm drainage mechanisms, storm water pipes, and a detention basin) that would be in compliance with the City of Lemoore Development Standards.

*Water Supply*

As discussed in Section 3.9 - Hydrology and Water Quality, the Project will add demand for water to the City of Lemoore water system. The Project will require approximately 518 afy of water on an on-going basis and approximately 83 af of water during construction. Based on the Project's Water Supply Assessment (Appendix G), the City has sufficient water to serve the Project. However, the Project is subject to water use reduction methods and will be conditioned to offer existing water shares and to pay water service impact fees. After mitigation, impacts to water supply are determined to be less than significant at the project-level.

*Electricity and Natural Gas*

The Project will be required to access public utilities for electric power, natural gas and solid waste disposal. Based on the analysis herein, it is not anticipated that off-site improvements would be required for these facilities, but the Project proponent will be responsible for developing the necessary infrastructure to utilize these utilities. The Project would not result in the wasteful, inefficient, or unnecessary use of energy due to Project design features that will comply with the City's design guidelines and regulations that apply to the Project, such as Title 24 Building Energy

Efficiency Standards and the California Green Building Standards Code that apply to residential buildings. The installation of solar panels required by 2019 Title 24 standards is expected to offset most electricity used by Project residences.

With the adherence to the increasingly stringent building, as well as implementation of the Project's design features that would reduce energy consumption, the proposed Project would not contribute to a cumulative impact to the wasteful or inefficient use of energy. As such, the Project would not result in a significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation.

#### *Solid Waste*

The existing landfill (Kettleman Hills Landfill Facility) is permitted to receive a maximum of 2,000 TPD but typically receives an average of only about 1,350 TPD. The Project's contribution would be approximately 0.0035% of the daily maximum permitted capacity of 2,000 TPD and 0.005% of the average daily amount of 1,350 TPD. As such, there is adequate capacity to accommodate the solid waste demands of the proposed Project.

The proposed Project would be required to comply with applicable State and local regulations, including regulations pertaining to disposal of recyclable materials. With adequate landfill capacity at existing landfills and compliance with regulations, a less than significant impact would occur. Refer to Response 3.16-4 for more information pertaining to solid waste.

#### *Impact Determination*

Thus, with incorporation of mitigation measures, the proposed Project's impacts associated with acquisition of utilities would be less than significant.

#### **Mitigation Measures:**

Implement Mitigation Measures HYD-1, HYD-2, and UTIL-1.

**Impact 3.16-2:** *Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*

**Less Than Significant With Mitigation.** The proposed Project would add demand for water to the City of Lemoore water system, which is reliant on groundwater to serve its customers. The information herein is based on the Water Supply Assessment that was prepared for the Project (Appendix G).

As discussed in Section 3.9 - Hydrology and Water Quality (and summarized herein), the Water Supply Assessment utilized information from the City's adopted 2015 Urban Water Management Plan (2015 UWMP), as well as from a more recent water use information from the City's Water Master Plan (2020 WMP) that was adopted by the City in August 2021 to determine Project water demands.

It is assumed the Project's park space acreage will have irrigated landscaping and will require approximately 3.5 acre-feet per year (afy), for a total of approximately 28 afy. The 825 residential dwellings at full buildout will use approximately 490 afy. Based on these assumptions, the Project would require approximately 518 afy (or approximately 169 MG) of water on an on-going basis. The Project will also require approximately 83 af of water during construction (not on-going).

The City can produce up to approximately 6,912 MG per year of potable water. The projected 2040 demand in the City is 4,830 MG, leaving a difference of 2,082 MG. At 169 MG, the Project would account for approximately 8.1% of the projected 2040 demand in the City. Since the City's 2015 UWMP has projected sufficient reasonably available volumes of water and because the Project is within the population growth assumptions (and associated water availability) identified in both the City's 2015 UWMP and 2020 WMP, there is sufficient water to serve the Project on an on-going basis.

The Project also has incorporated a number of design features that will reduce water consumption, including the use of low flow faucets, toilets and shower devices. The Project will also comply with MWELo regulations related to outdoor irrigation and Title 20 Water Efficiency Standards. These measures will help reduce Project-related demand for potable water. In addition, the City of Lemoore, as a member of the South Fork GSA, will work with the GSA to implement the projects and management actions identified by the GSA. Upon Project approval and annexation into the City of Lemoore, the Project will be subject to the requirements of the Sustainability Plan of the South Fork GSA.

The City's General Plan provides policies related to annexation of agricultural properties. Specifically, General Plan Policy PU-I-10 states the following: "Require that developers of agricultural land to be annexed to the City offer the water rights associated with this land to the City." The Project Applicant currently has 100 water shares (equivalent to 150 AFY) that are subject to this Policy. Mitigation Measure HYD - 1 requires evidence that the Fresno County Local Agency Formation Commission (LAFCo) has approved the annexation of the project site into the City's boundaries and requires that 100 water shares be offered to the City to comply with Policy PU-I-10. In addition, the Project will be required to pay impact fees associated with

connection to the City's water system. This requirement is identified in Mitigation Measure HYD – 2. With implementation of the mitigation measure, the impact is less than significant.

**Mitigation Measures:**

Implement Mitigation Measures MM HYD-1 and MM HYD-2.

**Impact 3.16-3:** *Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

**Less Than Significant With Mitigation.** The City of Lemoore owns and operates a WWTF located at 1145 S. Vine Street, Lemoore, California. The WWTF is equipped with an influent pump station, Old Headworks, New Headworks, four lagoon ponds, choline gas injection, and an effluent pump station. Raw wastewater from the collection system is pumped to the old headworks structure where it then flows by gravity to the new headworks. The City provides wastewater services to approximately 26,000 residents, industrial and commercial users. The wastewater system includes approximately 82 miles of active gravity sewer lines, ranging from 6 to 21 inches in diameter, 17 lift stations and associated force mains.<sup>13</sup>

*Project Wastewater (Sewer) Demands*

The City prepared a Wastewater Treatment and Collection System Master Plan (Wastewater Master Plan) that analyzed existing and projected wastewater operations in the City through 2040. According to the Wastewater Master Plan, a per capita flow of 70 GPCD was used to estimate wastewater use in the City. The City's wastewater flow has ranged from a high of 75 gpcd in 2007 to 59 GPCD in 2013. The value of 70 GPCD was chosen because the 2013 value may be artificially low due to State mandated water conservation.<sup>14</sup>

As previously identified, the Project is proposing development of up to 825 residential units which would result in an increased population of 2,558 persons (based on 3.1 persons per dwelling unit). This would result in wastewater flows of 65,356,900 gallons of wastewater per year (70 GPCD X 2,558 persons = 179,060 gallons per day X 365 days per year = 65,356,900 GPCD).

