DRAFT INITIAL STUDY AND
MITIGATED NEGATIVE DECLARATION

CORDENIZ RESIDENTIAL DEVELOPMENT PROJECT

MARCH 2022

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CORDENIZ RESIDENTIAL DEVELOPMENT PROJECT

Prepared for:

City of Tulare
Community & Economic Development Department
411 East Kern Avenue
Tulare, CA 93274

Contact Person: Steven Sopp
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March 2022

Project #210079

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

This is to advise that the City of Tulare has prepared a Mitigated Negative Declaration for the Project identified below that is scheduled to be presented at the City of Tulare Planning Commission meeting on April 25, 2022.

PLEASE BE ADVISED that the City of Tulare Planning Commission will consider adopting the Mitigated Negative Declaration at the Planning Commission meeting to be held on April 25, 2022 at 7:00pm. Presentations will be made and action on items on the agenda will occur after the presentations. The meeting will be held at Council Chamber, 491 North 'M' Street, Tulare, CA 93274.

Project Name

Cordeniz Residential Development Project

Project Location

The Project is located at the northwest corner of East Cartmill Avenue & De La Vina Street in unincorporated Tulare County, California on an approximately 38-acre parcel (APN 149-060-037).

The Project site is located within the Tulare, California USGS 7.5-minute topographic quadrangle map in the SW ¼ of SW ¼ of Section 25 Township 19 South, Range 24 East, of the Mount Diablo Base and Meridian (MDB&M). Elevation of the site is 302 feet above mean sea level.

Project Description

The Project proposes to construct a 144-lot subdivision on currently undeveloped land (Project). The development would include 144 single story homes of 3 to 4 bedrooms ranging in size from 1,200 to 2,500 square feet with the associated road and utility improvements.

Access to the proposed subdivision will be from Almaden Street and De La Vina Street. The Project will connect to the City's water and sewer system.

The Project site will be annexed into the City and will be pre-zoned to a zoning designation consistent with the existing General Plan designation of Low Density Residential. Approval of a Tentative Tract Map is also required for the development of the Project.

The construction of this residential subdivision will take approximately 9 months and will be completed in 2 phases. It is anticipated that construction will include an average of 15 crew members onsite.

Equipment that may be used during construction includes:

- 12 CY & 20 CY Scrapers
- Motor Graders (Blades)
- Vibratory and Static Compactors (Sheep's Foot & Smooth Drum)
- 3500 Gallon Water Trucks
- Track Excavators and Rubber Tired Backhoes
- Rubber-Tired Loaders
- 12 CY Concrete Trucks
- Concrete Extrusion Machine

The document and documents referenced in the Initial Study/Mitigated Negative Declaration are available for review at City of Tulare Community & Economic Development Department public counter, located at 411 East Kern Avenue, Tulare, CA 93274.

As mandated by the California Environmental Quality Act (CEQA), the public review period for this document is 30 days (CEQA Section 15073[b]). The public review period began on March 15, 2022 and ends on April 15, 2022. For further information, please contact Steven Sopp at (559) 684-4223 or ssopp@tulare.ca.gov.

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MITIGATED NEGATIVE DECLARATION

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

Project Name

Cordeniz Residential Development Project

Project Location

The Project is to be located on the northwest corner of East Cartmill Avenue and De La Vina Street in unincorporated Tulare County, California (APN #149-060-005).

The Project is located within the Tulare, California USGS 7.5-minute topographic quadrangle map in the SW ¼ of SE ¼ of Section 14 Township 20 South, Range 24 East, of the Mount Diablo Base and Meridian (MDB&M). Elevation of the site is 279 feet above mean sea level.

Project Description

The Project proposes to construct a 144-lot tentative subdivision on approximately 38 acres of undeveloped land. The development would include single story homes of 3 to 4 bedrooms ranging in size from 1,200 to 2,500 square feet with the associated road and utility improvements.

The Project site will be annexed into the City and will be pre-zoned as Residential Low Density. Approval of a Tentative Tract Map is also required for the development of the Project.

Access to the proposed subdivision will be from Almaden Street and De La Vina Avenue. The Project will connect to the City's water and sewer system.

The construction of subdivision will take approximately 9 months and will be completed in 2 phases. It is anticipated that construction will include up to 15 crew onsite. Equipment that may be used during construction includes:

- 12 CY & 20 CY Scrapers
- Motor Graders (Blades)
- Vibratory and Static Compactors (Sheep's Foot & Smooth Drum)

- 3500 Gallon Water Trucks
- Track Excavators and Rubber Tired Backhoes
- Rubber-Tired Loaders
- 12 CY Concrete Trucks
- Concrete Extrusion Machine

Mailing Address and Phone Number of Contact Persons

Steven Sopp
Senior Planner
City of Tulare
Community & Economic Development Department
411 East Kern Avenue
Tulare, CA 93274
(559) 684-4223

Findings

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

Mitigation Measures Included in the Project to Avoid Potentially Significant Effects

BIO-1: 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 these species. If dens/burrows that could support any of these species are discovered during the pre-activity survey, the avoidance buffers outlined below shall be established. No work would occur within these buffers unless the biologist approves and monitors the activity.

Burrowing Owl (active burrows)

- Non-breeding season: September 1 – January 31 – 160 feet

- Breeding season: February 1 – August 31 – 250 feet

American Badger/ San Joaquin kit fox

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

BIO-2 A qualified biologist shall remain on-call throughout the construction phase if a burrowing owl, American badger, or San Joaquin kit fox occurs on the site during construction. If one of these species occurs on-site, the biologist shall be contacted immediately to determine whether biological monitoring or the implementation of avoidance buffers may be warranted.

BIO-3 The following avoidance and minimization measures shall be implemented during all phases of the Project to reduce the potential for impact from the Project. They are modified from the *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered SJKF Prior to or During Ground Disturbance* ((USFWS, 2011) Appendix C).

a. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the construction or Project Site.

b. Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking areas. Vehicle speeds shall not exceed 20 miles per hour (mph) within the Project Site.

c. To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor shall cover all excavated, steep-walled holes or trenches more than two feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks shall be installed in the trench. Before such holes or trenches are filled, the contractor shall thoroughly inspect them for entrapped animals. All construction-related pipes, culverts, or similar structures with a diameter of four-inches or greater that are stored on the Project Site shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in anyway. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted and USFWS and CDFW shall be consulted.

d. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts,

or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the USFWS and CDFW have been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.

e. No pets, such as dogs or cats, shall be permitted on the Project Sites to prevent harassment, mortality of kit foxes, or destruction of dens.

f. Use of anti-coagulant rodenticides and herbicides in Project Sites shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional Project-related restrictions deemed necessary by the USFWS and CDFW. If rodent control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes.

g. A representative shall be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured, or entrapped kit fox. The representative shall be identified during the employee education program and their name and telephone number shall be provided to the USFWS.

h. The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to a SJKF during Project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact can be reached at (559) 243-4014 and R4CESA@wildlifeca.gov.

i. All sightings of the SJKF shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed shall also be provided to the Service at the address below.

j. Any Project-related information required by the USFWS or questions concerning the above conditions, or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at: Endangered Species

Division, 2800 Cottage Way, Suite W 2605, Sacramento, California 95825-1846, phone: (916) 414-6620 or (916) 414-6600.

BIO-4 If Project construction activities must occur during the Swainson's hawk nesting season (February 15 to August 31), pre-construction activity surveys shall be conducted over the Project area and within 0.5-mile for Swainson's hawk nests in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley*, Swainson's Hawk Technical Advisory Committee (CDFG, 2000).

BIO-5 If an active Swainson's hawk nest is discovered at any time within 0.5-mile of active construction, a qualified biologist should complete an assessment of the potential for current construction activities to impact the nest. The assessment would 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 should 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.

BIO-6 If Project construction activities will be initiated during the nesting season (February 1 to September 15), a pre-activity nesting bird survey shall be conducted within 14 days prior to the start of construction. The surveys shall encompass the Project footprint and accessible areas or land visible from accessible areas within a 250-foot buffer for songbirds and a 500-foot buffer for raptors. If no active nests are found, no further action is required. However, existing nests may become active and new nests may be built at any time prior to and throughout the nesting season, including when construction activities are in progress.

If active nests are found during the survey or at any time during construction of the Project, an avoidance buffer ranging from 50 feet to 500 feet may be required, with the avoidance buffer from any specific nest being determined by a qualified biologist. The avoidance buffer shall remain in place until the biologist has determined that the young are no longer reliant on the adults or the nest, or if breeding attempts have otherwise been unsuccessful. Work may occur within the avoidance buffer under the approval and guidance of the biologist, but full-time monitoring may be required. The biologist shall have the ability to stop construction if nesting adults show any sign of distress.

BIO-7 Within 14 days prior to the start of ground disturbance activities, a pre-activity survey shall be conducted by a qualified biologist knowledgeable in the identification of wildlife species with potential to occur in the vicinity of the Project. All suitable burrows that could support Tipton kangaroo rat, or other special-status wildlife species shall be avoided during construction in accordance with BIO-5 and BIO-6, unless verification surveys have

indicated that the species are not present. Consultation with the USFWS and CDFW may be required if listed or fully protected species are detected during the survey. A report outlining the results of the preconstruction clearance survey shall be submitted to the City of Tulare.

BIO-8 Prior to the initiation of construction activities, all construction personnel shall 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 prior to working on the project site. The Program shall be developed and presented by the project qualified biologist(s) or designee approved by the qualified biologist(s). The program should 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 Tulare Planning Department.

d. A copy of the training transcript, training video or informational binder for specific procedures shall be kept available for all personnel to review and be familiar with, as necessary.

BIO-9 Prior to any impacts to any Valley oak trees on-site, a permit shall be obtained from the City of Tulare. Each tree removed shall be replaced with same species at a minimum 2:1 ratio. Note that the City may require a higher ratio of replacement plantings. The replacement plantings shall be incorporated into the landscape design of the Project, such as at the proposed park. All replacement plantings shall be 15-gallon containers or larger and shall be monitored for a minimum of 5 years to ensure successful establishment. If any

replacement planting dies during the 5 years, it shall be promptly replaced, and that tree shall be monitored for 5 years.

A Valley Oak Replacement and Monitoring Plan shall be developed and shall include at a minimum: maps of the locations of the replacement plantings and irrigation plans, methods for planting and maintenance (including irrigation), success criteria, and monitoring and reporting schedule. The plan and all subsequent reports shall be submitted to the City for compliance with this measure.

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.

CUL-1: If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from Project implementation.

The qualified archaeologist 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. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing, and data recovery, among other options. Any previously undiscovered resources found during construction 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.

CUL-2: Prior to ground disturbance, the project contractor must receive a cultural presentation provided by the Santa Rosa Rancheria Tachi Yokut Tribe. The cultural presentation will describe the sensitivity of the area, discuss how to identify sensitive materials and the processes that should be followed if sensitive tribal materials are discovered, and review the history and geography of the region and the laws and regulations pertaining to tribal cultural resources.

CUL-3: If human remains are discovered during construction or operational activities, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify

the Native American Heritage Commission (NAHC), which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

GEO-1: Prior to issuing of grading or building permits, if required, (a) the Project applicant shall submit to the Lead Agency (1) the approved Storm Water 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; and
- Managing waste, aggressively controlling litter, and implementing sediment controls.
- Evidence of the approved SWPPP shall be submitted to the Lead Agency.

GEO-2: During any ground-disturbance activities, if paleontological resources are encountered, 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.

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

a. All stationary construction equipment on the Project site shall be located so that noise emitting objects or equipment faces away from any potential sensitive

receptors.

b. The construction contractor shall ensure that all construction equipment is equipped with manufacturer-approved mufflers and baffles During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers.
c. Construction activities shall take place during daylight hours, when feasible.

TRNS-1: Prior to issuance of any building permit, the applicant shall pay the pro rata share of 15.56% toward the installation of a signal at De La Vina Street and East Cartmill Avenue. All monies shall be paid to the City of Tulare. At the time the applicant elects to pay, the City shall conduct a review of the distributed share amount and make adjustments, if required, based on increases to the construction cost index, other changes in standards or technology for required signalization or improvements, or updated development projects or proposals. If the applicant pays a Transportation Impact Fee that includes the facilities covered by the fair-share payment, the applicant shall be eligible for reimbursement of any monies paid. The City may request, at a cost to be borne by the applicant, a supplemental traffic analysis to determine the correct lump sum payment.

TRNS-2: Prior to the issuance of grading permit, the Project applicant shall:

a) Prepare and submit a Construction Traffic Control Plan to City of Tulare and the California Department of Transportation offices for District 6, as appropriate, for review and 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:

- Timing of deliveries of heavy equipment and building materials;
- Directing construction traffic with a flag person;
- 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;
- Ensuring access for emergency vehicles to the Project site;
- Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;
- Maintaining access to adjacent property; and

- 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 site, and avoiding residential neighborhoods to the maximum extent feasible.

b) Obtain all necessary permits for the 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 issued permits shall be submitted to the City of Tulare.

SECTION 1 - INTRODUCTION

1.1 - Overview

The Project proposes to develop 144-lot single family residential lots on 38 acres of previously disturbed, but presently unused land on the north side of Cartmill Avenue, west of De La Vina Street in Tulare, California (APN #149-060-005).

1.2 - California Environmental Quality Act

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

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

1.3 - Impact Terminology

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

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

1.4 - Document Organization and Contents

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

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

1.5 - Incorporated by Reference

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

- City of Tulare Official Zoning Map;
- 2035 City of Tulare General Plan;
- City of Tulare Final Environmental Impact Report for the 2035 General Plan;
- City of Tulare Draft Environmental Impact Report: General Plan, Transit-Oriented Development Plan, and Climate Action Plan;
- City of Tulare Adopted Climate Action Plan;
- City of Tulare Municipal Code; and
- Tulare County Comprehensive Airport Land Use Plan.
- Tulare County Emergency Operations Plan
- City of Tulare Urban Water Management Plan

SECTION 2 - PROJECT DESCRIPTION

2.1 - Introduction

The Project proposes to develop 144-lot single family residential lots on approximately 38 acres of previously disturbed, but presently unused land on the north side of Cartmill Avenue, west of De La Vina Street in in unincorporated Tulare County, California.

2.2 - Project Location

The Cordeniz Residential Development Project (Project) is to be located on the northwest corner of East Cartmill Avenue and De La Vina Street in unincorporated Tulare County , California (APN #149-060-037). (Figure 2-1 and Figure 2-2).

The Project is located within the Tulare, California USGS 7.5-minute topographic quadrangle map in the SW ¼ of SE ¼ of Section 14 Township 20 South, Range 24 East, of the Mount Diablo Base and Meridian (MDB&M; Figure 2-3). Elevation of the site is 279 feet above mean sea level.

2.3 - Surrounding Land Uses

The Project site will be annexed into the City and will be pre-zoned to a zoning designation consistent with the existing General Plan designation of Low Density Residential. The surrounding area is primarily residential, and land used for agricultural purposes.

2.4 - Proposed Project

The Cordeniz Residential Development Project proposes to construct a 144-lot subdivision on approximately 38 acres of undeveloped land (Figure 2-4). The development would include single story homes of 3 to 4 bedrooms ranging in size from 1,200 to 2,500 square feet with the associated road and utility improvements.

The Project site will be annexed into the City and will be pre-zoned to a zoning designation consistent with the existing General Plan designation of Low Density Residential. Approval of a Tentative Tract Map is also required for the development of the Project.

Access to the proposed subdivision will be from Almaden Street and De La Vina Street. The Project will connect to the City's water and sewer system.

Construction

The construction of this residential subdivision will take approximately 9 months and will be completed in 2 phases. It is anticipated that construction will include an average of 15 crew onsite. Equipment that may be used during construction includes:

- 12 CY & 20 CY Scrapers

- Motor Graders (Blades)
- Vibratory and Static Compactors (Sheep's Foot & Smooth Drum)
- 3,500 Gallon Water Trucks
- Track Excavators and Rubber Tired Backhoes
- Rubber-Tired Loaders
- 12 CY Concrete Trucks
- Concrete Extrusion Machine