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<sup>13</sup> Lemoore Wastewater Treatment and Collection System Master Plan (2020), page ES-6.

<sup>14</sup> Ibid, page 4-13.

*Wastewater Characteristics*

The City’s WWTF treats municipal wastewater generated throughout the City to meet treatment standards and discharge requirements established by the RWQCB. These requirements are outlined in the City’s Waste Discharge Requirements (WDR) order No. 96-050, which was last renewed in 1996. The wastewater routed to the WWTF includes all residential, commercial and industrial wastewater generated within the City limits, with the exception of the Leprino Foods. The City’s influent wastewater passes through a headworks structure with a mechanical bar screen to remove large debris then sent to ponds equipped with aerators, which promote biological oxidation and reduce organics. Additional ponds settle out solids before effluent is discharged. The plant has four ponds and the City’s effluent is disinfected by chlorine gas injection. Effluent is piped west of the City and discharged into a canal owned by Westlake Farms.

The Project would generate wastewater with similar characteristics to discharge produced by other uses in the City, including similar in content to the residential land uses in the immediate area (typical residential wastewater from toilets, sinks, showers, etc.). There are no non-residential uses that would introduce atypical wastewater characteristics. Wastewater generated by the Project would be collected and treated at the City’s WWTF. Because of the nature of the Project’s wastewater, and the fact that the WWTF is currently in compliance with their Waste Discharge Requirements, the Project will not cause the City to exceed any wastewater treatment requirements from the RWQCB.

*Project Comparison to City-wide Future Estimated Wastewater Production*

The Wastewater Master Plan provided population projections (and associated wastewater capacity) through Year 2040. The Lacey Ranch Project was identified specifically in Figure 2.2 of the Wastewater Master Plan and was included in the Plan’s future projections. The Wastewater Master Plan provided the following population projections:

<b><u>Year</u></b>	<b><u>Wastewater Master Plan Population Assumptions</u></b>
2020	27,089
2025	28,332
2030	29,633
2035	30,993
2040	32,416

As previously mentioned, the proposed Project would result in the development of up to 825 residential units. The City averages 3.1 persons per household, which could result in an increase of approximately 2,558 people at full Project buildout. Using the information from the



Wastewater Master Plan, the City’s current population of 27,089 residents would be increased by approximately 9.5% to 29,647 from the Project alone. Table 3.16-3 shows the City’s existing population (per the City’s Wastewater Master Plan), the increase in population from the proposed Project, and the City’s Wastewater Master Plan projected population in Year 2040. The last column shows the additional population that could be accommodated under the City’s Wastewater Master Plan even with full buildout of the proposed Project.

**Table 3.16-3: Wastewater Master Plan Population Estimates**

<b>Year 2020 Population</b>	<b>Proposed Project Population</b>	<b>Existing Plus Project Population</b>	<b>Wastewater Master Plan Projected Population</b>	<b>Additional Population That Could Be Accommodated Under the Wastewater Master Plan Assuming Lacey Ranch Full Buildout</b>
27,089	2,558	29,647	32,416	2,769

The City’s Wastewater Master Plan anticipated a population of up to 32,416 people by 2040. Given the City’s current population as identified in the Wastewater Master Plan (27,089 persons), the City could accommodate the proposed Project plus an additional 2,769 persons according to the underlying assumptions of the City’s Wastewater Master Plan. Based on this information, it is reasonable to assume that the Project is within the population growth projections (and associated wastewater capacity availability) identified in the City’s Wastewater Master Plan.

The City has identified improvements within the Wastewater Master Plan to remedy existing and future (anticipated) deficiencies in the wastewater system. These improvements are identified as follows<sup>15</sup>:

Existing Capacity Improvements:

- Three gravity main projects with a total length of 1.5 miles is recommended to mitigate capacity deficiencies.
- Five lift station capacity projects are recommended.

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<sup>15</sup> Lemoore Wastewater Treatment and Collection System Master Plan (2020), page ES-19.

- Two force main capacity projects are recommended.

#### Future Capacity Improvements:

- Seven gravity main projects with a total length of 1.9 miles is recommended to mitigate 2040 capacity deficiencies.
- Nine gravity main projects with a total of 2.7 miles is recommended to mitigate buildout deficiencies.
- Two lift station capacity projects is recommended to mitigate 2040 deficiencies.
- One life station capacity deficiency has been identified to mitigate buildout deficiencies.
- Two force main capacity projects are identified to mitigate buildout deficiencies.

#### New Service Related Improvements:

- Preliminary analysis recommends 13 projects at approximately 9 miles of sewer trunk alignment to serve future growth.
- Preliminary analysis recommends 9 lift stations to serve future growth.

Although the City's WWTF has adequate capacity to serve the Project, these recommended improvements to the City's existing wastewater system will be required in order to maintain adequate wastewater disposal services. The Project would be required to pay wastewater (sewer) impact fees prior to the issuance of a building permit, thereby mitigating the costs associated with acceptance of the Project wastewater (Mitigation Measure UTIL-1), and ensuring the impact remains less than significant.

#### **Mitigation Measures:**

**UTIL-1:** Prior to issuance of building permits, the Project proponent shall pay impact fees for its fair share of wastewater (sewer) services. The fee, or equivalent in-lieu, will be determined by the City of Lemoore. Evidence of the payment of impact fees shall be submitted to the City Community Development Department.

**Impact 3.16-4:** *Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

**Less Than Significant.** Solid waste disposal for Lemoore is managed by Kings Waste and Recycling Authority (KWRA). The City's Public Works Department Refuse Division is responsible for solid waste collection services. The majority of the City's solid waste is taken to Kettleman Hills Landfill Facility, a Class II/III facility owned by Chemical Waste Management (CWM).<sup>16</sup> Kettleman Hills has two state-of-the-art landfills designed for household and commercial trash (municipal solid waste). One of these units has been partially converted to a next generation landfill (otherwise known as a bioreactor landfill), which means that liquids are added to speed up the decomposition of waste. The landfill gas that is generated as a byproduct is captured and destroyed. The other landfill takes in household trash primarily from Kings, Tulare and Fresno Counties. The facility is permitted to receive a maximum of 2,000 tons of MSW per day (TPD), but typically receives an average of only about 1,350 TPD.<sup>17</sup>

#### *Project Construction*

Construction of the proposed Project would generate solid waste in the form of construction debris that would need to be disposed of at the Kettleman Hills Landfill Facility. Construction debris includes concrete, asphalt, wood, drywall, metals, and other miscellaneous and composite materials. Much of this material would be recycled and salvaged to the maximum extent feasible. Materials not recycled would be disposed of at local landfills. The Project site is currently undeveloped and would not require any demolition.