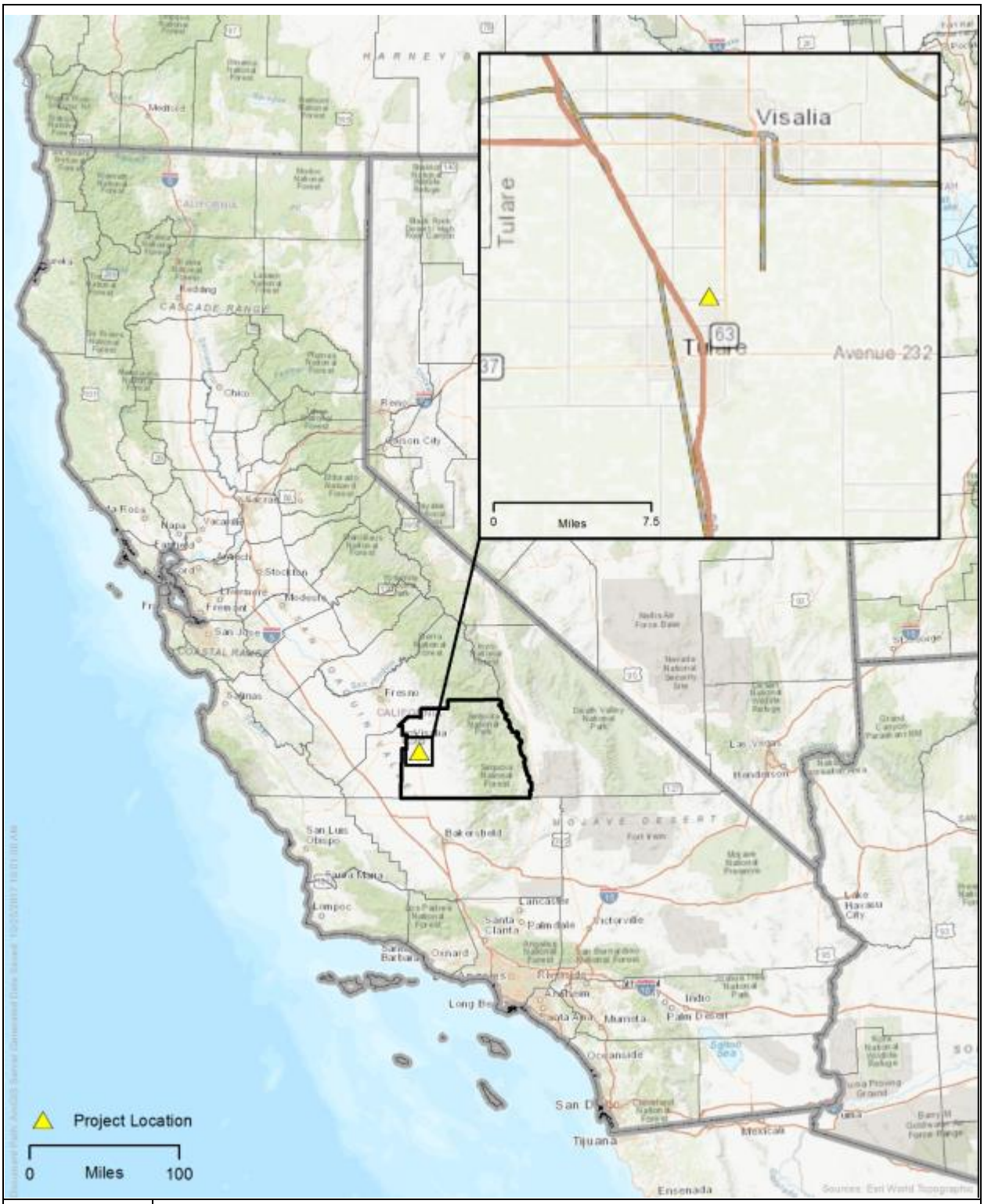

Figure 2-1
Regional Location

Figure 2-2
Project Site

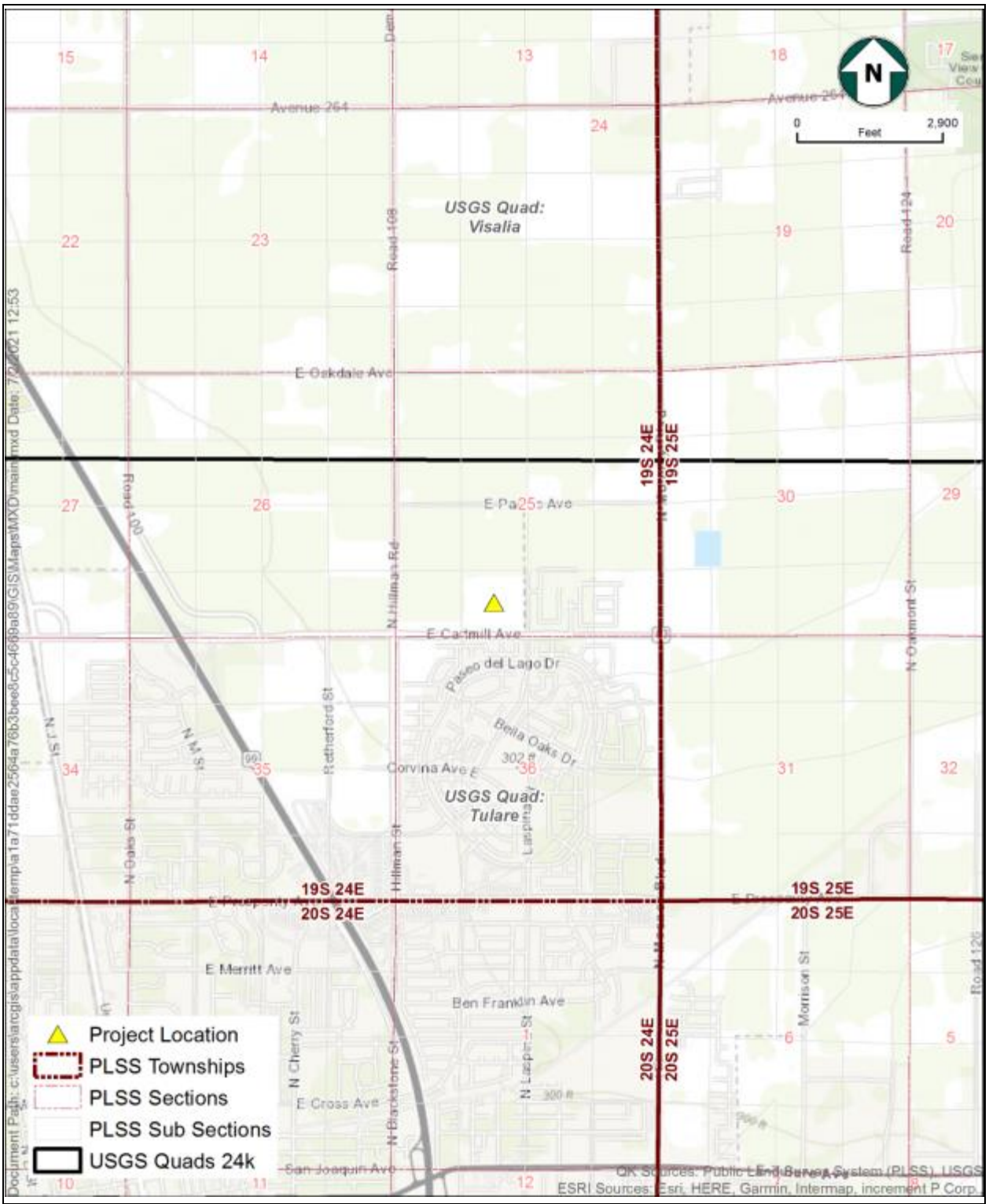

Figure 2-3
Project Area PLSS

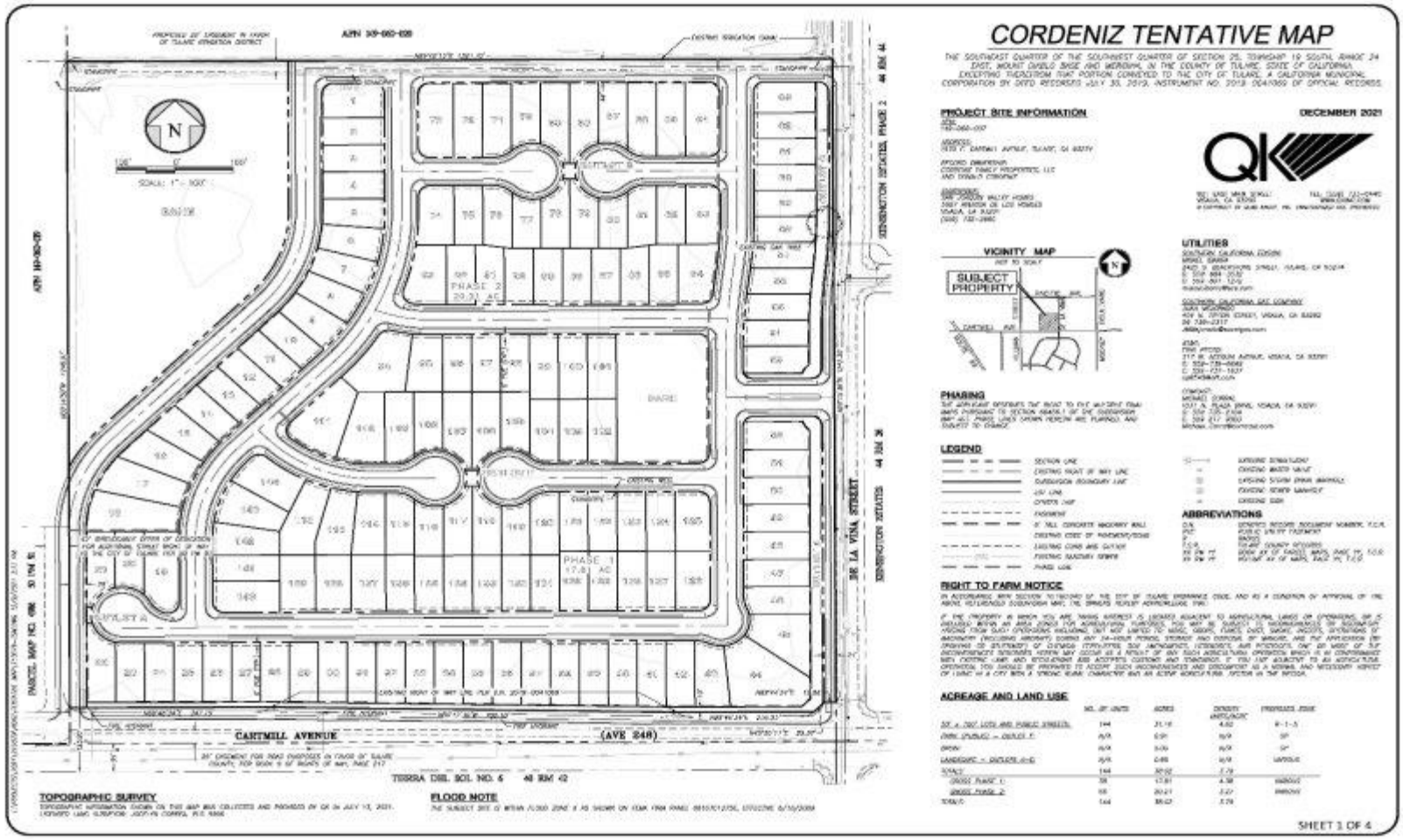

Figure 2-4
Site Plan

SECTION 3 - INITIAL STUDY

3.1 - Environmental Checklist

1. **Project Title:**

   Cordeniz Residential Development Project

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

   City of Tulare
   411 East Kern Avenue
   Tulare, CA 93274

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

Steven Sopp, Senior Planner (559) 684-4216

4. **Project Location:**

   Northwest corner of Cartmill & De La Vina
   Unincorporated Tulare County, CA

5. **Project Sponsor's Name and Address:**

   San Joaquin Valley Homes
   5607 Avenida De Los Robles
   Visalia, CA 93291

6. **Proposed General Plan Designation:**

   R-1 Low Density Residential

7. **Proposed Zoning:**

   R-1-5 Single Family Residential, 5,000 sq. ft. minimum lot size

8. **Description of Project:**

   Please see *Section 2.4 above – Project Description*

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

   Please see *Section 2.3 above – Surrounding Land Uses*

10. Other Public Agencies Whose Approval May be Required:

- California Department of Fish and Wildlife (CDFW)
- San Joaquin Valley Air Pollution Control District (SJVAPCD)
- Regional Water Quality Control Board-- Central Valley (RWQCB)
- Tulare County Local Agency Formation Commission (LAFCo)
- Tulare County Association of Governments (TCAG)

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

The Santa Rosa Rancheria Tachi Yokut Tribe has contacted the City requesting consultation of proposed Projects pursuant to AB 52, Public Resources Code (PRC) Section 21080.3.1.

3.2 - Evaluation of Environmental Impacts

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

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

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

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

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

    a. Earlier Analysis Used. Identify and state where they are available for review.
    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the Project.

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

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

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

9. The explanation of each issue should identify:

    a. the significance criteria or threshold, if any, used to evaluate each question; and
    b. the mitigation measure identified, if any, to reduce the impact to less than significance.

3.3 - Environmental Factors Potentially Affected

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

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

3.4 - Determination

On the basis of this initial evaluation:

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

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

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

☐ I find that the proposed Project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect (a) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (b) has been addressed by mitigation measures based on the

earlier analysis as described on attached sheets. An ENVIRONMENT IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

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

Signature

3/9/22
Date

Steven Sopp
Printed Name

Senior Planner
City of Tulare
For

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

Discussion

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

The site is located within an area consisting of residential and agricultural uses. Areas to the east and south are residential subdivisions, properties to the east and north are under agricultural cultivation. The site is currently undeveloped. The existing topography of the site is nearly flat, with elevations ranging from 300 to 305 feet above mean sea level (asml).

A scenic vista is a viewpoint that provides a distant view of highly valued natural or man-made landscape features for the benefit of the general public. Typical scenic vistas are locations where views of rivers, hillsides, and open space areas can be obtained as well as locations where valued urban landscape features can be viewed in the distance. There are no State or county designated scenic vistas in the vicinity of the proposed Project site. The General Plan does not designate the proposed Project site as scenic or an area having highly valued scenic resources (City of Tulare, 2013). No identified or designated public or scenic vistas will be obstructed by the proposed Project.

MITIGATION MEASURE(S)

No mitigation measures are required.

LEVEL OF SIGNIFICANCE

There will be *no impacts*.

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

There are no State designated scenic highways within the immediate proximity of the Project site (California Department of Transportation, 2011). In addition, no scenic highways or roadways are identified within the Project area in the City of Tulare 2035 General Plan (City of Tulare, 2013). There are no trees, rock outcroppings or historic building on or in the vicinity of the site. Therefore, the Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There will be *no impacts*.

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

The proposed Project is located in an undeveloped area with surrounding agriculture and residential uses. The Project would be visible from passing motorists driving along Cartmill Avenue, and the surrounding residential communities. However, changes to the visual quality and character of the Project site will be similar in nature to the nearby residential developments to the east and south. The Project would not conflict with any zoning designations or other applicable regulations governing scenic quality. Therefore, the Project would not result in a substantial impact to the visual quality of the area.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

Construction of the proposed Project would generally occur during daytime hours, typically from 7:00 a.m. to 6:00 p.m. All lighting would be directed downward and shielded to focus illumination on the desired work areas only and prevent light spillage onto adjacent properties. Because lighting used to illuminate work areas would be shielded, focused downward, and turned off by 6:00 p.m., the potential for lighting to affect any residents adversely is minimal. Increased truck traffic and the transport of construction materials to the Project site would temporarily increase glare conditions during construction. However, this increase in glare would be minimal. Construction activity would focus on specific areas on the sites, and any sources of glare would not be stationary for a prolonged period of time. Therefore, construction of the proposed Project would not create a new source of substantial glare that would affect daytime views in the area.

The Project exterior streetlights and residential lighting will be designed to minimize reflective glare and light scatter. These requirements would substantially reduce potential nuisances from light or glare. The Project will comply with applicable local development standards, the proposed Project would not create new sources of substantial light or glare that would adversely affect day or nighttime views in the area. Therefore, the Project would have a less than significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

3.4.2 - AGRICULTURE AND FORESTRY RESOURCES

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

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

Discussion

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

The proposed Project would convert approximately 38 acres of land currently zoned for agriculture to residential to accommodate the development of a residential subdivision. In order to determine whether this conversion would result in a significant impact on farmland, several factors must be considered. These factors include the quality of the land being converted, the availability of water to supply farming activities on the land, and the type of use being proposed on the agricultural land. CEQA uses the California Department of Conservation Division of Land Resource Protection's Farmland Mapping Project (FMMP) categories of "Prime Farmland," "Farmland of Statewide Importance," and "Unique Farmland" to define "agricultural land" for the purposes of assessing environmental impacts (PRC Section 21060.1(a)).

The Project site is designated as Farmland of Local Importance by the Department of Conservation's (DOC) Farmland Mapping and Monitoring Program (FMMP) (CA Department of Conservation, 2016). The Project would convert approximately 38 acres of Farmland of Local Importance to residential uses. Tulare County has 1.3 million acres of land classified as "agricultural land" (County of Tulare, 2012). The conversion of this Project would be minimal in comparison to the total amount of agricultural land in the county.

Additionally, the Project is within the City's sphere of influence, and has a General Plan designation of Low Density Residential. Therefore, the City has already anticipated the conversion of the Project site to a non-agricultural use, which was previously analyzed in the General Plan Environmental Impact Report (City of Tulare, 2013) . Therefore, the impacts from the conversion of 38 acres to a non-agricultural use would be less than significant.

MITIGATION MEASURE(S)

No mitigation measures are required.

LEVEL OF SIGNIFICANCE

There would be *less than significant impact*.

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

As noted in Impact #3.4a, the Project site is pre-zoned and has a land use designation of low density residential. The Project site is not subject to a Williamson Act Land Use contract. The Project would not conflict with the existing zoning for agricultural land use or a Williamson Act contract. Therefore, there is no impact.

MITIGATION MEASURE(S)

No mitigation measures are required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

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

There is no forest or timberland on the Project site or surrounding area, and the Project site is pre-zoned for residential development. The Project will have no impact on land designated for forest land use.

MITIGATION MEASURE(S)

No mitigation measures are required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

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

See Impact #3.4.2c, above The Project will not convert land designated for forest land use.

MITIGATION MEASURE(S)

No mitigation measures are required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

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

See Impacts #3.4.2a-c, above. As such, impacts will be less than significant.

MITIGATION MEASURE(S)

No mitigation measures are required.

LEVEL OF SIGNIFICANCE

There would be *less than significant impacts*.

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

3.4.3 - AIR QUALITY

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

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

The discussion below is based on the Air Quality Impact Analysis prepared for the Project and attached as Appendix B (Trinity Consultants, 2021).

Discussion

The Project is located within the San Joaquin Valley Air Basin (SJVAB) in Tulare County and is included among the eight counties that comprise the San Joaquin Valley Air Pollution Control District (SJVAPCD or District). The SJVAPCD acts as the regulatory agency for air pollution control in the Basin and is the local agency empowered to regulate air pollutant emissions for the plan area. The Project would include compliance with the SJVAPCD's Regulation VIII (Fugitive PM10 Prohibitions), Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), Rule 4002 (National Emissions Standards for Hazardous Air Pollutants), Rule 4102 (Nuisance), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations), and other applicable regulations.

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

Table 3.4.3-1
SJVAPCD Pollutant Thresholds of Significance

Criteria Pollutant	Significance Level	
	Construction (tons/year)	Operational (tons/year)
CO	100 tons/yr	100
NO_x	10	10
ROG	10	10
SO_x	27	27
PM_{10}	15	15
$PM_{2.5}$	15	15

(SJVAPCD, 2015)

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

The CEQA Guidelines indicate that a significant impact would occur if the proposed Project would conflict with or obstruct implementation of the applicable air quality plan. The SJVAB is designated non-attainment of State and federal health-based air quality standards for ozone and particulate matter less than 2.5 microns ($PM_{2.5}$). The SJVAB is designated attainment for federal particulate matter less than 10 microns (PM_{10}) standards and non-attainment of the State PM_{10} threshold. To meet federal Clean Air Act (CAA) requirements, the SJVAPCD has multiple air quality attainment plan (AQAP) documents, including:

- 2008 Extreme Ozone Attainment Demonstration Plan (EOADP) for attainment of the 1-hour ozone standard;
- 2007 Ozone Plan for attainment of the 8-hour ozone standard;
- 2007 PM_{10} Maintenance Plan and Request for Redesignation; and
- 2008 $PM_{2.5}$ Plan.

Because of the region's federal non-attainment status for ozone and $PM_{2.5}$, and State non-attainment status for ozone, $PM_{2.5}$, and PM_{10}, if the Project-generated emissions of either the ozone precursor pollutants (reactive organic gases [ROG] or oxides of nitrogen [NO_x]), PM_{10}, or $PM_{2.5}$ were to exceed the SJVAPCD's significance thresholds, then the Project uses would be considered to conflict with the attainment plans. In addition, if the Project uses were to result in a change in land use and corresponding increases in vehicle miles traveled, they may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

The GAMAQI states that the SJVAPCD's established thresholds of significance for criteria pollutant emissions, which are based on the NSR, require offsets for stationary sources. "Emission reductions achieved through implementation of District offset requirements are a major component of the District's air quality plans. Thus, projects with emissions below the thresholds of significance for criteria pollutants would be determined to 'Not conflict or obstruct implementation of the District's air quality plan'" (SJVAPCD, 2015).

Project's Contribution to Air Quality Violations

As discussed in Impact #3.4.3b, below, predicted construction and operational emissions would not exceed the SJVAPCD's significance thresholds for ROG, NOx, PM_{10}, and $PM_{2.5}$. As a result, the Project would not conflict with emissions inventories contained in regional AQAPs and would not result in a significant contribution to the region's air quality non-attainment status.

The SJVAB is designated nonattainment of State and federal health-based air quality standards for ozone and $PM_{2.5}$. The SJVAB is designated nonattainment of State PM_{10}. To meet Federal Clean Air Act (CAA) requirements, the SJVAPCD has multiple air quality attainment plan (AQAP) documents, including:

- 2016 Ozone Plan;
- 2007 PM_{10} Maintenance Plan and Request for Redesignation; and,
- 2016 $PM_{2.5}$ Plan.

Air quality impacts from proposed projects within Tulare County are controlled through policies and provisions of the SJVAPCD and the 2035 City of Tulare General Plan (City of Tulare, 2013). In order to demonstrate that a proposed project would not cause further air quality degradation in either of the SJVAPCD's plan to improve air quality within the air basin or federal requirements to meet certain air quality compliance goals, each project should also demonstrate consistency with the SJVAPCD's adopted Air Quality Attainment Plans (AQAP) for O_3 and PM_{10}. The California Clean Air Act (CCAA) requires air pollution control districts with severe or extreme air quality problems to provide for a five percent reduction in non-attainment emissions per year.

The Tulare County Association of Governments (TCAG) Air Quality Conformity Analysis demonstrates that the 2019 Federal Transportation Improvement Program (2019 FTIP) and 2018 Regional Transportation Plan (2018 RTP) in Tulare County would not hinder the efforts set out in the CARB's SIP for each area's non-attainment pollutants (CO, O_3, PM_{10} and $PM_{2.5}$).

The CCAA and AQAP identify transportation control measures as methods to further reduce emissions from mobile sources. Strategies identified to reduce vehicular emissions such as reductions in vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, and traffic congestion, in order to reduce vehicular emissions, can be implemented as control measures under the CCAA as well. The proposed Project is not anticipated to exceed SJVAPCD thresholds for criteria pollutants during construction or operations and impacts are considered less than significant (see Impact #3.3.3b).

No employment or population growth is anticipated as a result of the Project that would conflict with the provisions of the AQAP; conclusions may be drawn from the following criteria:

- The findings of the analysis show that the Project's lack of permanent employee increases does not contribute to any unplanned growth in the area; and
- That, by definition, the proposed emissions from the Project are below the SJVAPCD's established emissions impact thresholds.

Based on the above analysis presented, the Project is anticipated to be consistent with the AQAP, RTP, and TCAG Air Quality Conformity Analysis. As such, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation measures are required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.3b – Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?

Short-term Emissions

Short-term emissions, as a result of the Project, would result from the construction phase of the proposed Project. Construction is anticipated to take approximately 9 months to complete. Construction activities would include the usage of a grader, loader, reach lift, service trucks, trencher, and mobile generator. Grading will be minimal. The main source of short-term emissions would be the exhaust from these vehicles and equipment; however, these emissions would be temporary in nature and are not expected to result in the exceedance of any applicable thresholds or regulations. Criteria and GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0, which is the most current version of the model approved for use by the San Joaquin Air Pollution Control District. Table 3.4.2 presents the Project's short-term emissions, which indicates the Project would not exceed District thresholds of significance for any criteria pollutants during short term construction activities.

Table 3.4.3-2
Short-Term Project Emissions

Emissions Source	Pollutant (tons/year)					
	ROG	NOx	CO	SO2	PM10	PM2.5
Unmitigated						
2022	2.64	1.74	1.76	0	0.26	0.15
Mitigated						
2022	2.64	1.74	1.76	0	0.18	0.11
Significance Threshold	10	10	100	27	15	15

Threshold Exceeded?	NO	NO	NO	NO	NO	NO

(Trinity Consultants, 2021)

Long-term Emissions

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

- Fugitive Dust Emissions

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

PM_{10} on its own as well as in combination with other pollutants creates a health hazard. The SJVAPCD's Regulation VIII establishes required controls to reduce and minimizing fugitive dust emissions. The following SJVAPCD Rules and Regulations may apply to the proposed Project:

- Rule 4102 - Nuisance
- Regulation VIII – Fugitive PM_{10} Prohibitions
  - Rule 8011 - General Requirements
  - Rule 8021 - Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities
  - Rule 8041 - Carryout and Trackout
  - Rule 8051 - Open Areas

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

- Exhaust Emissions

Project-related transportation activities from employees and maintenance would generate mobile source ROG, NOx, SOx, CO, PM_{10} and $PM_{2.5}$ exhaust emissions. Exhaust emissions would vary substantially from day to day but would average out over the course of an operational year. The variables factored into estimating total Project emissions include level of activity, site characteristics, weather conditions, and number of employees. As the Project is not expected to generate an adverse change in current activity levels, substantial emissions are not anticipated.