Site preparation (vegetation removal and grading activities) and construction activities would generate construction debris, including wood, paper, glass, plastic, metals, cardboard, and green wastes. Most of the solid waste generated by the construction phase of the proposed Project would be recycled in accordance with AB 939. Construction activities could also generate hazardous waste products. The wastes generated would result in an incremental and intermittent increase in solid waste disposal at the Kettleman Hills Landfill. However, with compliance with federal, State, and local statutes or regulations, a less than significant impact would occur.

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<sup>16</sup> Lemoore General Plan EIR, page 6-11.

<sup>17</sup> <https://kettlemanhillslandfill.wm.com/fact-sheets/2011/facility-overview.jsp> (accessed Nov. 2021).

*Project Operation*

The proposed Project would construct up to 825 residential dwellings. According to the Kings County Solid Waste Division, solid waste within their jurisdiction was estimated at 1,994 pounds per capita per year.<sup>18</sup> Based on that figure, the Project would produce approximately 5,100,652 pounds of solid waste per year (1,994 pounds X 2,558 persons = 5,100,652 pounds). This equates to approximately 13,974 pounds per day (5,100,652 pounds / 365 days = 13,974 pounds) or approximately 7 tons per day (TPD). As previously described, the existing landfill is permitted to receive a maximum of 2,000 TPD but typically receives an average of only about 1,350 TPD. The Project's contribution would be approximately 0.0035% of the daily maximum permitted capacity of 2,000 TPD and 0.005% of the average daily amount of 1,350 TPD. As such, there is adequate capacity to accommodate the solid waste demands of the proposed Project.

The proposed Project would be required to comply with applicable State and local regulations, including regulations pertaining to disposal of recyclable materials. With adequate landfill capacity at existing landfills and compliance with regulations, a less than significant impact would occur.

**Mitigation Measures:** None are required.

**Impact 3.16-5:** *Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

**Less Than Significant.** See Response to Impact 3.16-4. The 1989 California Integrated Waste Management Act (AB 939) requires Kings County to attain specific waste diversion goals. In addition, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development projects to incorporate storage areas for recycling bins into the project design. The proposed Project would be required to comply with all federal, State, and local statutes and regulations related to the handling and disposal of solid waste and impacts would be less than significant.

**Mitigation Measures:** None are required.

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<sup>18</sup> [https://kingcounty.gov/depts/executive/performance-strategy-budget/regional-planning/benchmark-program/Environment/EN20\\_Waste.aspx](https://kingcounty.gov/depts/executive/performance-strategy-budget/regional-planning/benchmark-program/Environment/EN20_Waste.aspx) (accessed Nov. 2021).

## Cumulative Impacts

### *Electrical and Natural Gas*

**Less Than Cumulatively Considerable.** Development associated with buildout of the proposed Project would require the consumption of electricity and natural gas resources to accommodate the growth. As discussed above, new development and land use turnover would be required to comply with Statewide mandatory energy requirements outlined in Title 24, Part 6, of the California Code of Regulations (the CALGreen Code), which could decrease estimated electricity and natural gas consumption in new and retrofitted structures. In addition, cumulative projects would be required to meet or exceed the Title 24 building standards, as applicable, further reducing the inefficient use of energy. Future development would also be required to meet even more stringent requirements, including the objectives set forth in the AB 32 Scoping Plan, which seek to make all newly constructed residential homes produce a sustainable amount of renewable energy through the use of on-site photovoltaic solar systems. Furthermore, energy consumed by development in the Project area would continue to be subject to the regulations described in the Regulatory Setting of this Section. For these reasons, the electrical and natural gas energy that would be consumed by the Project is not considered unnecessary, inefficient, or wasteful. Impacts are less than cumulatively considerable.

### *Water Supply*

**Cumulatively Significant and Unavoidable Even With Implementation of Mitigation.** As noted in Section 3.9 Hydrology and Water Quality, the geographic area for cumulative hydrology (water supply) analysis is the land area included in the Tulare Lake Sub Basin. Buildout of the City's General Plan and other pending projects in the Basin area will contribute to an increase in groundwater demand. Mitigation Measure HYD – 1 requires annexation of the Project site into the City's boundaries and requires that 100 water shares be offered to the City to comply with Poly PU-I-10. HYD-2 requires the payment of water service impact fees to reduce Project impacts to the City's water system. However, despite the implementation of mitigation, the proposed Project's water use, in combination with other cumulative scenario projects requiring water from the Tulare Lake Subbasin (Groundwater Basin No. 5-022.12) during the same time frame, would result in significant and unavoidable impacts to groundwater supplies in the Basin.

### *Wastewater*

**Less Than Cumulatively Significant With Mitigation.** The geographical area for considering cumulative impacts associated with wastewater (sewer) is the geographic area covered by the City's Wastewater Treatment and Collection System Master Plan. As with the proposed Project, for future projects, the City collects development impact fees to help cover the cost of wastewater (sewer), water, and solid waste infrastructure and facilities. In addition, revenue from sales tax from future projects assists in maintaining these services. The City evaluates impact fees from new development on a project-by-project basis. The Project would be required to pay sewer impact fees prior to the issuance of a building permit with implementation of Mitigation Measure UTIL-1. Other projects in the vicinity would be required to offset substantial increases in wastewater per City impact fees. Therefore, cumulative impacts related to wastewater would be less than significant.

### *Solid Waste*

**Less Than Cumulatively Considerable.** The geographical area for considering cumulative impacts associated with solid waste is the geographic area covered by the Kettleman Hills Landfill Facility. The proposed Project would generate a minimal amount of waste during construction and is not expected to significantly impact Kings County landfills. However, generation of waste from cumulative projects, including other residential, commercial and industrial developments could result in a cumulative impact. As described herein, the Project's contribution would be approximately 0.0035% of the daily maximum permitted capacity of 2,000 TPD and 0.005% of the average daily amount of 1,350 TPD. As such, there is adequate capacity to accommodate the solid waste demands of the proposed Project in addition to the Facility's existing commitments. The cumulative impacts are less than significant for solid waste.

# Chapter 4

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## ALTERNATIVES

# PROJECT ALTERNATIVES

## 4.1 Introduction

CEQA Guidelines Section 15126.6 requires the consideration of a range of reasonable alternatives to the proposed project that could feasibly attain most of the objectives of the proposed project. The Guidelines further require that the discussion focus on alternatives capable of eliminating significant adverse impacts of the project or reducing them to a less-than significant level, even if the alternative would not fully attain the project objectives or would be more costly. According to CEQA Guidelines, the range of alternatives required in an EIR is governed by the “rule of reason” that requires an EIR to evaluate only those alternatives necessary to permit a reasoned choice. An EIR need not consider alternatives that have effects that cannot be reasonably ascertained and/or are remote and speculative.

The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.

CEQA Guidelines §15126.6(e) identifies the requirements for the “No Project” alternative. The specific alternative of “no project” shall also be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The no project alternative analysis is not the baseline for determining whether the proposed project’s environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline (see Section 15125).

Alternative locations can also be evaluated if there are feasible locations available. Each alternative is evaluated against the Project objectives and criteria established by the Lead Agency.

The proposed Project has the potential to have significant adverse effects on:

- Agriculture - Loss of Farmland (project and cumulative level)
- Biological resources (cumulative level only)



- Hydrology – Water Supply (cumulative level only)
- Transportation -Vehicle Miles Traveled impacts (project and cumulative level)

Even with the mitigation measures described in Chapter 3, Environmental Setting, Impacts, and Mitigation Measures, of this EIR, impacts in these issue areas would be significant and unavoidable. Therefore, per the State CEQA Guidelines, this section discusses alternatives that are capable of avoiding or substantially lessening effects on these resources. The significant and unavoidable impacts of the proposed project are discussed below.

## 4.2 Project Objectives

In accordance with CEQA Guidelines Section 15124(b), the following are the City of Lemoore's Project objectives:

- To provide a variety of housing opportunities with a range of densities, styles, sizes and values that will be designed to satisfy existing and future demand for quality housing in the area.
- To provide a sense of community and walkability within the development through the use of street patterns, parks/trails, landscaping and other project amenities.
- To provide a residential development that is compatible with surrounding land uses and is near major services.
- To provide a residential development that assists the City in meeting its General Plan and Housing Element requirements and objectives.

## 4.3 Alternatives Considered in this EIR

- No Project
- Alternate Location
- Reduced (50%) Project

## 4.4 Analysis Format

In accordance with CEQA Guidelines Section 15126.6(d), each alternative is evaluated in sufficient detail to determine whether the overall environmental impacts would be less, similar, or greater than the corresponding impacts of the project. Furthermore, each alternative is evaluated to determine whether the project objectives identified in Chapter 2 - Project Description, of this Draft EIR would be mostly attained by the alternative. The Project's impacts that form the basis of comparison in the alternatives analysis are those impacts which represent

a conservative assessment of project impacts. The evaluation of each of the alternatives follows the process described below:

- a) The net environmental impacts of the alternative after implementation of reasonable mitigation measures are determined for each environmental issue area analyzed in this EIR.
- b) Post-mitigation significant and less than significant environmental impacts of the alternative and the project are compared for each environmental issue area as follows:
  - Less: Where the impact of the alternative after feasible mitigation would be clearly less adverse than the impact of the project, the comparative impact is said to be “less.”
  - Greater: Where the impact of the alternative after feasible mitigation would be clearly more adverse than the impact of the project, the comparative impact is said to be “greater.”
  - Similar: Where the impacts of the alternative after feasible mitigation and the project would be roughly equivalent, the comparative impact is said to be “similar.”
- c) The comparative analysis of the impacts is followed by a general discussion of whether the underlying purpose for the project, as well as the project’s basic objectives would be substantially attained by the alternative.

## Impact Analysis

### **No Project Alternative**

CEQA Section 15126.6(e) requires the discussion of the No Project Alternative “to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.” The No Project scenario in this case consists of retaining the property in its original configuration, with no construction or operation of the proposed Lacey Ranch residential development. Under this alternative, the site remains in agricultural production and no new urban development would occur on the site.

#### *Description*

This alternative would avoid both the adverse and beneficial effects of the Project. This alternative would avoid ground disturbance and construction-related impacts associated with construction of the proposed Project. No new development would occur on the site. The No

Project Alternative would avoid the generation of any environmental impacts beyond existing conditions.

### *Environmental Considerations*

Continuation of the site in agricultural production would result in all environmental impacts being less than the proposed Project. There would be no changes to any of the existing conditions and there would be no impact to each of the 20 CEQA Checklist evaluation topics. The No-Project Alternative by definition would not meet the objectives of the proposed Project that were outlined in Section 4.2, above. Impacts from the No Project Alternative, as compared to the Project, are summarized as follows:

- **Aesthetics** – With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project.
- **Agriculture and Forestry Resources** - With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project. This Alternative would also eliminate the significant and unavoidable impacts (project and cumulative) associated with this topic from the proposed Project.
- **Air Quality** - With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project.
- **Biological Resources** - With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project. This Alternative would also eliminate the significant and unavoidable impacts (cumulative only) associated with this topic from the proposed Project.
- **Cultural Resources** - With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project.
- **Energy** - With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project.
- **Geology/Soils** - With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project.
- **Greenhouse Gas Emissions** - With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project.
- **Hazards & Hazardous Materials** - With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project.
- **Hydrology & Water Quality** - With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project.

This Alternative would also eliminate the significant and unavoidable impacts (cumulative only) associated with this topic from the proposed Project.

- **Land Use / Planning** - With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project.
- **Mineral Resources** - With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project.
- **Noise** - With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project.
- **Population & Housing** - With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project.
- **Public Services** - With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project.
- **Recreation** - With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project.
- **Transportation** - With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project. This Alternative would also eliminate the significant and unavoidable impacts (cumulative only) associated with this topic from the proposed Project.
- **Tribal Cultural Resources** - With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project.
- **Utilities & Service Systems** - With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project. This Alternative would also eliminate the significant and unavoidable impacts (cumulative only) associated with this topic from the proposed Project.
- **Wildfire** - With no development, the site would remain as farmland and no new impacts would occur. Therefore, impacts are less than the proposed Project.

Refer to Table 4-1 for a comparison of each environmental topic for the No Project Alternative versus the proposed Project.

### **Alternate Locations Alternative**

The environmental considerations associated with an alternative site would be highly dependent on several variables, including physical site conditions, surrounding land use, site access, and suitability of the local roadway network. Physical site conditions include land, air, water, minerals, flora, fauna, noise, or objectives of historic or aesthetic significance, and would affect