- Projected Emissions

Table 3.4.2 below presents the Project's long-term emissions.

Table 3.4.3-2
Post-Project (Operational) Emissions

Emissions Source	Pollutant (tons/year)					
	ROG	NOx	CO	SO2	PM10	PM2.5
Unmitigated Emissions	1.87	1.25	7.02	0.02	1.45	0.41
Mitigated Emissions	1.87	1.15	6.49	0.01	1.28	0.37
Significance Threshold	10	10	100	27	15	15
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

(Trinity Consultants, 2021)

As shown in 3.4-3, operation-related emissions would be less than SJVAPCD threshold levels. Therefore, the proposed Project would have a less than significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

Sensitive receptors are defined as locations where young children, chronically ill individuals, the elderly, or people who are more sensitive than the general population reside, such as schools, hospitals, nursing homes, residential areas and daycare centers. The nearest school to the Project site is located approximately 0.15 miles to the north. The nearest residential sensitive receptor borders the proposed Project to the east and the south.

GAMAQI recommends that Lead Agencies consider situations wherein a new or modified source of HAPs is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to HAPs. Typical sources of HAPs include diesel trucks or permitted sources such as engines, boilers or storage tanks. Because the Project is not considered an operational source of increased HAPs and construction is expected to only last 9 months, no screening level Health Risk Assessment (HRA) was required. Therefore, potential risk to the population attributable to emissions of HAPs from the proposed Project would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant impact.*

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

SJVAPCD identifies some common types of facilities that have been known to produce odors in the SJVAB such as wastewater treatment facilities, sanitary landfills, transfer stations, composting facilities, petroleum refinery, asphalt batch plants, chemical manufacturing plants, fiberglass manufacturing, paint/coating operations, food processing facilities, feed lot/dairy, and rendering plants (SJVAPCD, 2015). These can be used as a screening tool to qualitatively assess a Project's potential to adversely affect area receptors.

Because the Project is a residential project and the anticipated activities for the Project site are not listed in the SJVAPCD as a source that would create objectionable odors, the Project is not expected to be a source of objectionable odors.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.4 - BIOLOGICAL RESOURCES				
Would the Project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

The discussion for this section is based on a Biological Analysis Report conducted for the Project and is attached as Appendix C (QK, 2021a).

Discussion

A database review and reconnaissance site survey was completed to characterize existing conditions and determine the potential for special-status species and other sensitive biological resources to occur on-site that may be impacted by the Project. In addition to providing an evaluation of the Project's impacts to biological resources, the report includes a detailed description of the regulatory environment as it relates to biological resources.

A reconnaissance survey of the Project site and a 250 foot buffer, where feasible (BSA) was conducted on July 8, 2021, by QK Environmental Scientists. The survey consisted of walking meandering pedestrian transects spaced 50 to 100 feet apart throughout the BSA. A portion of the survey buffer was inaccessible because it overlapped with private residential properties or active private agricultural fields. Those areas were surveyed visually with the aid of binoculars to gather a representative inventory of the plant and wildlife species present. The entire Project area was surveyed on foot.

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

The properties surrounding the Project site are consist with residential and active agricultural land uses. Residential development is located to the east and south of the Project site and agricultural development is located to the north and west.

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

The database and literature review identified 14 special-status plant species that had a potential of occurring on the Project. All 14 special status plant species were eliminated from consideration because the Project occurs outside of the species' known range, outside of the elevation range of the species, or because habitat that could support the species was absent from the BSA.

Twenty-six special-status wildlife species have potential to occur within the BSA. Of these, four were determined to potentially occur based on habitat conditions: western burrowing owl, Swainson's hawk, American badger, and San Joaquin kit fox. Potential impacts to these species are described below.

Western Burrowing Owl

No burrowing owls or sign of the species was observed during the reconnaissance survey. However, there is suitable habitat for the species within the BSA in the Annual Grassland within the BSA where there are also California ground squirrel burrows suitable for the species. The species is known to inhabit the region and may become an established resident in suitable habitat within the BSA or pass through as a transient at any time.

Direct and/or indirect impacts to burrowing owl could occur if there is an active burrow within the BSA during the period of construction activities. Construction activities could result in crushing or destroying a burrow, with or without a burrowing owl inside. Noise, vibration, and increased human activity resulting from Project construction activities could alter the daily behaviors of individual owls and affect foraging success, displace owls from their burrows, or lead to nest failure. Suitable nesting and foraging habitat would be lost as a result of the Project. Implementation of mitigation measures BIO-1 through BIO-3, BIO-6, and BIO-7 requires preconstruction surveys for special status species such as San Joaquin kit fox, burrowing owl, American badger, raptors and migratory birds prior to ground disturbance, biological monitoring, if warranted, general avoidance and minimization measures as listed below, would reduce potential impacts to less than significant levels.

Swainson's Hawk

Two Swainson's hawks were observed during the survey, and the Project provides suitable foraging habitat and potentially suitable nesting habitat in the existing valley oak and the planted ornamental trees in the residential development nearby.

Direct and indirect impacts to the species could result if an active nest is present in the vicinity during construction activities. Noise, vibration, and increased human activity could alter the normal behaviors of individual hawks and affect foraging success or lead to nest abandonment or failure. Loss of foraging habitat could also impact the species, although this would be minimal because the Project area is relatively small compared to the vast amount of nearby suitable foraging habitat. Implementation of Measures BIO-4 through BIO-7, outlines measures such as preconstruction nest surveys and nest avoidance actions that would reduce impacts to the Swainson's hawk to less than significant levels.

American Badger

There is no evidence that the American badger is present within the BSA but the Annual Grassland within the BSA could provide potential denning and foraging habitat. Because this species is highly mobile, there is a potential that American badger could become established in the areas or be present from time to time throughout the BSA as a transient forager.

Potential impacts to this species could occur if there is an active badger den or transient individual within or near the area of development during the period of construction activities. Potential direct impacts resulting in injury, death, or entrapment in dens, trenches, or pipes could occur if an American badger occupies the construction area or travels through.

Noise, vibration, and the presence of construction workers could alter normal behaviors if badgers are present, which could affect reproductive success and overall fitness. Implementation of mitigation measures BIO-1 through BIO-3, and BIO-7, listed below would reduce any potential impacts to American badger to less than significant levels.

San Joaquin Kit Fox

There is no evidence that San Joaquin kit fox is present within the BSA but the Annual Grassland habitat could provide potential denning and foraging habitat. Because this species is highly mobile, there is a potential that San Joaquin kit fox could become established in these areas or be present from time to time throughout the BSA as transient foragers.

Potential impacts to this species could occur if there is an active San Joaquin kit fox den or transient individual within or near the area of development during construction activities. Potential direct impacts resulting in injury, death, or entrapment in dens, trenches, or pipes could occur if a San Joaquin kit fox occupies the construction area or travels through. Noise, vibration, and the presence of construction workers could alter normal behaviors if kit foxes are present, which could affect reproductive success and overall fitness. Implementation of mitigation measures BIO-1 through BIO-3, and BIO-7 as listed below, would reduce any potential impacts to San Joaquin kit fox to less than significant levels.

Nesting Birds

No bird nests were identified during the reconnaissance survey. However, the BSA supports several habitats suitable for nesting birds, which may nest on trees and shrubs, man-made structures, and directly on the ground. Migratory birds could nest throughout the entire BSA.

Construction activities and vegetation removal could lead to the destruction of nests. Construction-related vibration, noise, and dust production, and human presence could alter the normal behaviors of nesting birds in the vicinity of the Project and lead to nest failure.

To avoid and minimize impacts to migratory birds including special-status bird species, mitigation measures BIO-4 through BIO-7, listed below, should be implemented during construction to reduce impacts to nesting birds to less than significant levels.

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

MITIGATION MEASURE(S)

BIO-1: 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, should be conducted

by a qualified biologist knowledgeable in the identification of these species. If dens/burrows that could support any of these species are discovered during the pre-activity survey, the avoidance buffers outlined below should be established. No work would occur within these buffers unless the biologist approves and monitors the activity.

Burrowing Owl (active burrows)

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

American Badger/San Joaquin kit fox

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

BIO-2 A qualified biologist should remain on-call throughout the construction phase if a burrowing owl, American badger, or SJKF occurs on the site during construction. If one of these species occurs on-site, the biologist should be contacted immediately to determine whether biological monitoring or the implementation of avoidance buffers may be warranted.

BIO-3

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

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

anyway. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted and USFWS and CDFW shall be consulted.

d. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the USFWS and CDFW have been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.
e. No pets, such as dogs or cats, shall be permitted on the Project Sites to prevent harassment, mortality of kit foxes, or destruction of dens.
f. Use of anti-coagulant rodenticides and herbicides in Project Sites shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional Project-related restrictions deemed necessary by the USFWS and CDFW. If rodent control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes.
g. A representative shall be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured, or entrapped kit fox. The representative shall be identified during the employee education program and their name and telephone number shall be provided to the USFWS.
h. The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to a SJKF during Project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact can be reached at (559) 243-4014 and R4CESA@wildlifeca.gov.
i. All sightings of the SJKF shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed shall also be provided to the Service at the address below.
j. Any Project-related information required by the USFWS or questions concerning the above conditions, or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at: Endangered Species Division, 2800 Cottage Way, Suite W 2605, Sacramento, California 95825-1846, phone: (916) 414-6620 or (916) 414-6600.

BIO-4 If Project construction activities must occur during the Swainson's hawk nesting season (February 15 to August 31), pre-construction activity surveys shall be conducted over the Project area and within 0.5-mile for Swainson's hawk nests in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley*, Swainson's Hawk Technical Advisory Committee (CDFG, 2000).

BIO-5 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 would 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.

BIO-6 If Project construction activities will be initiated during the nesting season (February 1 to September 15), a pre-activity nesting bird survey should be conducted within 14 days prior to the start of construction. The surveys shall encompass the Project footprint and accessible areas or land visible from accessible areas within a 250-foot buffer for songbirds and a 500-foot buffer for raptors. If no active nests are found, no further action is required. However, existing nests may become active and new nests may be built at any time prior to and throughout the nesting season, including when construction activities are in progress.

If active nests are found during the survey or at any time during construction of the Project, an avoidance buffer ranging from 50 feet to 500 feet may be required, with the avoidance buffer from any specific nest being determined by a qualified biologist. The avoidance buffer shall remain in place until the biologist has determined that the young are no longer reliant on the adults or the nest, or if breeding attempts have otherwise been unsuccessful. Work may occur within the avoidance buffer under the approval and guidance of the biologist, but full-time monitoring may be required. The biologist shall have the ability to stop construction if nesting adults show any sign of distress.

BIO-7 Within 14 days prior to the start of ground disturbance activities, a pre-activity survey shall be conducted by a qualified biologist knowledgeable in the identification of wildlife species with potential to occur in the vicinity of the

Project. All suitable burrows that could support Tipton kangaroo rat, or other special-status wildlife species shall be avoided during construction in accordance with BIO-5 and BIO-6, unless verification surveys have indicated that the species are not present. Consultation with the USFWS and CDFW may be required if listed or fully protected species are detected during the survey.

BIO-8 Prior to the initiation of construction activities, all construction personnel shall 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 prior to working on the project site.

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 Tulare Planning Department.

A copy of the training transcript, training video or informational binder for specific procedures shall be kept available for all personnel to review and be familiar with, as necessary.

BIO-9 Prior to any impacts to the Valley oak tree on-site, a permit shall be obtained from the City of Tulare. Each tree removed should be replaced with same species at a minimum 2:1 ratio. Note that the City may require a higher ratio of replacement plantings. The replacement plantings should be incorporated into the landscape design of the Project, such as at the proposed park. All replacement plantings should be 15-gallon containers or larger and should be monitored for a minimum of 5 years to ensure successful establishment. If any replacement planting dies

during the 5 years, it should be promptly replaced, and that tree should be monitored for 5 years. A Valley Oak Replacement and Monitoring Plan should be developed and should include at a minimum: maps of the locations of the replacement plantings and irrigation plans, methods for planting and maintenance (including irrigation), success criteria, and monitoring and reporting schedule. The plan and all subsequent reports should be submitted to the City for compliance with this measure.

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.

LEVEL OF SIGNIFICANCE

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

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

The literature and database review identified two sensitive natural communities known or with potential to occur in the vicinity of the Project, Great Valley Oak Riparian Forest and Valley Sacaton Grassland (QK, 2021a). These two sensitive plant communities, their habitat requirements, and characteristic plant species were not observed within the BSA. There are no occurrences of Great Valley Oak Riparian Forest within 10 miles of the Project and the nearest CNDDB occurrence for Valley Sacaton Grassland is approximately 9.7 miles northeast of the Project. There is no critical habitat present within the BSA or in its immediate vicinity. Due to its repeated and consistent agricultural uses, the Project land would not be suitable for any native plants and most native wildlife species. There are no areas of critical habitat mapped within 10 miles of the Project. There are no anticipated impacts to sensitive natural communities as a result of the proposed Project.

MITIGATION MEASURE(S)

No mitigation measures are required

LEVEL OF SIGNIFICANCE

There would be *no impact*.

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

The water feature that was observed during the reconnaissance survey is an agricultural irrigation canal outside of the north boundary of the Project boundary. This canal will not be impacted during the construction of the Project. Therefore, impacts to wetlands or waters as a result of the Project would be considered less than significant.

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

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.4d – Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or

No significant wildlife movement corridors, core areas, or Essential Habitat Connectivity areas occur on or near the Project site. The survey conducted for the Project did not result in evidence of a wildlife nursery being present on the Project site or immediate surrounding area, and there is no aquatic habitat to support fish species. Additionally, the land surrounding the Project site is already predominantly disturbed and developed that would limit wildlife movement in the area and eliminate any nursery site.

The proposed Project would not interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Therefore, the Project's impact would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *less than significant impact*.

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

The Project site will be annexed into the City of Tulare and must comply with provisions contained in the 2035 City of Tulare General Plan. The General Plan includes goals, objectives and policies (Conservation and Open Space Element) Goal COS 2 to address the protection of special-status wildlife and their habitats (City of Tulare, 2013).

There is a single valley oak tree on the periphery of the Project site. This tree has a diameter greater than two inches at breast height, and therefore is considered a heritage tree per the City's Municipal Code Chapter 8.52. Efforts will be made to protect the tree in place. However, if protection in place is not feasible and the tree is to be removed for the construction of the Project, mitigation measure BIO-9 requires the Project to obtain a permit from the City, and to replace the tree with the same species at a compensation ratio of 2:1. A Valley Oak Replacement and Monitoring Plan and 5 years of monitoring is also required.

As noted previously in Impact #3.4.4a, mitigation would require a preconstruction clearance surveys prior to any ground disturbance. In addition, if any listed species are observed during the clearance survey, specific avoidance and minimization measures such as the establishment of environmentally sensitive buffers and consultation with wildlife agencies will be imposed to avoid or reduce impacts to biological resources. With the implementation

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

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

MITIGATION MEASURE(S)

Implementation of BIO-1 through BIO-9.

LEVEL OF SIGNIFICANCE

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

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

The Project is located within an area covered by the PG&E San Joaquin Valley Operation and Maintenance HCP. This HCP applies only to PG&E's activities and does not apply to this Project. No Project impacts related to adopted or approved plans would occur, and no measures are warranted.

Therefore, implementation of the proposed Project would have no conflict related to an adopted habitat conservation plan or natural community conservation plan.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

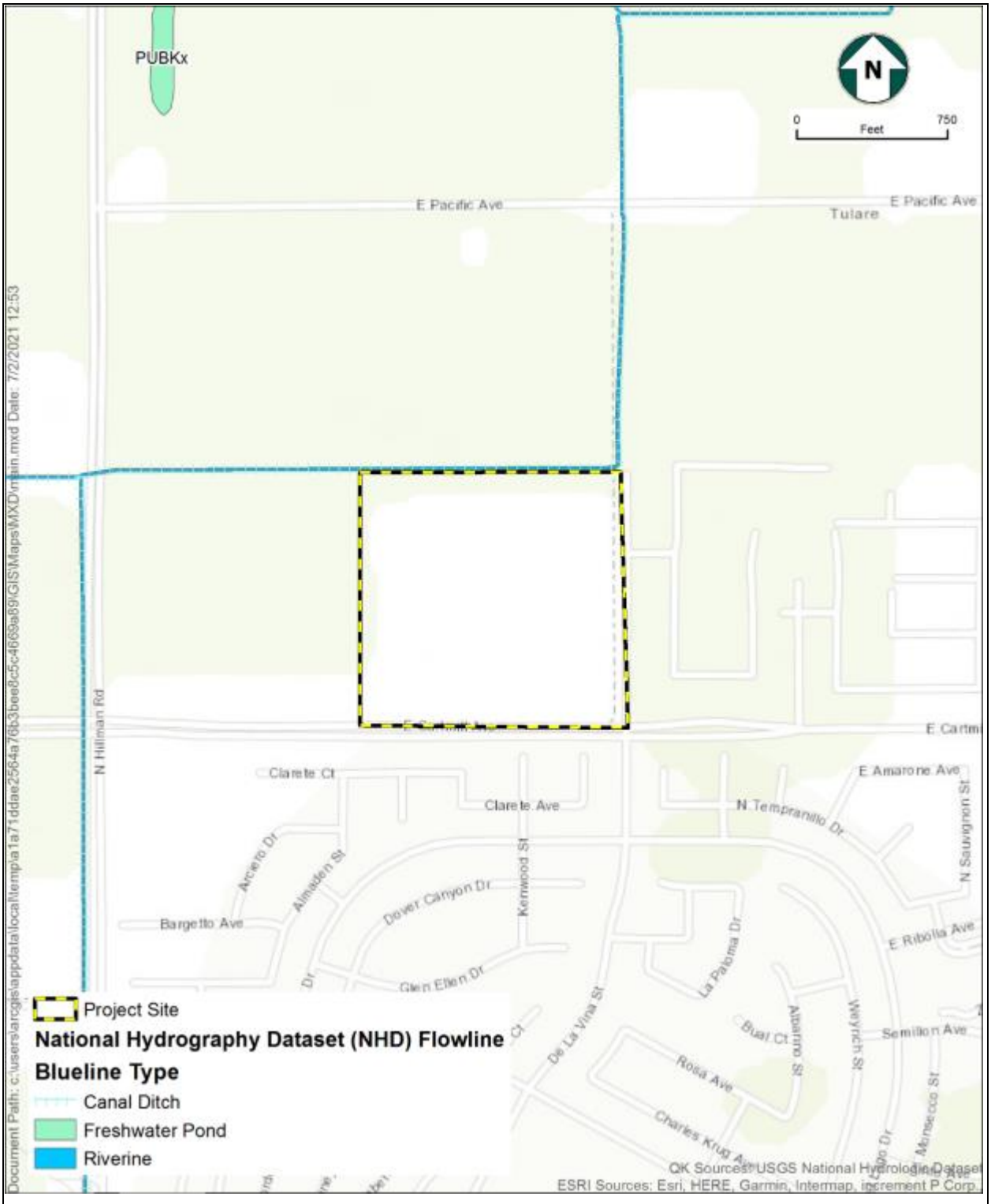

Figure 3.4.4-1
Wetlands and Hydrology

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

Discussion

The discussion for this section is based on a Cultural Resources Technical Memo that was prepared for the Project and is attached as Appendix D (QK, 2021b).

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

The 2035 City of Tulare General Plan EIR states that the city has a number of historical sites, one of which is included on the National Register of Historic Places, two are designated as California Historical Landmarks, and the remaining are identified as being historic sites of local importance (City of Tulare, 2013). The proposed Project is located within a predominantly residential and agricultural area and does not contain any listed historic resources, nor is it located within an identified historic district. The Project would have no impact on registered historic resources.

A cultural resources records search was conducted, which covered an area within 0.5 miles around the Project site included a review of the National Register of Historic Places (NRHP), California Points of Historical Interest, California Registry of Historic Resources (CRHR), California Historical Landmarks, California State Historic Resources Inventory, and a review of cultural resource reports on file. Five surveys were conducted and no cultural resources were found. A Sacred Lands File records search was also requested from the Native American Heritage Commission (NHAC). The results of that request was received on July 28 2021, with negative results (QK, 2021b)

Based on the results of cultural records search findings and the lack of historical or archaeological resources previously identified within a half mile radius of the proposed Project, the potential to encounter subsurface cultural resources is minimal (QK, 2021b).

Although there is no obvious evidence of historical or archaeological resources on the Project site, there is the potential during construction to unearth cultural resources. Grading and trenching, as well as other ground-disturbing actions, have the potential to damage or destroy these previously unidentified and potentially significant cultural resources within the Project area, including historical resources. Although unlikely, the disturbance of any deposits that have the potential to provide significant cultural data would be considered a significant impact under CEQA. However, implementation of Mitigation Measure CUL-1 and CUL-2 would reduce potential impacts to less-than-significant levels in the unlikely event unknown cultural resources be inadvertently discovered during construction.

MITIGATION MEASURE(S)

CUL-1: If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from Project implementation.

The qualified archaeologist 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. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing, and data recovery, among other options. Any previously undiscovered resources found during construction 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.