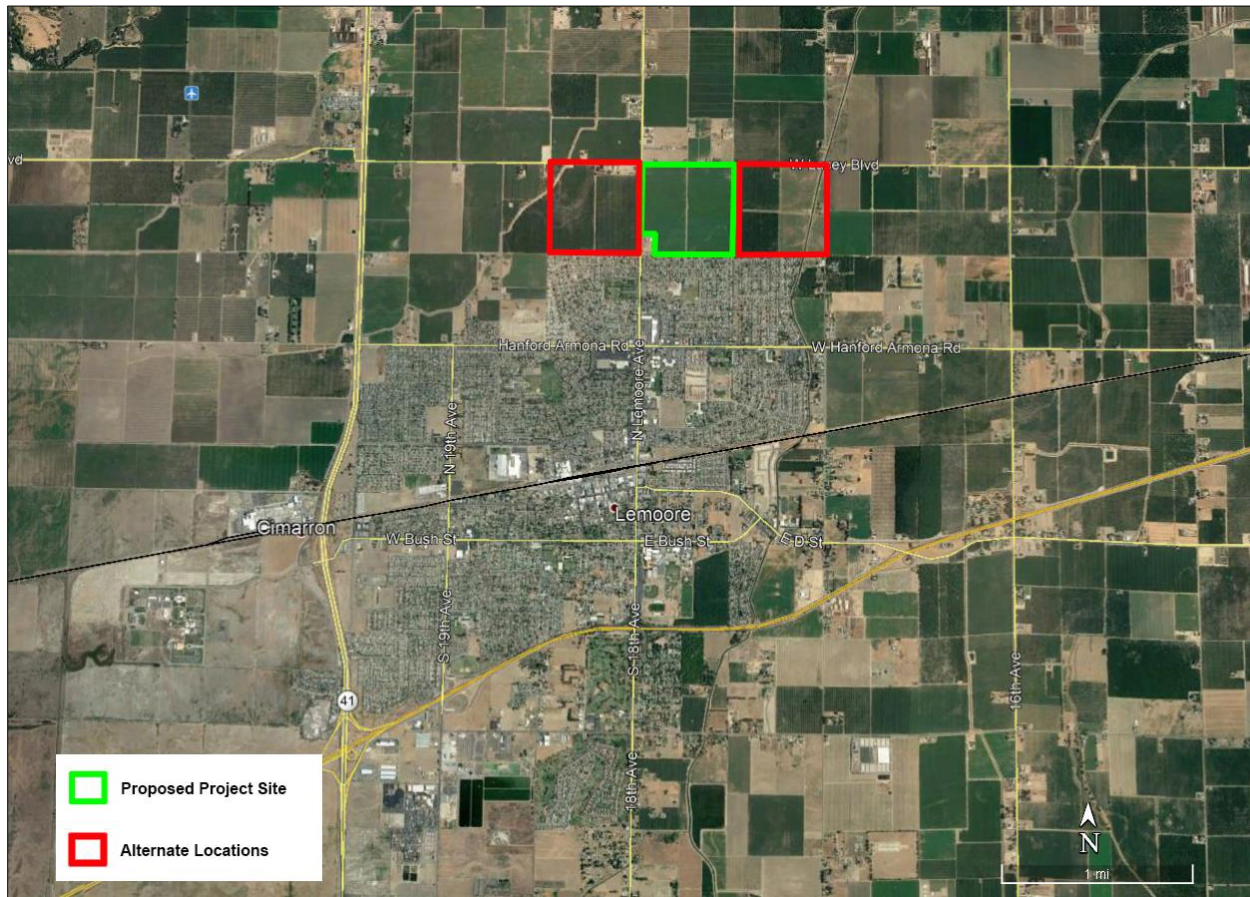
the nature and degree of direct impacts, needed environmental control systems, mitigation, and permitting requirements. Surrounding land use and the presence of sensitive receptors would influence neighborhood compatibility issues such as air pollutant emissions and health risk, odor, noise, and traffic. Site access and ability of the local roadway network to accommodate increased traffic without excessive and costly off site mitigation would be an important project feasibility issue.

The constraint on alternative site selection is the lessening or elimination of significant project impacts. The economic viability of the proposed project is dependent on ability to effectively develop a residential housing project in the Lemoore area. To maintain most of the project objectives, any potentially feasible alternative site needs to be of adequate size and in a location that is accessible and serviceable (utilities) by the City of Lemoore.

#### *Description*

There are relatively few sites within the City of Lemoore that provide adequately sized lands suitable for the proposed Project. The criteria for selection included whether or not the alternate site would substantially reduce environmental impacts, availability of land, adequately sized parcels, efficiency of access, and acceptable land use designations/zoning. There are areas of agricultural land of similar size located both east and west of the proposed Project. These areas could conceivably support the proposed Project and are depicted in the Figure A-1. The areas are outside the City limits but have similar zoning and land use designations as the proposed Project site. In addition, these areas would allow for contiguous growth adjacent to existing urban development in the City.

**Figure A-1  
Alternate Locations**



Perhaps the greatest obstacle in selecting an alternative site for the proposed Project is that the Project Applicant does not already own land at these locations and/or does not have control of land at these locations. However, for purposes of environmental evaluation, a description of potential environmental impacts is provided below.

#### *Environmental Considerations*

Development of an alternate site could theoretically meet most of the Project objectives presented earlier in this chapter. However, construction and operation of an alternate site would not be as cost effective or operationally efficient and thus is not consistent with the Project objectives. In addition, construction and operation at an alternate site would result in environmental impacts that are likely equal to or in some cases greater than the proposed project. The majority, if not all of project impacts are likely to occur at an alternate site.

Either of the alternative sites would require environmental review once the Applicant has prepared sufficient project description information. The time requirements for these activities

would reduce the ability of the Applicant to accommodate projected residential demand in a timely manner compared to the proposed Project. This alternative would be the most complex, costly, and time-consuming alternative to implement. Various engineering and technical studies would then be completed to define the project and its components. Environmental review and obtaining entitlements would follow prior to construction activities. The site identified herein appears to have conditions that are not as favorable as the proposed Project site, such as less acreage, and as mentioned earlier, lack of control over the land.

Impacts from the Alternate Locations Alternative, as compared to the Project, are summarized as follows:

- **Aesthetics** – With development of a similar project on an alternate site, aesthetic impacts would occur through the conversion of farmland to urban uses, introduction of light/glare, and construction of residential units on vacant land. Since this Alternative would be of similar size and scale to the Project, impacts are determined to be similar to the proposed Project.
- **Agriculture and Forestry Resources** - With development of a similar project on an alternate site, agricultural impacts would occur through the conversion of farmland to urban uses. Therefore, impacts are similar to the proposed Project. This Alternative would not eliminate the significant and unavoidable impacts (project and cumulative) associated with this topic from the proposed Project.
- **Air Quality** - With development of a similar project on an alternate site, air quality impacts would occur from construction activities (construction vehicles and equipment, dust and other emissions) and from operational activities (vehicle trip emissions and other emissions from the development). Since this Alternative would be of similar size and scale to the Project, impacts are determined to be similar to the proposed Project.
- **Biological Resources** - With development of a similar project on an alternate site, biological impacts could occur from development of a previously agricultural site to urban uses. Therefore, impacts are similar to the proposed Project. This Alternative would not eliminate the significant and unavoidable impacts (cumulative only) associated with this topic from the proposed Project.
- **Cultural Resources** - With development of a similar project on an alternate site, cultural resource impacts could occur from development of a previously agricultural site to urban uses. Since this Alternative would be of similar size and scale to the Project, impacts are determined to be similar to the proposed Project.
- **Energy** - With development of a similar project on an alternate site, energy impacts would occur from construction activities (electricity, fuel) and operational activities (electricity,

natural gas, fuel). Since this Alternative would be of similar size and scale to the Project, impacts are determined to be similar to the proposed Project.