CUL-2: Prior to ground disturbance, the project contractor must receive a cultural presentation provided by the Santa Rosa Rancheria Tachi Yokut Tribe. The cultural presentation will describe the sensitivity of the area, discuss how to identify sensitive materials and the processes that should be followed if sensitive tribal materials are discovered, and review the history and geography of the region and the laws and regulations pertaining to tribal cultural resources.

LEVEL OF SIGNIFICANCE

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

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

SEE IMPACT #3.4.5B, ABOVE. MITIGATION MEASURE(S)

Implement Mitigation Measure CUL-1.

LEVEL OF SIGNIFICANCE

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

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

There are no known cemeteries or burials on or near the Project. Although unlikely, subsurface construction activities, such as trenching and grading, associated with the proposed Project could potentially disturb previously undiscovered human burial sites. Accordingly, this is a potentially significant impact. Although considered unlikely subsurface construction activities could cause a potentially significant impact to previously undiscovered human burial sites. The cultural resources and Sacred Lands File records searches did not indicate the presence of human remains, burials, or cemeteries within or in the vicinity of the Project site. No human remains have been discovered at the Project site, and no burials or cemeteries are known to occur within the area of the site. However, construction would involve earth-disturbing activities, and it is still possible that human remains may be discovered, possibly in association with archaeological sites. Implementation of the below mitigation measure would ensure that the proposed Project would not directly or indirectly destroy previously unknown human remains. It is unlikely that the proposed Project would disturb any known human remains, including those interred outside of formal cemeteries. However, with implementation of CUL-3, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

CUL-3: If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the NAHC, 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.

LEVEL OF SIGNIFICANCE

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

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

Discussion

This discussion is based on the Energy Memorandum completed for this Project (QK, 2021c) (Appendix E).

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

Construction

Energy demand during the construction phase would result from the transportation of materials, construction equipment, and employee vehicle trips. Construction would occur over a 9-month schedule in two phases starting in 2022. It is anticipated that construction will include up to 15 staff onsite. The average trip length for construction personnel traveling to and from the site was determined to be approximately 11 miles.

Construction of the proposed project would result in fuel consumption from the use of construction tools and equipment, haul truck trips, and vehicle trips generated from construction workers traveling to and from the site.

The equipment details for the equipment expected be used during construction are shown in Appendix E, Table 3.4.6-1 show the expected energy consumption from equipment and vehicle trips.

Table 3.4.6-1
Energy Use- Construction

	Energy Unit		Unit Conversion
Source	**Gallons**	**kWh**[1]	**BTU**
Diesel	801[2]	32,252	110,042,181
Gasoline	50.7[3]	51	6,134,586
Total		**32,303**	

Source: (US Energy Information Administration, 2021)

The construction phase of the Project would result in the consumption of approximately 801 gallons of diesel fuel (110 million BTUs) and approximately 51 gallons of gasoline (6 million BTUs), equaling approximately 32,303 kWh (QK, 2021c).

Construction activities and corresponding fuel energy consumption would be temporary and localized, as the use of diesel fuel and heavy-duty equipment would not be a typical condition of the project. In addition, there are no unusual project characteristics that would cause the use of construction equipment that would be less energy efficient compared with other similar construction sites in other parts of the State. All construction activities would adhere to the requirements of the appropriate governing authorities and in accordance with all applicable federal, State, and County regulations. Therefore, construction-related fuel consumption as a result of implementation of the proposed project is not anticipated to result in inefficient, wasteful, or unnecessary energy use compared with other similar types of construction sites in the region.

Operation

The energy demand during operation, as shown in Table 3.4.6-2 below, within the residential sector of County of Tulare, the total gas consumption was 53.3 million therms in 2020 (California Energy Commission, 2020) and the total consumption of SCE electrical services was 1,480 GWh (California Energy Commission, 2020). The operation of the Project is expected to result in the demand for approximately 34,863 therms per year[4] and 1.15622 GWh[5].

[1] BTUs were converted to KWh using 3,412 BTU/hour per kWh
[2] 1 gallon = 137,381 Btu
[3] 1 gallon = 120,286 Btu
[4] Using conversion of 1kBTU = 0.010002388 th
[5] Using conversion of 1 GWh=1,000,000 KWh

Table 3.4.6-2
Tulare County and Proposed Project Energy Demand

	2020 Population	Total 2020 Energy Demand		2020 Energy Demand Per Capita	
		Electricity (GWh)	Natural Gas (therms)	Electricity (GWh)	Natural Gas (therms)
Tulare County	473,117	1,480	53,273,440	0.003	112.6
	Population[6]	Energy Consumption		Energy Consumption per Capita	
		Electricity (GWh)	Natural Gas (therms)	Electricity (GWh)	Natural Gas (therms)
Proposed Project	475	1.15622	34,863	0.002	73.4

2020 County Population source: (United States Census Bureau, 2020)

The proposed projects expected electricity and natural gas consumption per capita would be lower than the Tulare County demands per capita. Based on this comparison, the Project would not affect regional energy supply or demand. Energy efficiency and conservation measures will be implemented in conjunction with Project design and operation, including measures resulting from federal, State, and local mandates, as well as voluntary measures proposed by the project applicant. Compliance with the Title 24 California Building Standards Code and CalGreen are considered demonstrable evidence of efficient use of energy. The Project would therefore not result in potentially significant impacts due to wasteful, inefficient or unnecessary consumption of energy resources. The impact will be *less than significant.*

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *less than significant impact.*

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

[6] Calculated using average household size of 3.30 (United States Census Bureau, 2020). 144 homes x 3.30 = 475.2

The construction and the operation of the Project would comply with State and local plans and regulations. The proposed Project would be in compliance with all applicable Federal, State, and local regulations regulating energy usage. The Project will comply with Title 24 Energy Efficiency Standards and CalGreen Code requirements for solar ready roofs, electric vehicle charging, and water conservation. Energy would also be indirectly conserved through water efficient landscaping requirements consistent with the Tulare County Water Efficient Landscaping Ordinance. Stringent solid waste recycling requirements applicable to both project construction and operation would reduce energy consumed in solid waste disposal. In summary, the Project will implement all mandatory federal, State, local conservation measures, project design features, and voluntary energy conservation measures will further reduce energy demands. Therefore, the Project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Project-related impacts are less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

Discussion

This discussion is based on the Geotechnical Engineering Investigation completed for this Project (Krazan & Associates, Inc., 2021) (Appendix F).

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

Tulare is located in the San Joaquin Valley, which generally has fewer active faults and is less subject to seismic activity than the California coast and the Sierra Nevada. Both the Sierra Nevada and Coast Range are geologically young mountain ranges and possess active and potentially active fault zones. Major active faults and fault zones occur at some distance to the east, west and south of the Tulare area. The Owens Valley Fault Zone bounds the eastern edge of the Sierra Nevada block and contains both active and potentially active faults.

Portions of the Ortigalita, Calaveras, Hayward and Rinconada Faults, which are to the west, are considered potentially active. The San Andreas Fault is possibly the best-known fault and is located approximately 60 to 70 miles to the west.

There are no active fault traces in the Project vicinity. Accordingly, the Project area is not within an Earthquake Fault Zone (Special Studies Zone) and will not require a special site investigation by an engineering geologist (Krazan & Associates, Inc., 2021).

The General Plan contains a number of policies that would minimize impacts relating to the rupture of a known fault. The Project would adhere to all applicable policies of the General Plan and California Building Code. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *less than significant impact*.

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

Fault activity has the potential to result in ground shaking, which can be of varying intensity depending on the intensity of earthquake activity, proximity to that activity and local soils and geology conditions. In the City of Tulare, which is located on alluvial deposits, ground

shaking could potentially be greater than in an area located on hard rock (City of Tulare, 2013). The loose sediment present in alluvial deposits can amplify shaking and lead to damage in certain types of buildings, such as unreinforced masonry.

The General Plan contains a number of policies that would minimize impacts relating to the strong seismic ground shaking. The Project would adhere to all applicable policies of the City of Tulare General Plan and California Building Code.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

Liquefaction could result in local areas during a strong earthquake or seismic ground shaking where unconsolidated sediments and a high-water table coincide. While the City of Tulare has a high water table and sandy soil, both conditions necessary for liquefaction to occur, the nature of its sandy soil is such that it is less susceptible to liquefaction (City of Tulare, 2013)The potential of liquefaction on the Project site is expected to be low since groundwater occurs below 60 feet (Krazan & Associates, Inc., 2021).

Further, Tulare is located in an area that experiences less frequent, lower levels of ground shaking than other parts of California. Also, as described above, the General Plan contains a number of policies that would minimize impacts to people or structures relating to the rupture of a known fault, including those associated with new development allowed under the General Plan. Many of these same policies would also minimize seismic-related ground failure impacts.

Additionally, construction of the proposed Project would be subject to applicable ordinances of the City of Tulare Building Code and the 2019 California Building Standards Code (CCR Title 24), which would reduce anticipated impacts related to the seismic activity by requiring project facilities to be built to withstand seismic ground shaking. As a result, impacts would be less than significant

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

The Project site is essentially flat in nature with no surrounding slopes, and it is not considered to be prone to landslides. Similarly, the surrounding area is predominately flat and developed with other residential subdivisions or under crop cultivation. The site's topography would not change substantially as a result of Project development. The Project would not expose people or structures to potential substantial adverse effects from landslides. Therefore, there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact.*

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

The Project site contains Nord fine sandy loam. More specifically, the surface soils consisted of approximately 6 to 12 inches of very loose silty sand or silty sand/sand. These soils are disturbed, have low strength characteristics, and are highly compressible when saturated (Krazan & Associates, Inc., 2021). The development of the proposed Project is not expected to subject the site to any extreme erosion problems.

To reduce the potential for soil erosion and loss of topsoil during construction, the Project would comply with the National Pollutant Discharge Elimination System (NPDES) General Construction Permit from the State of California Central Valley Regional Water Quality Control Board (RWQCB) during construction. Under the NPDES, the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) is required for construction activities that would disturb an area of one acre or more. A SWPPP must identify potential sources of erosion or sedimentation as well as identify and implement best management practices (BMPs) that ensure reduce erosion. If a SWPPP was not required, the Project would implement the standard BMPs. Typical BMPs intended to control erosion include sandbags, silt fencing, street sweeping, etc. Mitigation Measure GEO-1 requires the approval of a SWPPP to comply with the NPDES General Construction Permit, if appropriate. Compliance with local grading and erosion control ordinances would also help minimize adverse effects associated with erosion and sedimentation. Any stockpiled soils would be watered and/or covered to prevent loss due to wind erosion as part of the SWPPP during construction.

The Project will comply with all the grading requirements as outlined in Title 24 and Appendix J of the California Building Code (UpCodes, 2016). The Project is not expected to result in substantial soil erosion or the loss of topsoil with the incorporation of mitigation measure MM GEO-1.

Once constructed the Project will have both impermeable surfaces as well as permeable surfaces. Impermeable surfaces would include existing roadways, driveways and structures. Permeable surfaces would include open areas of the site, any landscaped areas. Overall, development of the Project would not result in conditions where substantial surface soils would be exposed to wind and water erosion.

MITIGATION MEASURE(S)

MM GEO-1: Prior to issuing of grading or building permits, if required, (a) the Project applicant shall submit to the Lead Agency (1) the approved Storm Water 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; and
- Managing waste, aggressively controlling litter, and implementing sediment controls.
- Evidence of the approved SWPPP shall be submitted to the Lead Agency.

LEVEL OF SIGNIFICANCE

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

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

Expansive soils are subject to shrinking and swelling due to changes in moisture content over the seasons. These changes can cause damage or failure of foundations, utilities, and pavements. During periods of high moisture content, expansive soils under foundations can heave and result in structures lifting. In dry periods, the same soils can collapse and result in settlement of structures. Generally, clay soils are considered to be expansive in nature, while loam and sandy soils drain well, which makes them non-expansive. As discussed above, the Project site contains Nord loam. There are no other soil types adjacent to the Project site. The Project would comply with all applicable safety regulations and building codes.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less than significant impact.*

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

The Project does not include the construction or usage of a septic tank or alternative wastewater disposal system. Therefore, there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

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

The Tulare County General Plan EIR indicates that 12 paleontological resources have been recorded in Tulare County. These resources primarily consist of invertebrate, vertebrate, and plant fossils, and are generally located in the valley portion of the county. Therefore, it is possible that geological formations underlying Tulare have the potential for containing paleontological resources (i.e. fossils).

The Project is not anticipated to require excavation below five feet in depth or excessive grading of on-site soils. However, there remains the possibility for previously unknown, buried paleontological resources or unique geological sites to be uncovered during subsurface construction activities. Therefore, this would be a potentially significant impact. Mitigation is proposed requiring standard inadvertent discovery procedures to be implemented to reduce this impact to a level of less than significant.

MITIGATION MEASURE(S)

GEO-2: During any ground-disturbance activities, if paleontological resources are encountered, 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

LEVEL OF SIGNIFICANCE

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

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

The discussion below is based on the Air Quality Impact Analysis (Appendix B) prepared for the Project (Trinity Consultants, 2021).

Discussion

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

The City has an adopted Climate Action Plan (CAP) that addresses air quality and GHG emissions (City of Tulare, 2011). It noted that the City emitted approximately 820,291 metric tons of carbon dioxide equivalent ($MTCO_2e$) within the city limits and the Planning Area, which is the existing baseline. $MTCO_2e$ is a universal way to equalize the different potencies of the six internationally recognized greenhouse gases (carbon dioxide, methane, nitrous oxides, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride). The commercial and industrial sectors were by far the largest contributor to emissions (a combined 39 percent). Reduction measures cover the following topics: energy efficiency and conservation, renewable energy, transportation, solid waste, land use, and agriculture.

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

The proposed Project's construction and operational GHG emissions were estimated using the CalEEMod program. These emissions are summarized in Table 3.4.8-1. In order for the Project to conform with the goals of AB32, at least a 29% reduction of GHG emissions from Business-as-Usual (BAU). The mitigated emissions were calculated using updated emission factors from CalEEMod. The unmitigated and mitigated GHG emissions are summarized in Table 3.4.8-2. Therefore, impacts would be less than significant.

Table 3.4.8-1. Estimated Annual GHG Emissions (MT/Year)

Source	CO2	CH4	N2O	CO2 e
Construction Emissions				
2022 Construction Emissions	293.36	0.064	0.005	296.35
Mitigated Operational Emissions				
Area Emissions	64.57	0.003	0.001	64.99
Energy Emissions	292.97	0.021	0.006	295.14
Mobile Emissions	1,169.4	0.078	0.064	1,190.6
Waste Emissions	30.33	1.792	0.000	75.13
Water Emissions	9.66	0.309	0.007	19.58
Total Project Operational Emissions	1,567.0	2.203	0.079	1,645.4
Annualized Construction Emissions[1]	9.78	0.002	0.000	9.88
Project Emissions	**1,576.8**	**2.205**	**0.079**	**1,655.3**

*Note: 0.000 could represent <0.000

1. Per South Coast AQMD's Methodology

Table 3.4.8-2. Comparison of Unmitigated and Mitigated GHG Emissions (MT/Year)

	Project Unmitigated	Project Mitigated (2020)
CO2 e Emissions	2,416.2	1,645.4
Percent Reduction		32.0%

The Project will not result in the emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride (SF6), the other gases identified as GHG in AB32. The proposed Project will be subject to any regulations developed under AB32 as determined by CARB. The Project will reduce GHG emissions by 32.0%; thus, it will meet the required 29% reduction to meet the AB32 goals (Table 3.4.8-2), therefore, the Project would have *less than significant* GHG impacts.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

The strategies currently being implemented by CARB may help in reducing the Project's GHG emissions and are summarized in Table 3.4.8-3, below. The City's GHG reduction goals are summarized in Table 3.4.8-4, below.

CEQA Guidelines §15130 notes that sometimes the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis. Global climate change is this type of issue. The causes and effects may not be just regional or statewide, they may also be worldwide.

Table 3.4.8-3 CARB Strategies

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

Table 3.4.8-4
City of Tulare CAP Reduction Goals

GOAL	To Date $MTCO_2e$	2020 $MTCO_2e$	2030 $MTCO_2e$
1: Increase energy efficiency and conservations	-8,180	-139,172	-216,686
2: Promote and support renewable energy generation and use.	-135,613	-218,918	-321,944
3: Shift single-occupancy vehicle trips to alternative modes.	0	-5,149	-11,712
4: Reduce emissions from vehicles.	-111	-31,667	-44,466
5: Increase accessible land use to reduce vehicular trips.	-1,668	-5,793	-11,303
6: Reduce solid waste.	0	-32,507	-57,977
7: Promote low emissions in agriculture.	0	-18,889	-7,408
Total – Local Reductions	-145,571	-452,095	-671,497
Percentage Change from 2006 Emissions	-7%	-16%	87%

Source: (City of Tulare, 2013)

Not all of these measures are currently appropriate or applicable to the proposed Project. The Project is consistent with SJVAPCD Policies and the City's CAP, therefore the GHG emissions reduction associated with this Project would have a less than significant individual and cumulative impact on global climate change.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

Discussion

This discussion is based on the Phase I & Phase II Environmental Site Assessment that was prepared for the Project (Krazan & Associates, Inc., 2021) and is attached as Appendix G.

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

Project Construction

Project construction-related activities may involve the use and transport of hazardous materials. These materials may include fuels, oils, mechanical fluids, and other chemicals used during construction-related activities. As such, these materials could expose human health or the environment to undue risks associated with their use and no significant impacts will occur during construction activities.

Transportation, storage, use, and disposal of hazardous materials during construction activities will be required to comply with applicable federal, State, and local statutes and regulations. Transportation of hazardous materials is regulated by US Department of Transportation and Caltrans. Additionally, the City's routes that have been designated for hazardous materials transport would be used. Any hazardous waste or debris that is generated during construction of the proposed Project would be collected and transported away from the site and disposed of at an approved off-site landfill or other such facility. In addition, sanitary waste generated during construction would be managed through the use of portable toilets, which would be located at reasonably accessible on-site locations.

Residential construction generally uses fewer hazardous chemicals or use chemicals in relatively small quantities and concentrations as compared to commercial or industrial uses. Hazardous materials such as paint, bleach, water treatment chemicals, gasoline, oil, etc., may be used during construction. These materials are stored in appropriate storage locations and containers in the manner specified by the manufacturer and disposed of in accordance with local, federal, and State regulations. No significant hazard to the public or to the environment through the routine transport, use, or disposal of hazardous waste during construction or operation of the new residential development would occur.

PROJECT OPERATION

Once constructed, the use of such materials such as paint, bleach, etc, are considered common for residential developments and would be unlikely for such materials to be stored or used in such quantities that would be considered a significant hazard. The Project itself will not generate or use hazardous materials in a manner outside health department requirements. Operation activities will comply with the California building code, local building codes, and any applicable safety measures.

Based on the analysis above, Project construction and operation are not anticipated to result in significant impacts as a result of the transportation, use, or disposal of hazardous

materials. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

Hazardous materials handling on the Project site over the long-term construction of the Project may result in soil and groundwater contamination from accidental spills. Due to the size of the Project, each construction phase of the Project would be required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is a State requirement under the National Pollution Discharge Elimination System (NPDES) general permit for construction sites over one acre. The SWPPP identifies potential sources of pollution from the Project that may affect the quality of stormwater discharge and requires that best management practices (BMPs) be implemented to prevent contamination at the source. By implementing BMPs during construction activities, accidental spills of hazardous materials would be contained, and soil and groundwater contamination would be minimized or prevented.

While there are no known existing hazardous material conditions on the site and the Project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, portions of the Project site have been utilized for agricultural purposes, which may have utilized pesticides in association with agricultural operations and cultivation. As noted in Section 3.4.3- *Air Quality*, the Project would include compliance with the SJVAPCD's Regulation VIII (Fugitive PM_{10} Prohibitions). Grading of the site will be minimal, and with the appropriate application of water or other dust suppression during construction, impacts from pesticides in the soil during construction will be minimal.

Valley Fever or coccidioidomycosis, is prevalent in the central San Joaquin Valley of California. 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 proposed project has the potential to generate fugitive dust and suspend Valley Fever spores with the dust that could then reach nearby sensitive receptors. It is possible that on-site workers could be exposed to valley fever as fugitive dust is generated during construction. Implementation of dust control measures throughout the construction period would reduce fugitive dust emissions (Trinity Consultants, 2021). Therefore, the exposure to Valley Fever would be minimized. With the implementation of these dust control measures, dust from the construction of the proposed Project would not add significantly to the existing exposure

level of people to this fungus, including construction workers, and impacts would be reduced to less than significant levels.

Naturally occurring asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects. However, according to information provided, the Project site is not located in an area where naturally occurring asbestos is likely to be present. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading of development projects (Trinity Consultants, 2021). Therefore, impacts associated with exposure of construction workers and nearby sensitive receptors to asbestos would be less than significant.

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

Review of the State of California Department of Toxic Substances Control (DTSC) Envirostor database available via the DTSC's Internet Website indicated that no sites including State response sites, voluntary cleanup sites, school cleanup sites, or military or school evaluation sites are listed for the subject site or adjacent properties. Additionally, no Federal Superfund – National Priorities List (NPL) sites were determined to be located within a one-mile radius of the subject site (Department of Toxic Substances Control, 2021).

Review of State of California Department of Conservation, Geological Energy Management Division (CalGEM, formerly DOGGR) Online Mapping System indicated that no plugged and abandoned or producing oil wells are located on or adjacent to the subject site (CalGEM, 2021).

As noted in Impact #3.4.9, a, above, if during the construction phase of the Project there is a use of hazardous materials, the safe handling and storage of hazardous materials consistent with applicable local and State regulations will be required.

The proposed Project is not anticipated to create a significant hazard to the public or the environment, as mentioned previously in subsection a) above, the residential Project would not routinely transport, use, dispose, or discharge hazardous materials into the environment, and impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

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

Liberty Elementary school located approximately 0.2 miles northeast of the Project site. As previously discussed in Impact #3.4.9a-b, all hazardous materials would be properly handled in accordance with applicable standards. Construction activities of the proposed Project will result in the temporary use of hazardous materials and or substances, such as lubricant and diesel fuel during construction. Exhaust from construction and related activities are expected to be minimal, of short duration, and not significant. Once constructed, the residential Project is not expected to result in hazardous emissions. Therefore, there would be less than significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be a *less than significant impact*.

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

As noted in Impact #3.4.9b, there are no known existing hazardous material conditions on the property and the property is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and the Department of Toxic Substances Control. The Project itself will not generate or use hazardous materials in a manner outside health department requirements.

The Department of Toxic Substances Control (DTSC) website, *Envirostor*; indicated that there are no active hazardous or toxic sites in the vicinity (within one mile) of the Project site (Department of Toxic Substances Control, 2021). The State Water Resources Control Board website, GeoTracker, indicated that there are no Permitted Underground Storage Tanks, Leaking Underground Storage Tanks, or any other active remediation and cleanup sites on or in the vicinity (within one mile) of the Project site (California Water Resources Board, 2021). The Project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and would not create a significant hazard to the public or the environment. The Project site is not within the immediate vicinity of a hazardous materials site and would not impact a listed site. Therefore, there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.9e – For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?

The Project site is located approximately 6 miles north of Mefford Field Airport. The Project site is not located within a safety zone or noise contour for Mefford Field Airport (County of Tulare, 2012). The construction and operation of the Project would not result in the generation of noise levels beyond those that exist in the surrounding area. Therefore, the Project would not expose people residing or working in the Project area to excessive noise levels, and there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

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

The Tulare County Emergency Operations Plan (EOP) establishes emergency procedures and policies and identifies responsible parties for emergency response in the County (County of Tulare, 2018) The EOP includes policies that would prevent new development from interfering with emergency response of evacuation plans. The Project will comply with all local regulations related to the construction of new development that is consistent with the EOP. In addition, during construction activities, the Project would be required to comply with the current Tulare County Operational Area Emergency Operations Plan. This plan identifies responsibilities and coordinates emergency response at the local level in the event of a hazardous materials incident.

Additionally, the Goal SAF-3 provides policies that identify processes to ensure appropriate for emergency access on City streets (City of Tulare, 2013). The Project would also comply with the appropriate local and State requirements regarding emergency response plans and access.

The Traffic Study prepared for the proposed Project did not identify any traffic hazards that would impede emergency response or evacuation plans (Ruettgers & Schuler, 2021). The Project site and surrounding area are relatively flat with little to no topography that might obscure visibility to motorists. Additionally, roadway improvements have been proposed to

maintain traffic safety with the anticipated increase in vehicle trips. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

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

The proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. There are no fire hazard zones within Tulare—the majority of the City is categorized as one of the "urbanized/ developed areas outside of hazard zones" with some areas considered to have "non-wildland fuels (e.g. rock, agriculture, water)," none of which are considered types of areas prone to wildfire (City of Tulare, 2013).

The Fire Station 63 is the closest to the Project site, approximately 1.6 miles southwest. Given that the Project is not surrounded by wildland areas and is in proximity to existing fire services, the Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. There would be no impact related to wildfires.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

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

Discussion

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

Construction of the Project would involve excavation, soil stockpiling, mass and fine grading, the installation of supporting drainage facilities, and associated infrastructure. During site grading and construction activities, large areas of bare soil could be exposed to erosive forces for long periods of time. Construction activities involving soil disturbance, excavation, cutting/filling, stockpiling, and grading activities could result in increased erosion and sedimentation to surface waters.

Additionally, accidental spills or disposal of potentially harmful materials used during construction could possibly wash into and pollute surface water runoff. Materials that could potentially contaminate the construction area, or spill or leak, include lead-based paint flakes, diesel fuel, gasoline, lubrication oil, hydraulic fluid, antifreeze, transmission fluid, lubricating grease, and other fluids. A SWPPP for construction-related activities would include, but not be limited to, the following types of BMPs to minimize the potential for pollution related to material spills:

- Vehicles and equipment will be cleaned;
- Vehicle and equipment fueling, and maintenance requirements will be established; and
- A spill containment and clean-up plan will be in place prior to and during construction activities.

In order to reduce potential impacts to water quality during construction activities, Mitigation Measure MM GEO-1 requires the Project proponent to prepare a SWPPP. The Project SWPPP would include BMPs targeted at minimizing and controlling construction and post-construction runoff and erosion to the maximum extent practicable.

The SWPPP is required to be approved by the RWQCB prior to construction. Furthermore, the proposed Project has been designed to control storm water runoff and erosion, both during and after construction. Project specific drainage improvements would reduce the potential for the proposed Project to violate water quality standards during construction to a less than significant impact with mitigation incorporated.

MITIGATION MEASURE(S)

Implement Mitigation Measure MM GEO-1.

LEVEL OF SIGNIFICANCE

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

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

The Project site is located within the Kaweah Subbasin, which is identified as being critically overdrafted and subject to Sustainable Groundwater Management Act (SGMA) requirements and the newly formed Groundwater Sustainability Agencies. SGMA consists of three legislative bills and the legislation provides a framework for a long-term sustainable groundwater management across California. GSAs will then have the responsibility to achieve groundwater sustainability. However, at this time, no additional requirements or implementation measures are applicable since a GSP has not been adopted within the subbasin.

Construction

The City currently uses groundwater pumped from the Tulare Lake Basin to meet all of its water demand. Like any activity in Tulare, groundwater would be used for construction. Water would be used for purposes of dust control during grading and construction as well as for minor activities such as washing of construction equipment and vehicles. Water demands generated by the Project during the construction phase would be temporary and not substantial. It is anticipated that groundwater supplies would be adequate to meet construction water demands generated by the Project without depleting the underlying aquifer or lowering the local groundwater table. Therefore, Project construction would not deplete groundwater supplies and impacts would be less than significant.

Project construction would not substantially prevent or inhibit incidental groundwater recharge onsite during precipitation events. As the Project is constructed, portions of the site would remain pervious and would allow infiltration that presently occurs during precipitation events to continue to occur. Therefore, Project construction would not result in a substantial depletion of area groundwater supplies or interfere substantially with groundwater recharge, and impacts would be less than significant

Operation

The proposed Project consists of 144 dwelling units and the average household size in Tulare is 3.43 (U.S. Census Bureau, 2019), therefore the Project will house approximately 494 people. According to the City's 2020 Urban Water Management Plan (UWMP), the actual water used in 2015 was 219 gallons per capita per day (gpcd) (City of Tulare, 2020)Therefore, the proposed Project would result in an estimated water demand of 108,186 gallons per day (494 people x 219 gallons/day = 108,186 gallons/day) or 121.2 acre-feet per year).

The Project will follow requirements as applicable in the Greater Kaweah Groundwater Sustainability Plan (Greater Kaweah Groundwater Sustainability Agency, 2020). Given that the water needed for the Project's construction and operations are nominal, the Project's

construction and operations would not substantially deplete groundwater supplies or conflict with any future adopted groundwater management plan.

Since the Project already has a consistent General Plan designation, the Project's water usage has been accounted for in the EIR for the most current General Plan update. This Project's groundwater usage has already been accounted for, and the Project would not change the baseline condition of groundwater water supplies in the Basin beyond the baseline condition already analyzed in the most current General Plan EIR. Therefore, the Project's construction and operations would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

The Project site is relatively flat grading would be minimal. The topography of the site would not appreciably change because of grading activities. The site does not contain any blue-line water features, including streams or rivers. The Project would develop areas of impervious surfaces that would reduce the rate of percolation at the site or concentrate. Areas of open space will allow for the percolation of stormwater to recharge the aquifer. Recharge of the aquifer will also be achieved from stormwater directed into the Project's proposed stormwater retention basin, or the water would be directed into the City's existing stormwater sewer system.

The Project would comply with applicable City development standards and codes. Therefore, the Project would have a less than significant impact on drainage patterns or cause substantial erosion or siltation on or off the site.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

No drainages or other water bodies are present on the Project site and therefore, development of the site would not change the course of any such drainages that may potentially result in on or offsite flooding. Water would be used during the temporary construction phase of the Proposed project (e.g., for dust suppression). However, any water used for dust control would be mechanically and precisely applied and would generally infiltrate or evaporate prior to running off.

The Project site is flat and proposed grading would not substantially alter the overall topography of the Project site. Although the amount of surface runoff on the Project site would not substantially increase with construction of the Project, runoff patterns and concentrations could be altered by grading activities associated with the Project. Improper design of the access road or building pads could result in an alteration of drainage patterns that would cause flooding on- or off-site. The potential for construction of the proposed project to alter existing drainage patterns would be minimized through compliance with preparation of a SWPPP (MM GEO-1). With implementation of such measures, the Project would not substantially increase the amount of runoff in a manner that would result in flooding on- or off-site. Impacts would be reduced to less than significant levels.

MITIGATION MEASURE(S)

Implement Mitigation Measure MM GEO-1.

LEVEL OF SIGNIFICANCE

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

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

Please see response #3.4.10(a through c), above. The Project would comply with all applicable State and City codes and regulations. The storm drainage plan will be supported by engineering calculations to ensure that the Project does not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Therefore, the Project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

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

As discussed above in Impact #3.4.10(a through c),, construction activities could potentially degrade water quality through the occurrence of erosion or siltation at the Project site.

Construction of the Project would include soil-disturbing activities that could result in erosion and siltation, as well as the use of harmful and potentially hazardous materials required to operate vehicles and equipment. The transport of disturbed soils or the accidental release of potentially hazardous materials could result in water quality degradation. The Project would be required comply with the NPDES Construction General Permit. A SWPPP would be prepared to specify BMPs to prevent construction pollutants. The proposed Project would not direct excess surface waters, impede or redirect any potential flood flows.

The Project site is within an area of minimal flood hazard (see Figure 3.4-10-1). There are no development restrictions associated since these are areas determined to be outside the 0.2 percent annual chance floodplain. Impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

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

The Project site is not located near the ocean or a steep topographic feature (i.e., mountain, hill, bluff, etc.). Therefore, there is no potential for the site to be inundated by tsunami or mudflow. Additionally, there is no body of water within the vicinity of the Project site. As shown in Figure 3.4-10-1, the Project site is not located within the 100-year floodplain and there do not appear to be any significant levees that, if they were to fail, could potentially affect people or structures.

The Project site is located approximately 23 miles southwest of Terminus Dam, which is managed by the US Army Corps of Engineers and creates Lake Kaweah. The Project site is not located in the dam inundation area and would therefore not expose people or structures to risk as a result of dam or levee failure. There would be no impact.

There is no potential for inundation of the Project site by seiche. Therefore, the Project would not contribute to inundation by seiche, tsunami, or mudflow.

There would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact.*

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

Please see response #3.4.10b above.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

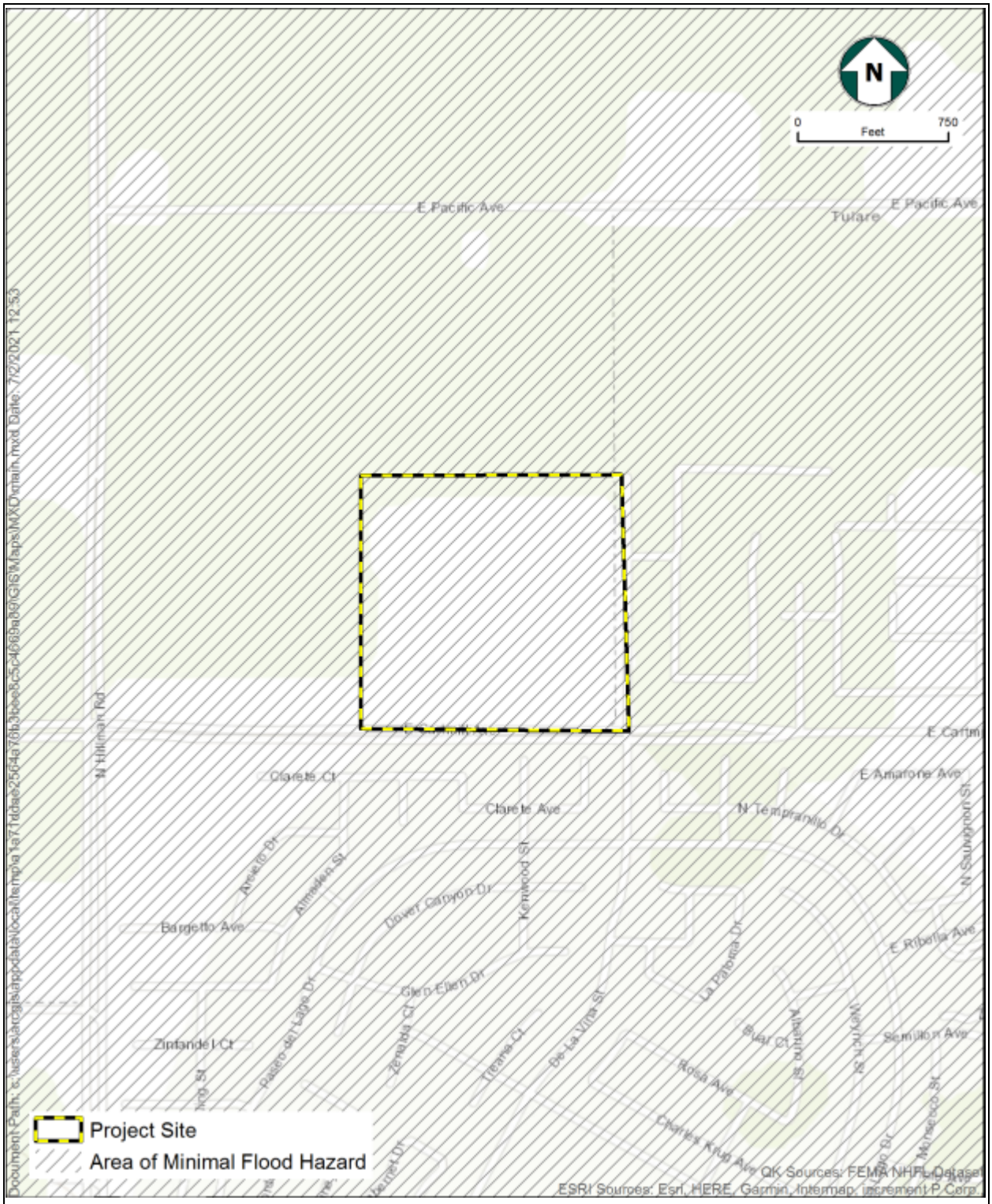

Figure 3.4.10-1
FEMA

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.11 -LAND USE AND PLANNING				
Would the Project:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

Discussion

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

The Project site is on the outskirts of the City and within its sphere of influence. There is existing residential development to the east and south, with undeveloped agricultural land uses to the west and north. The Project will not physically divide an established community. There would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact.*

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

The Project will be annexed into the City and pre-zoned to a zoning designation consistent with the existing General Plan designation of Low Density Residential. The site is surrounded by residential and agricultural land uses. The Low Density Residential land use designation allows for densities between 1 to 4 units per acre. The proposed Project would include 144 units on approximately 38 acres of currently undeveloped land, for a density of approximately 3.7 units per acre. Within the Project vicinity, there are single family residential developments and agricultural lands surrounding the proposed Project.

The proposed residential use is allowed within this land use designation, and the Project does not exceed the maximum density, therefore the Project is not in conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effort. Therefore, the impacts would be *less than significant*.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less–than-Significant Impact	No Impact
3.4.12 -MINERAL RESOURCES					
Would the Project:					
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b.	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Discussion

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

The California Department of Conservation, Geological Survey classifies lands into Aggregate and Mineral Resource Zones (MRZs) based on guidelines adopted by the California State Mining and Geology Board, as mandated by the Surface Mining and Reclamation Act of 1974. These MRZs identify whether known or inferred significant mineral resources are present in areas. Lead agencies are required to incorporate identified MRZs resource areas delineated by the State into their General Plans. Neither the Project site nor the surrounding area is designated as a Mineral Resources Zone in the City of Tulare General Plan or zoning ordinance, nor is it currently being utilized for mineral extraction. The Project site is also not within a CalGem identified oilfield or gas field.

The Project design does not include mineral extraction. The Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state and would therefore have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

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

See Impact #3.4.12a, above. The Project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan and would therefore have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact.*

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

Discussion

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

Land uses deemed sensitive receptors include schools, hospitals, rest homes, and long-term care and mental care facilities, which are considered to be more sensitive to ambient noise levels than others. The nearest sensitive land uses include residential homes bordering the site to the south and the east.

Stationary noise sources can also influence the population, and unlike mobile, transportation-related noise sources, these sources generally have a more permanent and consistent impact on people. These stationary noise sources involve a wide spectrum of uses and activities, including various industrial uses, commercial operations, agricultural production, school playgrounds, high school football games, HVAC units, generators, lawn maintenance equipment and swimming pool pumps.

During the construction phase of the Project, noise generating activities will be present, however, it will be temporary in nature and any machinery used as a part of the construction of the Project will be muffled. Construction is anticipated to take approximately 9 months to complete. Construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours. Chapter 6 of the Tulare Municipal Code restricts construction activities between the hours of 6:00 a.m. and 10:00 p.m.

This generated noise is not anticipated to exceed thresholds consistent with the City's General Plan Noise Element or Municipal Code. Operation of the facility would not generate noise levels significantly higher than the existing levels in the Project area.

There are no specific construction noise thresholds established by the City, other than the noise-generating construction activities are only allowed to occur between the hours of 6:00 a.m. and 10:00 p.m. However, the construction of the proposed Project would be temporary and would occur between 7:00 a.m. to 6:00 p.m., five days a week for approximately 9 months. No demolition or pile-driving will occur during the construction phase of the Project.

Once constructed, the Project would not significantly increase traffic on local roadways. Residential activities could also result in an increase in ambient noise levels in the immediate Project vicinity. Activities that could be expected to generate noise include cars entering and exiting the development, as well as mechanical systems related to heating, ventilation, and air conditioning systems located on residential buildings. However, the development will be surrounded by a six foot high block wall, which will reduce the noise emanating from residences. Additionally, this noise would be similar to those generated by the nearby existing residential development and would not be of a level that exceeds thresholds. Implementation of the Mitigation Measure NSE-1 will reduce the temporary noise impacts from construction-related activities to levels that will be less than significant.

Therefore, these increases in ambient noise are considered less than significant and consistent with applicable standards.

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

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

LEVEL OF SIGNIFICANCE

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

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

The proposed Project is expected to create temporary ground-borne vibration as a result of the construction activities (during site preparation and grading). According to the U.S. Department of Transportation, Federal Railroad Administration, vibration is sound radiated through the ground. The rumbling sound caused by the vibration is called ground-borne noise. The ground motion caused by vibration is measured as particle velocity in inches per second and is referenced as vibration decibels (VdB). The background vibration velocity level in residential areas is usually around 50 VdB. A list of typical vibration-generating equipment is shown in Table 3.4.13-1. However, the Project does not propose to use this specific equipment. The table is meant to illustrate typical levels of vibration for various pieces of equipment.

Table 3.4.13-1
Different Levels of Ground-borne Vibration

Vibration Velocity Level	Equipment Type
94 VdB	Vibratory roller
87 VdB	Large bulldozer
87 VdB	Caisson drilling
86 VdB	Loaded trucks
79 VdB	Jackhammer
58 VdB	Small bulldozer

Source: (Federal Transit Administration , 2006)
Note: 25 feet from the corresponding equipment.

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

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

Table 3.4.13-2
Typical Vibration Levels for Construction Equipment

Equipment	Reference peak particle velocity at 25 feet (inches/second)[1]	Approximate peak particle velocity at 100 feet (inches/second)[2]
Large Bulldozer	0.089	0.011
Loaded Trucks	0.076	0.010
Small Bulldozer	0.003	0.000
Auger/drill Rigs	0.089	0.011
Jackhammer	0.035	0.004
Vibratory Hammer	0.070	0.009
Vibratory Compactor/roller	0.210	0.026

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

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

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

Typically, ground-borne vibration generated by construction activity attenuates rapidly with distance from the source of the vibration. Therefore, vibration issues are generally confined to distances of less than 500 feet (U.S. Department of Transportation, 2005). Potential sources of temporary vibration during construction of the proposed Project would be minimal and would include transportation of equipment to the site.