- **Geology/Soils** - With development of a similar project on an alternate site, impacts to geology and soils would occur from construction activities (grading and land disturbing activities) and operational activities (the Alternative project would be subject to geotechnical evaluation). Since this Alternative would be of similar size and scale to the Project, impacts are determined to be similar to the proposed Project.
- **Greenhouse Gas Emissions** - With development of a similar project on an alternate site, greenhouse gas emission impacts would occur from construction activities (construction equipment emissions and vehicle emissions) and operational activities (vehicle emissions). Since this Alternative would be of similar size and scale to the Project, impacts are determined to be similar to the proposed Project.
- **Hazards & Hazardous Materials** - With development of a similar project on an alternate site, hazardous impacts would occur from construction activities (use and storage of hazardous substances) and operational activities (use and storage of hazardous substances). The Alternative site would also be a similar distance from the Lemoore Naval Air Station and would have similar impacts as the proposed Project. Since this Alternative would be of similar size and scale to the Project, impacts are determined to be similar to the proposed Project.
- **Hydrology & Water Quality** - With development of a similar project on an alternate site, hydrology and water quality impacts would occur from construction activities (water for dust control, requirement for preparation of a SWPPP, drainage control) and operational activities (water demand associated with the development, drainage control). Since this Alternative would be of similar size and scale to the Project, impacts are determined to be similar to the proposed Project. This Alternative would not eliminate the significant and unavoidable impacts (cumulative only) associated with this topic from the proposed Project.
- **Land Use / Planning** - With development of a similar project on an alternate site, land use and planning impacts would occur from development of existing agricultural lands to urban uses. The Alternative would not divide an established community. Since this Alternative would be of similar size and scale to the Project, impacts are determined to be similar to the proposed Project.
- **Mineral Resources** - With development of a similar project on an alternate site, mineral resource impacts could occur from construction activities (grading and ground-disturbing activities) and operational activities (conversion of land to urban uses). Since this



Alternative would be of similar size and scale to the Project, impacts are determined to be similar to the proposed Project.

- **Noise** - With development of a similar project on an alternate site, noise impacts would occur from construction activities (construction equipment and vehicles) and operational activities (vehicles, air conditioners, televisions, radios, lawn mowers, etc.). The Alternative locations are similarly proximate to existing urban uses (as compared to the proposed Project). Since this Alternative would be of similar size and scale to the Project, impacts are determined to be similar to the proposed Project.
- **Population & Housing** - With development of a similar project on an alternate site, population and housing impacts would occur from development of these sites. Since this Alternative would be of similar size and scale to the Project, impacts are determined to be similar to the proposed Project.
- **Public Services** - With development of a similar project on an alternate site, public service impacts would occur from development of these sites (need for police, fire, schools and other public facilities). Since this Alternative would be of similar size and scale to the Project, impacts are determined to be similar to the proposed Project.
- **Recreation** - With development of a similar project on an alternate site, recreation impacts would occur from development of these sites (the City requires 5 acres of parkland per 1,000 residents). Since this Alternative would be of similar size and scale to the Project, impacts are determined to be similar to the proposed Project.
- **Transportation** - With development of a similar project on an alternate site, transportation impacts would occur from construction (vehicles and equipment, which would require a Traffic Control Plan) and operation (vehicles associated with the residential development). Since this Alternative would be of similar size and scale to the Project, impacts are determined to be similar to the proposed Project. This Alternative would not eliminate the significant and unavoidable impacts (VMT impacts at the project and cumulative level) associated with this topic from the proposed Project.
- **Tribal Cultural Resources** - With development of a similar project on an alternate site, tribal cultural resource impacts could occur from development of these sites (conversion of agricultural lands to urban uses). Since this Alternative would be of similar size and scale to the Project, impacts are determined to be similar to the proposed Project.
- **Utilities & Service Systems** - With development of a similar project on an alternate site, utility and service system impacts would occur from construction activities (water for dust control, solid waste disposal) and operational activities (water demand associated with the development, wastewater disposal, solid waste disposal). Since this Alternative would be of similar size and scale to the Project, impacts are determined to be similar to

the proposed Project. This Alternative would not eliminate the significant and unavoidable impacts (cumulative only for water supply) associated with this topic from the proposed Project.

- **Wildfire** - With development of a similar project on an alternate site, wildfire impacts could occur from development of these sites (conversion of agricultural lands to urban uses). Since this Alternative would be of similar size and scale to the Project, impacts are determined to be similar to the proposed Project.

Refer to Table 4-1 for a comparison of each environmental topic for the Alternate Locations Alternative versus the proposed Project.

### **Reduced (50%) Project Alternative**

A reduction of 50% in the Project's size and scope is a reasonable amount to illustrate what impact such an alternative would have on the significant effects of the proposed Project.

#### *Description*

This alternative would keep the same acreage, but would reduce the number of units from 825 to 412. All other project components, including overall acreage would remain (parks, etc.). This would result in larger lot sizes as compared to the proposed Project.

#### *Environmental Considerations*

Most of the environmental issues associated with this alternative would be similar to those of the proposed Project. Impacts from the Reduced (50%) Alternative, as compared to the Project, are summarized as follows:

- **Aesthetics** – With development of the Project site with 50% of the residential units (as compared to the proposed Project), aesthetic impacts would occur through the conversion of farmland to urban uses, introduction of light/glare, and construction of residential units on non-urbanized land. Since this Alternative would be on the same site as the Project, impacts are determined to be similar to the proposed Project.
- **Agriculture and Forestry Resources** - With development of the Project site with 50% of the residential units (as compared to the proposed Project), agricultural impacts would occur through the conversion of farmland to urban uses. Therefore, impacts are similar to the proposed Project. This Alternative would not eliminate the significant and

unavoidable impacts (project and cumulative) associated with this topic from the proposed Project.