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

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

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

The Project site is located approximately 6 miles north of Mefford Field Airport. The site is not located within any Compatibility Zone boundary identified for the Airport in the *Airport Land Use Compatibility Plan Tulare County Airports* (ALUCP). The noise levels associated with the airport operations do not contribute significantly to the overall noise environment. Therefore, the Project would not expose people residing or working in the Project area to excessive noise levels, and there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

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

Discussion

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

According to the 2019 US Department of Finance population estimates, the population in Tulare is 65,496 people (United States Census Bureau, 2020). The City is expected to increase population by an additional 42,020 residents in the next 20 years. The City's General Plan goals include encouraging residential developments to meet the future population growth needs. The Project proposed 144 new housing units and the average persons per household is 3.43. Therefore, the Project will house approximately 493 people and would be within the range of projected growth within the City. Regional Housing Needs Allocation (RHNA) from the California Department of Housing and Community Development specifies the number of units, by affordability level, that need to be accommodated.

The Project is directly inducing population growth in an area by proposing new residential development. However, the population of the City is expected to grow by more than 34% over the next 20 years, furthering the need for additional dwelling units, both single-family and multi-family. The RHNA states the City of Tulare will need to provide an additional 3,594 dwelling units by the year 2023. The proposed Project will provide an estimated additional 144 single-family units. The Project will help the City of Tulare work towards attaining sufficient housing supply for its residents. Therefore, impacts will be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

See Impact#3.4.14a above.

Construction of the Project is anticipated to last 9 months and would likely be completed by construction workers residing in the City or the surrounding area; they would not require new housing. The Project site is undeveloped and will not displace existing people or housing, necessitating the construction of replacement housing elsewhere. Therefore, the Project would have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

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

Discussion

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

The Project site is located approximately 1.3 road miles northeast from Fire Station 63.

The proposed Project will comply with Title 24 of the California Building Code and local development standards and will also pay required Development Impact fees.

An approved water supply system capable of supplying required fire flow for fire protection purposes is to be installed by the Project. The establishment of gallons-per-minute requirements for fire flow shall be based on the Guide for Determination of Required Fire Flow, published by the State Insurance Service Office and the City's adopted Fire Code.

Fire hydrants would also be located and installed per the City fire standards. The Project would install the required infrastructure to meet water supply demands for fire protection services. These design standards coupled with existing fire protection infrastructure would provide the proper fire suppression services onsite. Development of the Project will increase the need for fire protection services and expand the service area and response times of the local City Fire Department. By incorporating the fire standards and the required design features in the Project design additional fire protection services will be required to provide coverage for the Project. Because the Project will increase both the need and the demand for fire protection services in the City, the Project will comply with impact fee requirements.

According to the General Plan, the Project plans and permits will be reviewed for input from the Police and Fire Department. The proposed construction of the Project would be located adjacent existing residential areas, which are already served by the City Fire Department. The developer will be required to pay development impact fees in order to offset growth in population in the area that would impact fire protection. Impacts would be *less than significant*.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

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

The City of Tulare Police Department located approximately 2.3 miles southwest of the Project and provides law enforcement and public protection. The proposed Project would be located adjacent to residential subdivisions that are served by the City police station.

The Project may result in significant environmental impacts related to acceptable service ratios, response times, or to other performance objectives specific to police protection services and expanded police coverage may be required. The Project proposes additional residential development in a previously undeveloped location, which will increase the need for police services. The Project will pay appropriate development fees based on the adopted fee calculations. and is responsible for constructing any infrastructure needed to serve the Project. Impacts would be *less than significant*.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

The local school districts range in size from the single-school Buena Vista School District to the Tulare City School District, which has 15 schools. Local districts typically serve both a portion of the City of Tulare and areas of Tulare County. Five local school districts provide elementary and one local school district provides secondary education to the City of Tulare (City of Tulare, 2013). The increased population generated by the proposed Project would increase the number of students attending local schools and could result in significant impacts to these facilities by requiring new facilities. The proposed Project would require the payment of Developer fees of $4.08 per square foot of new residential construction to offset the District's student classroom capacity. The developer will pay appropriate impact fees at time of building permits. According to Government Code Section 65996, the development fees authorized by SB 50 are deemed "full and complete school facilities mitigation."

Impacts would be *less than significant.*

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

The Project is within the boundaries of the City of Tulare Parks and Recreation District. The proposed Project includes uses that would increase the use of park and recreation facilities

in the area. The City presently owns and maintains 19 parks, ranging from a rose garden to community centers.

The closest parks in proximity to the site are: Blain Park, Prosperity Sports Park and Del Lago Park, located approximately 1 mile, 2 miles, and 0.6 miles respectively, from the Project site. The proposed Project includes the development of an approximately 1-acre park. In-lieu dedication of the park facility will mitigate any impacts to additional facilities in the City. See further description of impacts in Section #3.16 - *Recreation*.

Park and recreation fees (Quimby) are collected for new residential developments. The Project review and approval process will ensure that all park related fees are paid by the applicant. These requirements will ensure that the proposed Project does not significantly affect park and recreation facilities. Impacts would be *less than significant*.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

The City provides a wide range of public services to the public besides those services previously mentioned, above. The City also provides animal control services, refuse pick-up, library facilities, and drainage management. These services are generally funded through the general fund, usage fees, fines and penalties or impact fee collection.

In the City of Tulare, all jurisdictions collect planning and building fees as well as impact fees for new development, as necessary. Since the demand for other public facilities is driven by population, the proposed Project would be required to pay fees to offset the increase the demand for that service.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

Discussion

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

See Impact #3.4.15a(ii) above.

The City's inventory of parks and recreation facilities ranges from a rose garden to softball and baseball fields to community centers. Park facilities are classified into three categories: neighborhood parks, community parks, and city parks. Recreational facilities span from picnic shelters to sports fields. Tulare has 19 parks and maintains a total 363 acres of land within its Parks Division, including 295.65 acres of park land, 35 acres of Landscape and Lighting Districts, and approximately 32 acres of green belts, medians, tree-lined streets, and building landscapes. Additionally, there are a number of elementary schools within Tulare which provide public open space during non-school hours.

The Project includes 1 acres of park/recreation area. The Project would not require the construction of additional recreational facilities due to the existing ratio of at least 4 acres per 1,000 residents. Given the close proximity to a 139-acre County-operated park Mooney Grove Park, Blain Park, Prosperity Sports Park and Del Lago Park, the Project is not expected to require the construction or expansion of additional recreational facilities. The included park will be designed in accordance with applicable standards and with the ability to be expanded if deemed necessary by the City to meet the parkland provision standard.

Although the proposed Project does include uses that would increase the use of park and recreation facilities in the area, the proposed Project will not result in the physical deterioration of existing parks or recreational facilities. With the payment of the impact fees, there would be a less than significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

See Impact #3.4.15a and Impact #3.416a, above. Impacts will be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

This discussion is based on the Traffic Study that was prepared for the Project (Ruettgers & Schuler, 2021) and is attached as Appendix H.

Discussion

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

The Tulare InterModal Express (TIME) Transit is Tulare's main public transit system. The nearest stop is approximately one mile south of the Project site. The construction and the operation will not interfere with the transit route or cause closures. Therefore, the Project will not conflict with the transit route.

Currently, there is a bike lane on East Cartmill Avenue adjacent to the Project site. The arterial that provides access to the Project site, North Oaks Avenue, does not have a bike lane. There are no bike paths in or near the Project site. Improvements to the bike lane on Cartmill Avenue to a Class 1 are proposed, but there is no established timeline for this project (Tulare County Association of Governments, 2010).

The Circulation Element of the City's General Plan designates a peak-hour Level of Service (LOS) of "D" as the threshold for acceptable traffic operations for the City's road network (City of Tulare, 2013).

A Traffic Study prepared for the Project confirmed that LOS at the seven intersections analyzed currently operate at acceptable levels (Ruettgers & Schuler, 2021). Weekday peak hour turning movements were counted at the following intersections:

- North Mooney Boulevard & E Cartmill Avenue
- De La Vina Street & East Cartmill Avenue
- North Hillman Street & East Cartmill Avenue
- Retherford Street & East Cartmill Avenue
- Road 100 & East Cartmill Avenue
- SR 99 Northbound Ramp & East Cartmill Avenue
- SR 99 Southbound Ramp & East Cartmill Avenue

Traffic counts were conducted between the hours 6:00 to 8:00 AM and 4:00 to 6:00 PM. Traffic counts were compared to pre-COVID 19 count data and found to accurately reflect normal traffic volumes. Table 3.4.17-1 shows the morning and evening LOS at the above intersections.

Table 3.4.17-2
Intersection Level of Service (LOS)

#	Intersection	Control Type	2021	2021+ Project	2041	2041+ Project	2041+ Project w/Mitigation
PM Intersection Level of Service							
1	SR 99 SB Offramp & E Cartmill Ave	Signal	A	B	B	B	-
2	SR 99 NB Offramp & E Cartmill Ave	Signal	A	A	A	A	-
3	Rd 100 & E CartmillAve	Signal	A	A	B	B	-
4	Retherford St & ECartmill Ave	Signal	A	A	B	B	-
5	Hillman St & ECartmill Ave	Signal	B	C	C	C	-
6	De La Vina St & ECartmill Ave	AWSC	B	B	E (40.3)	E (44.0)	D
7	N Mooney Blvd & E Cartmill Ave	Signal	C	C	D	D	-
AM Intersection Level of Service							

1	SR 99 SB Offramp & E Cartmill Ave	Signal	A	A	B	B	-
2	SR 99 NB Offramp & E Cartmill Ave	Signal	A	A	A	A	-
3	Rd 100 & E Cartmill Ave	Signal	A	A	A	A	-
4	Retherford St & E Cartmill Ave	Signal	A	A	A	A	-
5	Hillman St & E Cartmill Ave	Signal	B	B	C	C	-
6	De La Vina St & E Cartmill Ave	AWSC	B	B	E (45.0)	F (53.0)	D
7	N Mooney Blvd & E Cartmill Ave	Signal	B	B	B	B	-

Source: (Ruettgers & Schuler, 2021)

As indicated, the LOS at the intersection of De La Vina Street and East Cartmill Avenue exceeds the City's threshold of LOS D with and without the Project in 2041. The intersection and roadway segment improvements needed by the year 2041 to maintain or improve the operational level of service of the street system in the vicinity of the project are presented in Table 3.4.17-2.

Table 3.4.17- 2
Future Intersection Improvements

#	Intersection	Mitigation Required by 2041	Percent Share
6	De La Vina St & E Cartmill Ave	Signal	15.67%

In order to reduce the proposed Project's contribution to impacts to traffic, it is recommended that the Project contribute traffic impact fees, as determined by the City of Tulare and Caltrans policy. The payment of these fair-share fees would be used to help fund the applicant's fair-share percentage of the improvements discussed below to mitigate the proposed Project's contribution to traffic impacts to less than significant levels.

As indicated, the Project's share of the cost for these improvements would be 15.67 percent. Mitigation Measures TRNS-1 requires the Project to payment of fees. With the payment of the pro rata share for the future signalization of this intersection, impacts to LOS would be less than significant.

It is not anticipated that the construction-related traffic would exceed capacity of the existing roadways; however, there is the potential to disrupt roadway services with the additional vehicles as well as slow-moving trucks delivering heavy equipment, especially during peak

hour times. Mitigation Measure TRNS-2 would require the approval of a Construction Traffic Control Plan that would include timing large equipment deliveries before or after peak hours. With implementation of TRNS-2, construction at the Project site would result in a less than significant increase in traffic in relation to the existing traffic load and capacity of the street system because of the anticipated extended construction schedule, the temporary nature of construction vehicle trips, and the projected low Project trip generation potential during the construction phase for the site. Impacts to traffic during the construction phase of the proposed Project would be considered less than significant.

The proposed Project would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system. The proposed Project is consistent with the City of Tulare General Plan and Regional Transportation Plan (City of Tulare, 2013); therefore, the proposed Project would have a less than significant impact.

MITIGATION MEASURE(S)

TRNS-1: Prior to issuance of any building permit, the applicant shall pay the pro rata share of 15.56% toward the installation of a signal at De La Vina Street and East Cartmill Avenue. All monies shall be paid to the City of Tulare. At the time the applicant elects to pay, the City shall conduct a review of the distributed share amount and make adjustments, if required, based on increases to the construction cost index, other changes in standards or technology for required signalization or improvements, or updated development projects or proposals. If the applicant pays a Transportation Impact Fee that includes the facilities covered by the fair-share payment, the applicant shall be eligible for reimbursement of any monies paid. The City may request, at a cost to be borne by the applicant, a supplemental traffic analysis to determine the correct lump sum payment.

TRNS-2: Prior to the issuance of grading permit, the Project applicant shall:

c) Prepare and submit a Construction Traffic Control Plan to City of Tulare and the California Department of Transportation offices for District 6, as appropriate, for review and 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:

- Timing of deliveries of heavy equipment and building materials;
- Directing construction traffic with a flag person;
- 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;

- Ensuring access for emergency vehicles to the Project site;
- Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;
- Maintaining access to adjacent property; and
- 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 site, and avoiding residential neighborhoods to the maximum extent feasible.

d) Obtain all necessary permits for the 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 issued permits shall be submitted to the City of Tulare.

LEVEL OF SIGNIFICANCE

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

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

An evaluation of project vehicle miles traveled (VMT) was conducted based on VMT analysis guidelines adopted by the City of Tulare. The guidelines provide "screening thresholds" for identifying whether a land use project should be expected to result in a less than significant transportation impact under CEQA. Projects meeting one or more of these criteria would not be required to undergo a detailed VMT analysis. One of the screening criteria is project location screening. Residential projects that are located in a low VMT zone would be expected to generate similar low vehicle miles travelled. The Project site is within a low VMT zone, and is therefore expected to result in a less than significant transportation impact (Ruettgers & Schuler, 2021).

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

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

No obstacles to sight distance hazards are expected to result from the proposed Project construction. No new design or features would be introduced that would result in transportation-related hazards or safety concerns. The traffic study prepared for the proposed Project did not identify any traffic hazards that would result from implementation of the proposed Project. The Project site and surrounding area are relatively flat with little topography. Additionally, roadway improvements have been proposed to maintain traffic safety with the anticipated increase in vehicle trips.

During construction, the proposed Project would require the delivery of heavy construction equipment and building materials using area roadways, some of which may require transport by oversize vehicles. The use of oversize vehicles during construction could create a hazard to the public by limiting motorist views on roadways and by the obstruction of space. Implementation of mitigation measure TRNS-2 requires that all oversize vehicles used on public roadways during construction obtain required permits and approval of a Construction Traffic Control Plan, as well as identify construction delivery times and vehicle travel routes in advance to minimize construction traffic during a.m. and p.m. peak hours. Travel planning would further reduce construction-related traffic and roadway hazards that would otherwise affect motorists on the public highways in the vicinity of the Project site.

The design of the proposed development will be evaluated and is to be consistent with respect to compliance with City of Tulare standards, specification and policies.

Based on this analysis, with implementation of the recommended mitigation measure, the impact will be reduced to a level that is ***less than significant.***

MITIGATION MEASURE(S)

Implementation of TRNS-2.

LEVEL OF SIGNIFICANCE

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

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

The proposed Project includes the construction of internal collector roads and additional lanes on existing access roads. These road improvements will allow for easy access to the facility by first responders and emergency equipment. Additionally, all Project designs and engineering are required to comply with the Uniform Fire Code and City building regulations and standards to ensure adequate emergency access. The site plan will be reviewed by City staff and any necessary design revisions will be made to ensure adequate access to the facility.

As identified in Mitigation Measure TRNS-2, a Construction Traffic Control Plan would be required prior to construction of the proposed Project. The Construction Traffic Control Plan would, among other things, schedule equipment deliveries outside peak traffic hours, and be

devised so that construction would not interfere with emergency response or evacuation plans. The proposed Project would not interfere with emergency response or evacuation plans and emergency access to the Project site as a result of the proposed Project implementation. With implementation of TRNS-2, this impact is considered *less than significant*.

MITIGATION MEASURE(S)

Implementation of TRNS-2.

LEVEL OF SIGNIFICANCE

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

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less–than-Significant Impact	No Impact
3.4.18 -TRIBAL CULTURAL RESOURCES				
Would the Project:				
a. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☒	☐	☐
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Discussion

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

Please see response to Impact #3.4.5a-b above. In compliance with AB-52, the City of Tulare as Lead Agency sent a notice of preparation of an environmental document to the Santa Rosa Rancheria Tachi Yokut Tribe. The City received response from the tribe requesting that the tribe be retained for a cultural presentation for the project. The tribes request has been included as part of MM CUL-1 through MM CUL-3. With implementation of Mitigation Measures MM CUL-1 through MM CUL-3, ground disturbance generated during construction of the Project would not cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM CUL-1 through MM CUL-3.

LEVEL OF SIGNIFICANCE

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

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

Please see response to Impact #3.4.18a(ii) and 3.4.5a-b above. With implementation of Mitigation Measures MM CUL-1 through MM CUL-3, the Project would not cause a substantial adverse change in the significance of a tribal cultural resource that is a resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM CUL-1 through MM CUL-3.

LEVEL OF SIGNIFICANCE

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

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

Discussion

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

The proposed Project will require construction of new infrastructure to connect to the existing utility infrastructure. This will include water, wastewater, and storm water drainage connections. Additionally, the Project will include connections for electric power, natural

gas, and telecommunications facilities. The installation of this infrastructure will not require any major upsizing or other offsite construction activities that would cause a significant impact. The new infrastructure would be connected to existing infrastructure that is adjacent to the Project site.

See Section #3.4.10- *Hydrology and Water Quality* for a discussion of wastewater disposal. The Project will not require the construction of new water or wastewater treatment facilities. Water usage for dust control during construction-related activities will be minimal due to the small footprint and short duration of construction-related activities of the proposed Project

The proposed Project would be subject to the payment of any applicable connection charges and/or fees and extension of services in a manner which is compliant with the Tulare Water Division standards, specifications, and policies. All applicable local, State, and federal requirements and best management practices will be incorporated into construction and operation of the Project.

Impacts would be considered less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impact would be *less than significant*

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

The Project's water demands at Project buildout, are summarized in Table 3.4.19-1.

Table 3.19-1
Water Usage

Project Component	Description	Acre Feet
Low Density Residential	144 units/494 people	121
Park	1 acre	2.1
	Total	148.1

Source: (City of Tulare, 2020)

As noted in Impact #3.4.10b, the water demand for the proposed Project would result in 130,395 gallons per day (494 people x 219 gallons/day = 108,186 gallons/day) or 121.2 acre-feet per year). It is anticipated that the park would use approximately 2.1 acre-feet of

water annually for irrigation, etc. Based on prior City of Tulare park/pond water usage, the proposed seven-acre park/pond will require approximately 2.1-acre feet per acre and (7 x 2.1), 14.7-acre feet per year.

It is important to note that the water usage for the General Plan-designated land uses for the Project site water usage was considered as an effect of General Plan implementation in the adopted General Plan EIR. Such water usage is approximately the same as that required for Project implementation.

Water usage for construction and development is minimal to that required for occupancy of constructed land uses. Water usage for construction dust control, trench and roadway soils compaction, landscaping and related activities and usage is sporadic rather than long-term. Even on a short-term basis such usage does not require the water volumes required for human occupancy of residences and other structures, for waste disposal and for year-round landscaping. It's quantification for analysis is difficult but it clearly does not approximate or approach long-term water demand.

Implementation of the Project will result in an increased demand for municipal water and potentially require an extension of the existing city water system. It is anticipated that the City intends to extend water and sewer lines in Cartmill Avenue to the Project site.

The Project will obtain its water from the City of Tulare's Water Division. The site is within the City of Tulare Water Management Plan Service Area (City of Tulare, 2020). The City's groundwater has historically been capable of reliably meeting the City's water demands. It is projected that with the population growth that is expected when the Project is annexed into the City, the supply for water would meet the demand (City of Tulare, 2020). Based on these estimates, the Project's construction and operations would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impact would be *less than significant.*

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

Wastewater is collected throughout Tulare via a network of sanitary sewer collection pipelines ranging from 6 to 42 inches in diameter. With the aid of 15 sewer lift stations, the effluent is gravity-fed to the City of Tulare Water Pollution Control Facility (TWPCF) located

approximately 4.5 miles southwest of the Project site. There are approximately 18,500 residential connections, each typically with a 6-inch sewer service connecting to the main. The current average daily wastewater volume according to the City's website is estimated to be approximately 12.0 MGD. The TWPCF provides primary and secondary treatment with a capacity of 18.0 MGD. The plant has eight storage/percolation ponds with a total capacity of 2881 acre-feet.

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MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact.*

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

Construction

Non-hazardous construction refuse and solid waste would be either collected and recycled or disposed of at a local landfill serving the City including the Visalia Landfill (Tulare County, 2021). Any hazardous waste generated during construction would be disposed of at an approved location.

The Visalia Landfill has a maximum permit capacity of 18.6 million cubic yards (mcy) and a remaining capacity of 14.8 mcy and is expected to remain operational until at least 2024 (Cal Recyle, 2022)

The solid waste generated by construction activities is not expected to exceed the capacity of the landfill. Additionally, the construction period for the project is expected to be up to 9 months and the landfill that would serve the project would be in operation during the construction period.