- **Air Quality** - With development of the Project site with 50% of the residential units (as compared to the proposed Project), air quality impacts would occur from construction activities (construction vehicles and equipment, dust and other emissions) and from operational activities (vehicle trip emissions and other emissions from the development). According to the Project's Air Quality / Greenhouse Gas / Energy Study prepared for the Project, the proposed Project will have annual air pollutant emission rates that are less than the applicable San Joaquin Valley Air Pollution Control District thresholds of significance. Even though the proposed Project is below existing thresholds of significance, this alternative would have lower annual emission rates than the proposed project for the following criteria pollutants: CO, NO<sub>x</sub>, VOC, SO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>. Air pollutant emission rates associated with this alternative are thus lower than the proposed project due to the reduced number of residential units (and associated reduction in vehicle trips).
- **Biological Resources** - With development of the Project site with 50% of the residential units (as compared to the proposed Project), biological impacts could occur from development of a previously agricultural site to urban uses. Since this Alternative would be on the same site as the Project, impacts are determined to be similar to the proposed Project. This Alternative would not eliminate the significant and unavoidable impacts (cumulative only) associated with this topic from the proposed Project.
- **Cultural Resources** - With development of the Project site with 50% of the residential units (as compared to the proposed Project), cultural resource impacts could occur from development of a previously agricultural site to urban uses. Since this Alternative would be on the same site as the Project, impacts are determined to be similar to the proposed Project.
- **Energy** - With development of the Project site with 50% of the residential units (as compared to the proposed Project), energy impacts would occur from construction activities (electricity, fuel) and operational activities (electricity, natural gas, fuel). However, since this Alternative would have 50% less residential units as compared to the proposed Project, energy impacts would be less than the proposed Project.
- **Geology/Soils** - With development of the Project site with 50% of the residential units (as compared to the proposed Project), impacts to geology and soils would occur from construction activities (grading and land disturbing activities) and operational activities (the Alternative project would be subject to geotechnical evaluation). Since this

Alternative would be on the same site as the Project, impacts are determined to be similar to the proposed Project.

- **Greenhouse Gas Emissions** - With development of the Project site with 50% of the residential units (as compared to the proposed Project), greenhouse gas emission impacts would occur from construction activities (construction equipment emissions and vehicle emissions) and operational activities (vehicle emissions). However, since this Alternative would have 50% less residential units as compared to the proposed Project, greenhouse gas emissions would be less than the proposed Project.
- **Hazards & Hazardous Materials** - With development of the Project site with 50% of the residential units (as compared to the proposed Project), hazardous impacts would occur from construction activities (use and storage of hazardous substances) and operational activities (use and storage of hazardous substances). Since this Alternative would be on the same site as the Project, impacts are determined to be similar to the proposed Project.
- **Hydrology & Water Quality** - With development of the Project site with 50% of the residential units (as compared to the proposed Project), hydrology and water quality impacts would occur from construction activities (water for dust control, requirement for preparation of a SWPPP, drainage control) and operational activities (water demand associated with the development, drainage control). However, since this Alternative would have 50% less residential units as compared to the proposed Project, hydrology and water quality impacts would be less than the proposed Project. This Alternative would not eliminate the significant and unavoidable impacts (cumulative only) associated with water supply from the proposed Project.
- **Land Use / Planning** - With development of the Project site with 50% of the residential units (as compared to the proposed Project), land use and planning impacts would occur from development of existing agricultural lands to urban uses. The Alternative would not divide an established community. Since this Alternative would be on the same site as the Project, impacts are determined to be similar to the proposed Project.
- **Mineral Resources** - With development of the Project site with 50% of the residential units (as compared to the proposed Project), mineral resource impacts could occur from construction activities (grading and ground-disturbing activities) and operational activities (conversion of land to urban uses). Since this Alternative would be on the same site as the Project, impacts are determined to be similar to the proposed Project.
- **Noise** - With development of the Project site with 50% of the residential units (as compared to the proposed Project), noise impacts would occur from construction activities (construction equipment and vehicles) and operational activities (vehicles, air conditioners, televisions, radios, lawn mowers, etc.). However, since this Alternative

would have 50% less residential units as compared to the proposed Project, noise impacts would be less than the proposed Project.

- **Population & Housing** - With development of the Project site with 50% of the residential units (as compared to the proposed Project), population and housing impacts would occur from development of these sites. However, since this Alternative would have 50% less residential units as compared to the proposed Project, population and housing impacts would be less than the proposed Project.
- **Public Services** - With development of the Project site with 50% of the residential units (as compared to the proposed Project), public service impacts would occur from development of these sites (need for police, fire, schools and other public facilities). However, since this Alternative would have 50% less residential units as compared to the proposed Project, public service impacts would be less than the proposed Project.
- **Recreation** - With development of the Project site with 50% of the residential units (as compared to the proposed Project), recreation impacts would occur from development of the site (the City requires 5 acres of parkland per 1,000 residents). However, since this Alternative would have 50% less residential units as compared to the proposed Project, recreation impacts would be less than the proposed Project.
- **Transportation** - With development of the Project site with 50% of the residential units (as compared to the proposed Project), transportation impacts would occur from construction (vehicles and equipment, which would require a Traffic Control Plan) and operation (vehicles associated with the residential development). However, since this Alternative would have 50% less residential units as compared to the proposed Project, transportation impacts would be less than the proposed Project. This Alternative would not eliminate the significant and unavoidable impacts (VMT impacts at the project and cumulative level) associated with this topic from the proposed Project.
- **Tribal Cultural Resources** - With development of the Project site with 50% of the residential units (as compared to the proposed Project), tribal cultural resource impacts could occur from development of these sites (conversion of agricultural lands to urban uses). Since this Alternative would be on the same site as the Project, impacts are determined to be similar to the proposed Project.
- **Utilities & Service Systems** - With development of the Project site with 50% of the residential units (as compared to the proposed Project), utility and service system impacts would occur from construction activities (water for dust control, solid waste disposal) and operational activities (water demand associated with the development, wastewater disposal, solid waste disposal). However, since this Alternative would have 50% less residential units as compared to the proposed Project, utility and service system impacts

would be less than the proposed Project. This Alternative would not eliminate the significant and unavoidable impacts (cumulative only for water supply) associated with this topic from the proposed Project.

- **Wildfire** - With development of the Project site with 50% of the residential units (as compared to the proposed Project), wildfire impacts could occur from development of these sites (conversion of agricultural lands to urban uses). Since this Alternative would be on the same site as the Project, impacts are determined to be similar to the proposed Project.

Refer to Table 4-1 for a comparison of each environmental topic for the Reduced (50%) Project Alternative versus the proposed Project.

#### *Economic Considerations*

Economics are not generally included in CEQA analysis unless a project results in blight to other areas of the City. However, in this instance, one of the Project objectives is to provide a residential project that provides a variety of housing options within the City's growing population base. A reduced project size is likely to make the project infeasible because it would not meet the City's goal of having diverse housing. A lower density project would likely result in a single-family neighborhood, which does not provide a variety of housing types and would not assist the City in meeting its General Plan and Housing Element requirements and objectives.

## 4.4 Summary of Potential Impacts of Alternatives

Table 4-1 provides a summary and side-by-side comparison of the proposed project with the impacts of each of the alternatives analyzed. Please note that in Alternatives 1 through 3 in Table 4-1, the references to “less, similar, or greater,” refer to the impact of the alternative compared to the proposed project, and the impacts “no impact, less than significant, or significant and unavoidable,” in the parentheses refer to the significant impact of the specific alternative.