Operation

The Project would produce waste that would be collected and disposed of at the local landfill by a license waste hauler. Some refuse will be sent for recycling as a part of the City's recycling efforts. Small amounts of typical household refuse would be generated by workers during maintenance visits.

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

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

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impact would be *less than significant*

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

The proposed Project would generate solid waste during construction and operation, thus requiring the consideration of waste reduction and recycling measures. The 1989 California Integrated Waste Management Act (AB 939) requires City of Tulare to attain specific waste diversion goals. As stated above, the Visalia Landfill has available capacity to accommodate solid waste generated by the proposed Project. Therefore, the proposed Project would not be expected to significantly impact area See also Impact #3.4.9f regarding emergency response landfills

In addition, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development Projects to incorporate storage areas for recycling bins into the proposed Project design. The proposed Project would be required to comply with all federal, state, and local statutes and regulations related to the handling and disposal of solid waste. Therefore, implementation of the proposed Project would result in less than significant impacts.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impact would be *less than significant.*

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

3.4.20 - WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:					
a.	Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b.	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c.	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d.	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Discussion

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

See Impact #3.4.9f and Impact #3.4.9g

As noted previously, there are no fire hazard zones within the City—the majority of the City is categorized as one of the "urbanized/developed areas outside of hazard zones" with some areas considered to have "non-wildland fuels (e.g. rock, agriculture, water)," none of which are considered types of areas prone to wildfire (City of Tulare, 2013). The City has established emergency response and evacuation plans based on the Tulare County EOP. Impacts related to fire hazards and emergency response plans would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impact would be *less than significant.*

Impact #3.4.20b – Would the Project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents) and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point.

The Project site and surrounding area is relatively flat and without steep slopes. The site is located in an area that is predominately urban with some ongoing agricultural activities, which is not considered at a significant risk of wildlife. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impact would be l*ess than significant*.

Impact #3.4.20c – Would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

The Project includes development of infrastructure (water, sewer, electrical power lines, and storm drainage) required to support the proposed residential uses. The Project site is surrounded by existing and future urban development. The Project would require the installation or maintenance of additional electrical distribution lines and natural gas lines to connect the residences to the existing utility grid. However, the Project would be constructed in accordance with all local and State regulations regarding power lines and other related infrastructure, as well as fire suppression requirements. Therefore, the Project would not exacerbate fire risk or result in temporary or ongoing impacts to the environment and impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impact would be *less than significant.*

Impact #3.4.20d – Would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The site is topographically flat land. There are no slopes on or near the property and the Project would not expose the people or structures to significant risks from downslope or downstream flooding or landslides due to a result of runoff, post fire instability or drainage changes. Additionally, the Project site is located within FEMA "Area of Minimal Flood Hazard" indicating that the site is located outside of the 100-year flood hazard zone. Further, because the site is essentially flat and located in an existing urbanized area of the City, downstream landslides would not occur.

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e. cut and fill). The Project site is relatively flat; therefore, the potential for a landslide in the Project site is essentially non-existent. Impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impact would be *less than significant.*

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

Discussion

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

As evaluated in this IS/MND, the proposed Project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce the number or restrict the range of an endangered, rare, or

threatened species; or eliminate important examples of the major periods of California history or prehistory including paleontological resources. Mitigation measures have been included to reduce the significance of potential impacts. Similar mitigation measures would be expected of other Projects in the surrounding area, most of which share similar cultural, paleontological and biological resources. Consequently, the incremental effects of the proposed Project, after mitigation, would not contribute to an adverse cumulative impact on these resources. Therefore, the Project would have a less than significant impact with mitigation incorporated.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures BIO-1 through BIO-9, CUL-1 through CUL-3, and GEO-1.

LEVEL OF SIGNIFICANCE

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

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

As described in the impact analyses in Sections 3.4.1 through 3.4.20 of this IS/MND, any potentially significant impacts of the proposed Project would be reduced to a less than significant level following incorporation of the mitigation measures listed in Appendix A – Mitigation Monitoring and Reporting Program. All planned projects in the vicinity of the proposed Project would be subject to review in separate environmental documents and required to conform to the 2035 City of Tulare General Plan and the Tulare Municipal Code. The Project would also be required to mitigate for Project-specific impacts and provide appropriate engineering to ensure the Project meets all applicable federal, State and local regulations and codes. As currently designed, and with compliance of the recommended mitigation measures, the proposed Project would not contribute to a cumulative impact. Thus, the cumulative impacts of past, present, and reasonably foreseeable future projects would be less than cumulatively considerable.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures BIO-1 through BIO-9, CUL-1 through CUL-3, GEO-1, GEO-2, NSE-1, TRNS-1 and TRNS-2.

LEVEL OF SIGNIFICANCE

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

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

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

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

MITIGATION MEASURE(S)

Implementation of Mitigation Measures BIO-1 through BIO-9, CUL-1 through CUL-3, GEO-1, GEO-2, NSE-1, TRNS-1 and TRNS-2.

LEVEL OF SIGNIFICANCE

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

SECTION 4 - LIST OF PREPARERS

4.1 - Lead Agency – City of Tulare

- Mario Anaya – Principal Planner
- Steven Sopp – Senior Planner

4.2 - QK

- Jaymie L. Brauer - Principal Planner/QA-QC
- Karla Topete – Associate Planner/Author

SECTION 5 - REFERENCES

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Appendix A – Mitigation Monitoring and Monitoring Plan

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measure	Timeframe	Responsible Monitoring Agency	Date	Initial
MM BIO-1: 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 these species. If dens/burrows that could support any of these species are discovered during the pre-activity survey, the avoidance buffers outlined below shall be established. No work would occur within these buffers unless the biologist approves and monitors the activity. Burrowing Owl (active burrows) • Non-breeding season: September 1 – January 31 – 160 feet • Breeding season: February 1 – August 31 – 250 feet American Badger/ San Joaquin kit fox • Potential or Atypical den – 50 feet • Known den – 100 feet • Natal Den –Contact CDFW for consultation	Prior to Construction	Lead Agency		
MM BIO-2 A qualified biologist shall remain on-call throughout the construction phase if a burrowing owl, American badger, or San Joaquin kit fox occurs on the site during construction. If one of these species occurs on-site, the biologist shall be contacted immediately to determine whether biological	During Construction	Lead Agency		

monitoring or the implementation of avoidance buffers may be warranted.		
MM BIO-3: The following avoidance and minimization measures shall be implemented during all phases of the Project to reduce the potential for impact from the Project. They are modified from the *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered SJKF Prior to or During Ground Disturbance* ((USFWS, 2011) Appendix C). a. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the construction or Project Site. b. Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking areas. Vehicle speeds shall not exceed 20 miles per hour (mph) within the Project Site. c. To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor shall cover all excavated, steep-walled holes or trenches more than two feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks shall be installed in the trench. Before such holes or trenches are filled, the contractor shall thoroughly inspect them for entrapped animals. All construction-related pipes, culverts, or similar structures with a diameter of	During Construction	Lead Agency

four-inches or greater that are stored on the Project Site shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in anyway. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted and USFWS and CDFW shall be consulted.

d. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the USFWS and CDFW have been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.

e. No pets, such as dogs or cats, shall be permitted on the Project Sites to prevent harassment, mortality of kit foxes, or destruction of dens.

f. Use of anti-coagulant rodenticides and herbicides in Project Sites shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection

Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional Project-related restrictions deemed necessary by the USFWS and CDFW. If rodent control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes.

g. A representative shall be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured, or entrapped kit fox. The representative shall be identified during the employee education program and their name and telephone number shall be provided to the USFWS.

h. The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to a SJKF during Project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact can be reached at (559) 243-4014 and R4CESA@wildlifeca.gov.

i. All sightings of the SJKF shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed shall

also be provided to the Service at the address below. j. Any Project-related information required by the USFWS or questions concerning the above conditions, or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at: Endangered Species Division, 2800 Cottage Way, Suite W 2605, Sacramento, California 95825-1846, phone: (916) 414-6620 or (916) 414-6600.		
MM BIO-4 If Project construction activities must occur during the Swainson's hawk nesting season (February 15 to August 31), pre-construction activity surveys shall be conducted over the Project area and within 0.5-mile for Swainson's hawk nests in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley*, Swainson's Hawk Technical Advisory Committee (CDFG, 2000).	During Construction	Lead Agency
MM BIO-5: If an active Swainson's hawk nest is discovered at any time within 0.5-mile of active construction, a qualified biologist should complete an assessment of the potential for current construction activities to impact the nest. The assessment would 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 should not occur within 500 feet	During Construction	Lead Agency

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.		
MM BIO-6 If Project construction activities will be initiated during the nesting season (February 1 to September 15), a pre-activity nesting bird survey shall be conducted within 14 days prior to the start of construction. The surveys shall encompass the Project footprint and accessible areas or land visible from accessible areas within a 250-foot buffer for songbirds and a 500-foot buffer for raptors. If no active nests are found, no further action is required. However, existing nests may become active and new nests may be built at any time prior to and throughout the nesting season, including when construction activities are in progress. If active nests are found during the survey or at any time during construction of the Project, an avoidance buffer ranging from 50 feet to 500 feet may be required, with the avoidance buffer from any specific nest being determined by a qualified biologist. The avoidance buffer shall remain in place until the biologist has determined that the young are no longer reliant on the adults or the nest, or if breeding attempts have otherwise been unsuccessful. Work may occur within the avoidance buffer under the approval and guidance of the biologist, but full-time	During construction	Lead Agency

monitoring may be required. The biologist shall have the ability to stop construction if nesting adults show any sign of distress.		
MM BIO-7 Within 14 days prior to the start of ground disturbance activities, a pre-activity survey shall be conducted by a qualified biologist knowledgeable in the identification of wildlife species with potential to occur in the vicinity of the Project. All suitable burrows that could support Tipton kangaroo rat, or other special-status wildlife species shall be avoided during construction in accordance with BIO-5 and BIO-6, unless verification surveys have indicated that the species are not present. Consultation with the USFWS and CDFW may be required if listed or fully protected species are detected during the survey. A report outlining the results of the preconstruction clearance survey shall be submitted to the City of Tulare.	Prior to Construction	Lead Agency
BIO-8 Prior to the initiation of construction activities, all construction personnel shall 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 prior to working on the project site. The Program shall be developed and presented by the project qualified biologist(s) or designee approved by the qualified biologist(s). The program should 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	Prior to Construction	Lead Agency

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 Tulare Planning Department. d. A copy of the training transcript, training video or informational binder for specific procedures shall be kept available for all personnel to review and be familiar with, as necessary.		
BIO-9 Prior to any impacts to any Valley oak trees on-site, a permit shall be obtained from the City of Tulare. Each tree removed shall be replaced with same species at a minimum 2:1 ratio. Note that the City may require a higher ratio of replacement plantings. The replacement plantings shall be incorporated into the landscape design of the Project, such as at the proposed park. All replacement plantings shall be 15-gallon containers or larger and shall be monitored for a minimum of 5 years to ensure successful establishment. If any replacement planting dies during the 5 years, it shall be promptly replaced, and that tree shall be monitored for 5 years. A Valley Oak Replacement and Monitoring Plan shall be developed and shall include at a minimum: maps of the locations of the replacement plantings and irrigation plans, methods for planting and maintenance (including irrigation), success criteria, and monitoring and reporting schedule. The plan and all subsequent reports shall be submitted to the City for compliance with this measure. The construction crews and contractor(s) shall be responsible for preventing unauthorized impacts from project activities to sensitive biological resources	During Construction	Lead Agency

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.		
MM CUL-1: If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from Project implementation. The qualified archaeologist 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. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing, and data recovery, among other options. Any previously undiscovered resources found during construction 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	Prior to Construction	Lead Agency

immediate vicinity of the discovery until approved by the qualified archaeologist.		
MM CUL-2: Prior to ground disturbance, the project contractor must receive a cultural presentation provided by the Santa Rosa Rancheria Tachi Yokut Tribe. The cultural presentation will describe the sensitivity of the area, discuss how to identify sensitive materials and the processes that should be followed if sensitive tribal materials are discovered, and review the history and geography of the region and the laws and regulations pertaining to tribal cultural resources.	Prior to Construction	Lead Agency
MM CUL-3: If human remains are discovered during construction or operational activities, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.	Prior to and during construction	Lead Agency
MM GEO-1: Prior to issuing of grading or building permits, if required, (a) the Project applicant shall submit to the Lead Agency (1) the approved Storm Water Pollution Prevention Plan (SWPPP) and	Prior to Construction	Lead Agency

(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; and • Managing waste, aggressively controlling litter, and implementing sediment controls. • Evidence of the approved SWPPP shall be submitted to the Lead Agency.		
MM GEO-2: During any ground-disturbance activities, if paleontological resources are encountered, 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	During Construction	Lead Agency

facility regarding any discoveries of paleontological resources. If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from Project implementation. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they shall be avoided to ensure no adverse effects, or such effects must be mitigated. Construction in that area shall not resume until the resource appropriate measures are recommended or the materials are determined to be less than significant. If the resource is significant and fossil recovery is the identified form of treatment, then the fossil shall be deposited in an accredited and permanent scientific institution. Copies of all correspondence and reports shall be submitted to the Lead Agency.		
MM NSE-1: During construction, the contractor shall implement the following measures: a. All stationary construction equipment on the Project site shall be located so that noise emitting objects or equipment faces away from any potential sensitive receptors. b. The construction contractor shall ensure that all construction equipment is equipped with manufacturer-approved mufflers and baffles During construction, stationary construction equipment	During Construction	Lead Agency

shall be placed such that emitted noise is directed away from sensitive noise receivers. c. Construction activities shall take place during daylight hours, when feasible.		
MM TRNS-1: Prior to issuance of any building permit, the applicant shall pay the pro rata share of 15.56% toward the installation of a signal at De La Vina Street and East Cartmill Avenue. All monies shall be paid to the City of Tulare. At the time the applicant elects to pay, the City shall conduct a review of the distributed share amount and make adjustments, if required, based on increases to the construction cost index, other changes in standards or technology for required signalization or improvements, or updated development projects or proposals. If the applicant pays a Transportation Impact Fee that includes the facilities covered by the fair-share payment, the applicant shall be eligible for reimbursement of any monies paid. The City may request, at a cost to be borne by the applicant, a supplemental traffic analysis to determine the correct lump sum payment.	Prior to Construction	Lead Agency
MM TRNS-2: Prior to the issuance of grading permit, the Project applicant shall: a) Prepare and submit a Construction Traffic Control Plan to City of Tulare and the California Department of Transportation offices for District 6, as appropriate, for review and approval. The Construction Traffic	Prior to Construction	Lead Agency

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:

- Timing of deliveries of heavy equipment and building materials;
- Directing construction traffic with a flag person;
- 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;
- Ensuring access for emergency vehicles to the Project site;
- Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;
- Maintaining access to adjacent property; and
- 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 site, and avoiding residential neighborhoods to the maximum extent feasible.

b) Obtain all necessary permits for the 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 issued permits shall be submitted to the City of Tulare.

Appendix B – Air Quality Impact Analysis

AIR QUALITY IMPACT ANALYSIS

Cordeniz Residential Development Project
Tulare, California

Prepared For:

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661-282-2200

December 2021

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1. EXECUTIVE SUMMARY

Trinity Consultants has completed an Air Quality Impact Analysis (AQIA) for the Cordeniz Residential Development Project consisting of 145 single-family residences on approximately 39 acres. The Project is located at the northwest corner of East Cartmill Avenue and De La Vina Street in the City of Tulare, California.

The proposed Project's construction would include the following criteria pollutant emissions: reactive organic gases (ROG), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and suspended particulate matter (PM_{10} and $PM_{2.5}$). Project operations would generate air pollutant emissions from mobile sources (vehicle activity from students, parents, and employees), energy sources (natural gas usage), and area sources (incidental activities related to architectural coating, consumer products, and landscape maintenance). Project construction and operational activities would also generate greenhouse gas (GHG) emissions. Criteria and GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0 (California Air Pollution Control Officers Association (CAPCOA) 2017), which is the most current version of the model approved for use by the San Joaquin Valley Air Pollution Control District (SJVAPCD).

Table 4-3 presents the Project's construction emissions and provides substantial evidence to support a *less than significant* air quality impact on the San Joaquin Valley Air Basin. Table 4-4 presents the Project's operations emissions and provides substantial evidence to support a *less than significant* air quality impact on the San Joaquin Valley Air Basin. With the application of various mitigation measures, the Project's GHG emissions would be reduced by more than the 29% reduction target for GHGs. Based on the foregoing conclusions, the Project is considered to have *less than significant* air quality impacts on the San Joaquin Valley Air Basin.

Cumulative impacts were also evaluated. A list of tentative development projects provided by the City of Tulare Planning Department identified tentative projects within a one-mile radius of the proposed Project. Cumulative emissions were not quantified because the details provided for these projects do not provide enough information to accurately estimate their potential emissions. Owing to the inherently cumulative nature of air quality impacts, the threshold for whether a project would make a cumulatively considerable contribution to a significant cumulative impact is simply whether the project would exceed project-level thresholds. As such, a qualitative evaluation of the cumulative projects supports a finding that the Project's contribution would not be cumulatively considerable because the proposed Project's incremental emissions would be *less than significant*.

2. INTRODUCTION

2.1 Purpose

This AQIA was prepared pursuant to the SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) (SJVAPCD 2015) and the California Environmental Quality Act (CEQA) Statute and Guidelines (CEQA 2021).

2.2 General Project Description

The Cordeniz Residential Development Project consisting of 145 single-family residences on approximately 39 acres. The Project is located at the northwest corner of East Cartmill Avenue and De La Vina Street in the City of Tulare, California. There is no specific development or phasing start date, however a 9-month construction schedule is estimated; therefore, most of the defaults in the CalEEMod emissions model were applied to estimate a construction schedule. **Figure 2-1** depicts the regional location and **Figure 2-2** depicts an aerial view of the Project location.

Figure 2-1. Regional Location

Figure 2-2. Project Location

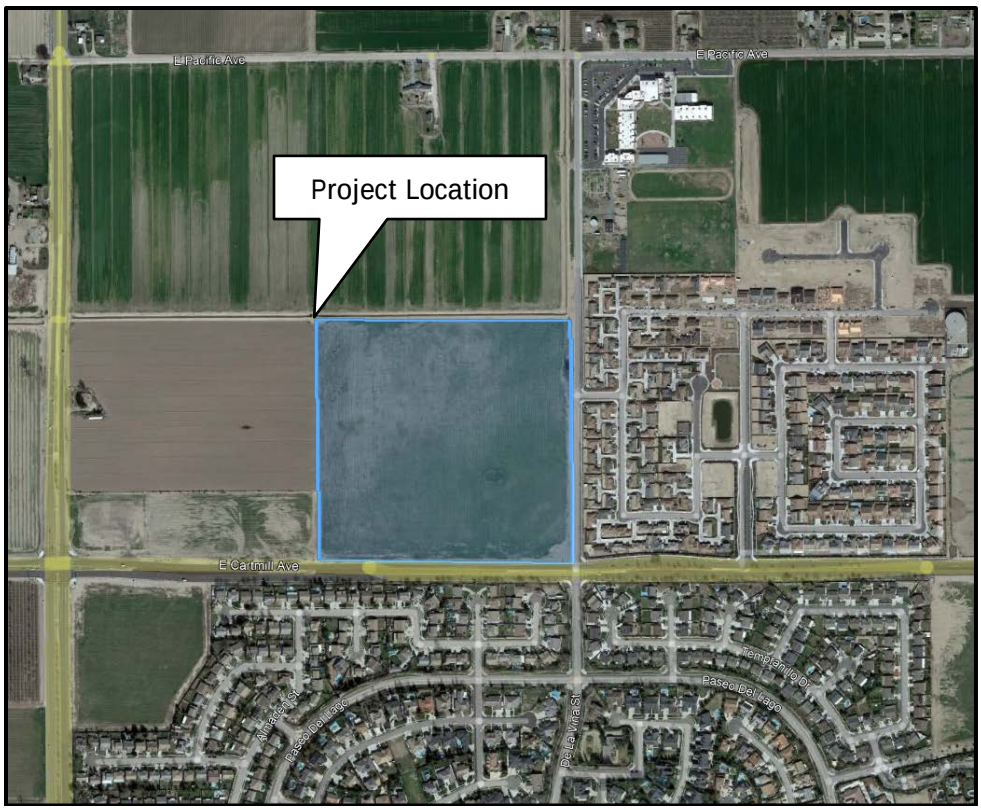
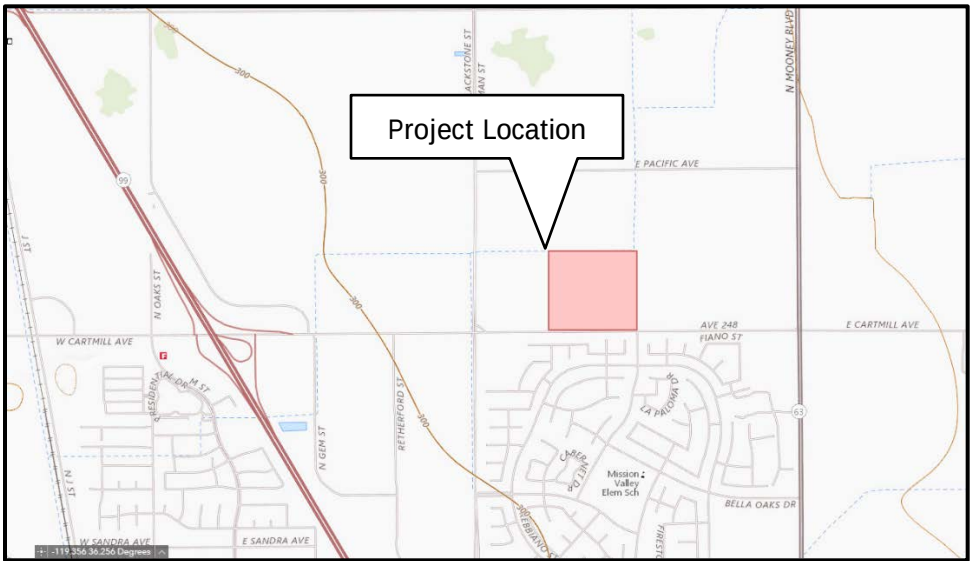


Figure 2-3 depicts the Project site's topography based on United States Geological Survey's (USGS) National Map (USGS 2019). The Project site is located at an elevation of approximately 307 feet above mean sea level and is surrounded by residential, educational, and agricultural land uses.