**Table 4-1  
Alternatives Potential Impact Analysis**

<b>Environmental Issues</b>	<b>Proposed Project</b>	<b>No Project</b>	<b>Alternate Sites</b>	<b>Reduced (50%) Project</b>
Aesthetics	Less than Significant	Less	Similar	Similar
Agriculture / Forest Resources	Significant and unavoidable (project and cumulative)	Less	Similar	Less
Air Quality	Less than Significant	Less	Similar	Less
Biological Resources	Significant and unavoidable (cumulative only)	Less	Similar	Less
Cultural Resources	Less than Significant	Less	Similar	Similar
Geology and Soils	Less than Significant	Less	Similar	Similar
Greenhouse Gas Emissions	Less than Significant	Less	Similar	Less
Hazards and Hazardous Materials	Less than Significant	Less	Similar	Similar
Hydrology and Water Quality	Significant and unavoidable – water supply (cumulative only)	Less	Similar	Less
Land Use / Planning	Less than Significant	Less	Similar	Similar
Noise	Less than Significant	Less	Similar	Less

Environmental Issues	Proposed Project	No Project	Alternate Sites	Reduced (50%) Project
Population / Housing	Less than Significant	Less	Similar	Less
Public Services	Less than Significant	Less	Similar	Less
Recreation	Less than Significant	Less	Similar	Less
Transportation and Traffic	Significant and unavoidable - VMT (project and cumulative)	Less	Similar	Less
Tribal Cultural Resources	Less than Significant	Less	Similar	Similar
Utilities and Service Systems	Significant and unavoidable – water supply (cumulative only)	Less	Similar	Less
Cumulative Impacts	Significant and unavoidable for Agriculture, Biology, Hydrology, Transportation, and Utilities	Less	Similar	Less
Impact Reduction		Yes	No	Yes

### Environmentally Superior Alternative

As presented in the comparative analysis above, and as shown in Table 4-1, there are a number of factors in selecting the environmentally superior alternative. An EIR must identify the environmentally superior alternative to the project. The No Project Alternative would be environmentally superior to the Project on the basis of its minimization or avoidance of physical environmental impacts. However, CEQA Guidelines Section 15126.6(e)(2) states:

*The “no project” analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the “no project”*



*alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.*

Because the No Project Alternative cannot be the Environmentally Superior Alternative under CEQA, the Reduced (50%) Project Alternative would be the Environmentally Superior alternative because it would result in less adverse physical impacts to the environment with regard to air, water, noise, public services, population/housing, utilities and traffic. However, the Reduced (50%) Project Alternative does not eliminate the proposed Project's significant and unavoidable impacts associated with Agriculture - Loss of Farmland (project and cumulative), Biological resources (cumulative only), Hydrology – Water Supply (cumulative only), or Transportation (Vehicle Miles Traveled impacts) (project and cumulative). Furthermore, the Reduced (50%) Project Alternative does not meet all of the Project objectives, particularly with regard to diversity of housing.

### **Summary and Determination**

Only the No Project and Reduced Project Alternatives could potentially result in fewer impacts than the proposed Project's impacts. These Alternatives however, would not meet the objectives of the proposed Project. After this full, substantial, and deliberate analysis, the proposed Project remains the preferred alternative.

# Chapter 5

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## OTHER CEQA REQUIREMENTS

# CEQA CONSIDERATIONS

## 5.1 Growth-Inducing Impacts

CEQA Section 15126 (d) requires that any growth-inducing aspect of a project be addressed in an EIR. This discussion includes consideration of ways in which the proposed Project could directly or indirectly foster economic or population growth with the construction and operation of the proposed Project in the surrounding area. Projects which could remove obstacles to population growth (such as a major public service expansion) are also considered in this discussion. The proposed Project is the establishment of a residential development that is being proposed in response to the demand for housing in the area. The Project is consistent with the City of Lemoore's General Plan and Zoning Ordinance and will connect to all existing City utility services. The anticipated population and housing unit increase associated with the proposed Project are within the growth projections of the City's 2030 General Plan. The proposed Project would create a relatively minor amount of new (temporary) employment opportunities during construction; however, those positions would likely be readily filled by the existing employment base. There are no other aspects of the Project (such as creation of oversized utility lines, etc.) that would induce further growth in the area. The proposed Project would not result in significant growth-inducing impacts.

**Conclusion:** The project would have *less-than-significant* growth-inducing impacts.

## 5.2 Irreversible Environmental Changes

Section 15126(f) of the CEQA Guidelines requires that an EIR include a discussion of significant irreversible environmental changes that would result from project implementation. CEQA Section 15126.2(c) identifies irreversible environmental changes as those involving a large commitment of nonrenewable resources or irreversible damage resulting from environmental accidents.

Irreversible changes associated with the project include the use of nonrenewable resources during construction, including concrete, plastic, and petroleum products. During the operational phase of the proposed Project, energy would be used for lighting, heating, cooling, and other requirements and petroleum products would be used by vehicles associated with the residents of the proposed development. The use of these resources would not be substantial and would not constitute a significant effect.

**Conclusion:** The project would have *less-than-significant* irreversible environmental changes.

# Chapter 6

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## Preparers

# PREPARERS

## 6.1 List of Preparers

**Crawford & Bowen Planning, Inc.** (EIR Consultants, Agricultural Conversion Study and Water Supply Assessment)

- Travis Crawford, AICP, Principal Environmental Planner
- Emily Bowen, LEED AP, Principal Environmental Planner

**JLB Traffic Engineering, Inc.** (Traffic Study)

**Mitchell Air Quality Consulting** (Air Quality/Energy/GHG Study)

**Colibri Ecological Consulting, LLC.** (Biological Survey/Report)

**ASM Affiliates** (Cultural Survey/Report)

**WJV Acoustics** (Noise Assessment)

## 6.2 Persons and Agencies Consulted

**City of Lemoore**

- Kristie Bailey, Management Analyst
- Steve Brandt, AICP, Contract City Planner
- Jaymie Brauer, Contract City Planner

# Appendices

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# Appendix A

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Initial Study / Notice of Preparation

# Appendix B

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## Agricultural Conversion Study



# Appendix C

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Air Quality and GHG/Energy Analysis

# Appendix D

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## Biological Resource Evaluation

# Appendix E

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## Cultural Resources Study

# Appendix F

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Phase I Environmental Assessment

# Appendix G

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SB 610 Water Supply Assessment

# Appendix H

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## Noise Assessment

# Appendix I-1

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## Traffic Impact Analysis Report

# Appendix I-2

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## Vehicle Miles Traveled Analysis