Figure 2-3. Project Site Topography



3. SETTING

Protection of the public health is maintained through the attainment and maintenance of ambient air quality standards for various atmospheric compounds and the enforcement of emissions limits for individual stationary sources. The Federal Clean Air Act requires that the U.S. Environmental Protection Agency (EPA) establish National Ambient Air Quality Standards (NAAQS) to protect the health, safety, and welfare of the public. NAAQS have been established for ozone (O_3), CO, NO_2, SO_2, PM_{10} and $PM_{2.5}$, and lead (Pb). California has also adopted ambient air quality standards (CAAQS) for these "criteria" air pollutants. CAAQS are more stringent than the corresponding NAAQS and include standards for hydrogen sulfide (H_2S), vinyl chloride (chloroethene), and visibility reducing particles. The U.S. Clean Air Act Amendments of 1977 required each state to identify areas that were in non-attainment of the NAAQS and to develop State Implementation Plans (SIP's) containing strategies to bring these non-attainment areas into compliance. NAAQS and CAAQS designation/classification for Tulare County are presented in **Section 3.1** below.

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

3.1 Air Quality Standards

The Project area is located within the San Joaquin Valley Air Basin (SJVAB or Basin) in Tulare County. Tulare County is included among the eight counties that comprise the SJVAPCD. The SJVAPCD acts as the regulatory agency for air pollution control in the Basin and is the local agency empowered to regulate air pollutant emissions for the Project area. **Table 3-1** provides the NAAQS and CAAQS.

Table 3-1. Federal & California Air Quality Standards

Pollutant	Averaging Time	NAAQS	CAAQS
		Concentration	
O_3	8-hour	0.070 ppm (137 µg/m^3)[a]	0.070 ppm (137 µg/m^3)
	1-hour		0.09 ppm (180 µg/m^3)
CO	8-hour	9 ppm (10 µg/m^3)	9 ppm (10 µg/m^3)
	1-hour	35 ppm (40 µg/m^3)	20 ppm (23 µg/m^3)
NO_2	Annual Average	53 ppb (100 µg/m^3)	0.030 ppm (57 µg/m^3)
	1-Hour	100 ppb (188.68 µg/m^3)	0.18 ppm (339 µg/m^3)
SO_2	3-Hour	0.5 ppm (1,300 µg/m^3)	
	24 Hour	0.14 ppm (365 µg/m^3)	0.04 ppm (105 µg/m^3)
	1-Hour	75 ppb (196 µg/m^3)	0.25 ppm (655 µg/m^3)
Particulate Matter (PM_{10})	Annual Arithmetic Mean		20 µg/m^3
	24-Hour	150 µg/m^3	50 µg/m^3
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3
	24-Hour	35 µg/m^3	
Sulfates	24-Hour		25 µg/m^3
Pb[d]	Rolling Three-Month Average	0.15 µg/m^3	
	30 Day Average		1.5 µg/m^3
H_2S	1-Hour		0.03 ppm (42 µg/m^3)
Vinyl Chloride (chloroethene)	24-Hour		0.010 ppm (26 µg/m^3)
Visibility Reducing particles	8 Hour (1000 to 1800 PST)		[b]

ppm = parts per million
ppb = parts per billion
mg/m^3 = milligrams per cubic meter
µg/m^3 = micrograms per cubic meter

Source: CARB 2016

a. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm

b. In 1989, CARB converted both the general statewide 10-mile visibility standards and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

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

Table 3-2. SJVAB Attainment Status

Pollutant	NAAQS[a]	CAAQS[b]
O_3, 1-hour	No Federal Standard[f]	Nonattainment/Severe
O_3, 8-hour	Nonattainment/Extreme[e]	Nonattainment
PM_{10}	Attainment[c]	Nonattainment
$PM_{2.5}$	Nonattainment[d]	Nonattainment
CO	Attainment/Unclassified	Attainment/Unclassified
NO_2	Attainment/Unclassified	Attainment
SO_2	Attainment/Unclassified	Attainment
Pb (Particulate)	No Designation/Classification	Attainment
H_2S	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particulates	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

Source: SJVAPCD 2021a

Note:

a. See 40 CFR Part 81

b. See CCR Title 17 Sections 60200-60210

c. On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM_{10} National Ambient Air Quality Standard (NAAQS) and approved the PM_{10} Maintenance Plan.

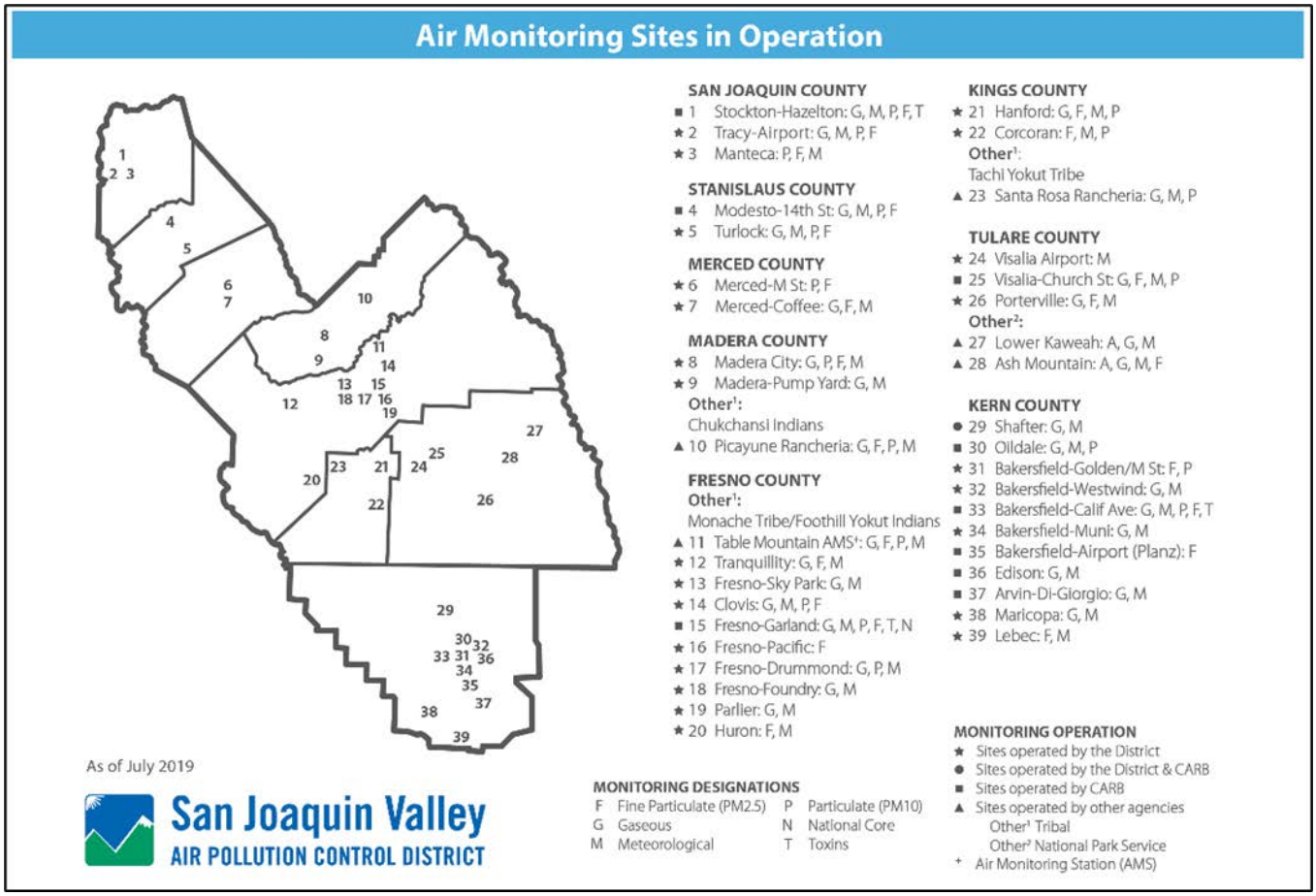
d. The Valley is designated nonattainment for the 1997 $PM_{2.5}$ NAAQS. EPA designated the Valley as nonattainment for the 2006 $PM_{2.5}$ NAAQS on November 13, 2009 (effective December 14, 2009).

e. Though the Valley was initially classified as serious nonattainment for the 1997 8-hour O_3 standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).

f. Effective June 15, 2005, the EPA revoked the federal 1-hour O_3 standard, including associated designations and classifications. EPA had previously classified the SJVAB as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour O3 nonattainment areas continue to apply to the SJVAB.

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

Figure 3-1. SJVAPCD Monitoring Network



Source: SJVAPCD 2021b

3.2 Existing Air Quality

For the purposes of background data and this air quality analysis, this analysis relied on data collected in the last three years for the CARB monitoring stations that are located in the closest proximity to the project site. **Table 3-3** provides the background concentrations for O_3, particulate matter of 10 microns (PM_{10}), particulate matter of less than 2.5 microns ($PM_{2.5}$), CO, NO_2, SO_2, and Pb. Information is provided for the Porterville-1839 Newcomb Street, Visalia-N Church Street and Fresno-Garland monitoring stations for 2018 through 2020. No data is available for H_2S, Vinyl Chloride or other toxic air contaminants in Tulare County.

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

Pollutant and Monitoring Station Location	Maximum Concentration			Days Exceeding Standard		
	2018	2019	2020	2018	2019	2020
O_3 – 1-hour CAAQS (0.09 ppm)						
Porterville-1839 Newcomb Street	0.093	0.081	0.116	0	0	7
Visalia-N Church Street	0.112	0.093	0.127	8	0	7
O_3 – 8-hour CAAQS (0.07 ppm)						
Porterville-1839 Newcomb Street	0.085	0.073	0.099	38	7	66
Visalia-N Church Street	0.095	0.082	0.103	58	26	37
O_3 – 8-hour NAAQS (0.070 ppm)						
Porterville-1839 Newcomb Street	0.085	0.073	0.099	36	6	64
Visalia-N Church Street	0.094	0.082	0.102	53	22	36
PM_{10} – 24-hour CAAQS (50 µg/m^3)						
Visalia-N Church Street	159.6	418.5	305.7	162	115	151
PM_{10} – 24-hour NAAQS (150 µg/m^3)						
Visalia-N Church Street	153.4	411.1	317.4	0	5	19
$PM_{2.5}$ - 24-hour NAAQS (35 µg/m^3)						
Visalia-N Church Street	86.8	47.2	127.1	12	6	20
CO - 8-Hour CAAQS & NAAQS (9.0 ppm)						
No data collected	*	*	*	*	*	*
NO_2 - 1-Hour CAAQS (0.18 ppm)						
Visalia-N Church Street	0.069	0.070	0.053	0	0	0
NO_2 - 1-Hour NAAQS (0.10 ppm)						
Visalia-N Church Street	0.069	0.071	0.053	0	0	0
SO_2 – 24-hour Concentration - CAAQS (0.04 ppm) & NAAQS (0.14 ppm)						
No data collected	*	*	*	*	*	*
Pb - Maximum 30-Day Concentration CAAQS (1500 ng/m^3)						
Fresno – Garland#	12.2	10.3	6.1	0	0	0

Source: CARB 2021a
Notes: ppm= parts per million
* There was insufficient (or no) data available to determine the value.
# The Fresno Monitoring Station was the closest station that monitors Pb

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

3.2.1 Ozone (O_3)

The most severe air quality problem in the San Joaquin Valley is high concentrations of O_3. High levels of O_3 cause eye irritation and can impair respiratory functions. High levels of O_3 can also affect plants and materials. Grapes, lettuce, spinach and many types of garden flowers and shrubs are particularly vulnerable to O_3

damage. O_3 is not emitted directly into the atmosphere but is a secondary pollutant produced through photochemical reactions involving hydrocarbons and nitrogen oxides (NOx). Significant O_3 generation requires about one to three hours in a stable atmosphere with strong sunlight. For this reason, the months of April through October comprise the "ozone season." O_3 is a regional pollutant because O_3 precursors are transported and diffused by wind concurrently with the reaction process. The data contained in **Table 3-3** shows that the Tulare area exceeded the 1-hour average ambient O_3 CAAQS and the 8-hour average ambient O_3 NAAQS and CAAQS for the the 2018 through 2020 period.

3.2.2 Suspended Particulate Matter (PM_{10} and $PM_{2.5}$)

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

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

Table 3-3 shows that PM_{10} levels regularly exceeded the CAAQS and the NAAQS at the monitoring station over the three-year period of 2018 through 2020. **Table 3-3** shows that $PM_{2.5}$ NAAQS were exceeded from 2018 through 2020. Similar levels can be expected to occur in the vicinity of the Project site.

3.2.3 Carbon Monoxide (CO)

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

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

Table 3-3 reports no CO data is available for the three-year period from 2018 through 2020; historically Tulare data for CO has been below the CAAQS and NAAQS.

3.2.4 Nitrogen Dioxide (NO_2) and Hydrocarbons

Tulare County has been designated as an attainment area for the NAAQS for NO_2. NO_2 is the "whiskey brown" colored gas readily visible during periods of heavy air pollution. Mobile sources and oil and gas production account for nearly all of the County's NOx emissions, most of which is emitted as NO_2. Combustion in motor vehicle engines, power plants, refineries and other industrial operations are the primary sources in the region. Railroads and aircraft are other potentially significant sources of combustion air contaminants. Oxides of nitrogen are direct participants in photochemical smog reactions. The emitted compound, nitric oxide, combines with oxygen in the atmosphere in the presence of hydrocarbons and sunlight to form NO_2 and O_3. NO_2, the most significant of these pollutants, can color the atmosphere at concentrations as low as 0.5 ppm on days of 10-mile visibility. NOx is an important air pollutant in the region because it is a primary receptor of ultraviolet light, which initiates the reactions producing photochemical smog. It also reacts in the air to form nitrate particulates.

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

Table 3-3 shows that the Federal and State NO_2 standards have not been exceeded at the Visalia monitoring station over the three-year period of 2018 through 2020. Hydrocarbons are not currently monitored.

3.2.5 Sulfur Dioxide (SO_2)

TUlare County has been designated as an attainment area for the NAAQS for SO_2. SO_2 is the primary combustion product of sulfur, or sulfur containing fuels. Fuel combustion is the major source of this pollutant, while chemical plants, sulfur recovery plants, and metal processing facilities are minor contributors. Gaseous fuels (natural gas, propane, etc.) typically have lower percentages of sulfur containing compounds than liquid fuels such as diesel or crude oil. SO_2 levels are generally higher in the winter months. Decreasing levels of SO_2 in the atmosphere reflect the use of natural gas in power plants and boilers.

At high concentrations, SO_2 irritates the upper respiratory tract. At lower concentrations, when respirated in combination with particulates, SO_2 can result in greater harm by injuring lung tissues. Sulfur oxides (SOx), in combination with moisture and oxygen, results in the formation of sulfuric acid, which can yellow the leaves of plants, dissolve marble, and oxidize iron and steel. SOx can also react to produce sulfates that reduce visibility and sunlight.

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

3.2.6 Lead (Pb) and Suspended Sulfate

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

3.3 Climate

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

Meteorological data for various monitoring stations is maintained by the Western Regional Climate Center. Meteorological data for the Project site is expected to be similar to the data recorded at the Visalia monitoring station. This data is provided in **Table 3-4**, which contains average precipitation data recorded at the Visalia monitoring station. Over the 121-year period from February of 1895 through June of 2016 (the most recent data available), the average annual precipitation was 10.15 inches.

Table 3-4. Visalia Weather Data

Period of Record Monthly Climate Summary for the Period 02/01/1895 to 6/10/2016													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Avg. Maximum Temp (F)	56.0	62.6	68.0	74.6	82.6	91.1	97.5	96.2	90.1	80.2	67.3	56.8	76.9
Avg. Minimum Temp (F)	36.9	40.8	43.7	47.5	53.1	59.0	63.5	61.6	57.3	50.2	41.6	36.8	49.3
Average Total Precipitation (in.)	1.97	1.83	1.72	0.98	0.36	0.09	0.01	0.01	0.13	0.48	0.98	1.57	10.15
Average Snowfall (in.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent of possible observations for period of record: Max. Temp.: 97.4% Min. Temp.: 97.4% Precipitation: 99.3% Snowfall: 97% Snow Depth: 96.8%													
Source: Western Regional Climate Center, 2019.													

3.4 Climate Change and Greenhouse Gases

3.4.1 Global Climate Change

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

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

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

Human activities, including fossil fuel combustion and land use changes, release carbon dioxide (CO_2) and other compounds cumulatively termed greenhouse gases (GHGs). GHGs are effective at trapping radiation that would otherwise escape the atmosphere. This trapped radiation warms the atmosphere, the oceans, and the earth's surface (USGCRP, 2014). Many scientists believe "most of the warming observed over the last 50 years is attributable to human activities" (IPCC, 2017). The increased amount of CO_2 and other GHGs in the atmosphere is the alleged primary result of human-induced warming.

GHGs are present in the atmosphere naturally, released by natural sources, or formed from secondary reactions taking place in the atmosphere. They include CO_2, methane (CH_4), nitrous oxide (N_2O), and O_3. In the last 200 years, substantial quantities of GHGs have been released into the atmosphere, primarily from fossil fuel combustion. These human-induced emissions are increasing GHG concentrations in the atmosphere, therefore enhancing the natural greenhouse effect. The GHGs resulting from human activity are believed to be causing global climate change. While human-made GHGs include CO_2, CH_4, and N_2O, some (like chlorofluorocarbons [CFCs]) are completely new to the atmosphere. GHGs vary considerably in terms of Global Warming Potential (GWP), the comparative ability of each GHG to trap heat in the atmosphere. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e).

Natural sources of CO_2 include the respiration (breathing) of humans and animals and evaporation from the oceans. Together, these natural sources release approximately 150 billion metric tons of CO_2 each year, far outweighing the 7 billion metric tons of GHG emissions from fossil fuel burning, waste incineration, deforestation, cement manufacturing, and other human activity. Nevertheless, natural GHG removal processes such as photosynthesis cannot keep pace with the additional output of CO_2 from human activities. Consequently, GHGs are building up in the atmosphere (Enviropedia, 2017).

Methane is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources of CH_4 production include wetlands, termites, and oceans. Human activity accounts for the majority of the approximately 500 million metric tons of CH_4 emitted annually. These anthropogenic sources include the mining and burning of fossil fuels; digestive processes in ruminant livestock such as cattle; rice cultivation; and the decomposition of waste in landfills. The major removal process for atmospheric CH_4, the chemical breakdown in the atmosphere, cannot keep pace with source emissions; therefore, CH_4 concentrations in the atmosphere are rising.

Worldwide emissions of GHGs in 2008 were 30.1 billion metric tons of CO_2e and have increased considerably since that time (United Nations, 2011). It is important to note that the global emissions inventory data are not all from the same year and may vary depending on the source of the data (U.S. EPA, 2019). Emissions from the top five emitting countries and the European Union accounted for approximately 70% of total global GHG emissions in 2014. The United States was the number two producer of GHG emissions behind China. The primary GHG emitted by human activities was CO_2, representing approximately 76% of total global GHG emissions (U.S. EPA, 2019).

In 2017, the United States emitted approximately 6.5 million metric tons of CO_2e. Of the six major sectors nationwide (electric power industry, transportation, industry, agriculture, commercial, and residential), the electric power industry and transportation sectors combined account for approximately 57% of the GHG emissions; the majority of the electrical power industry and all of the transportation emissions are generated from direct fossil fuel combustion. Between 1990 and 2017, total United States GHG emissions rose approximately 1.3% (U.S. EPA, 2019).

Worldwide, energy-related CO_2 emissions are expected to increase at an average rate of 0.6% annually between 2018 and 2050, compared with the average growth rate of 1.8% per year from 1990 to 2018. Much of the increase in these emissions is expected to occur in the developing world where emerging economies, such as China and India, fuel economic development with fossil fuel energy. Developing countries' emissions are expected to grow above the world average at a rate of approximately 1% annually between 2018 and 2050 and surpass emissions of industrialized countries by 2025 (U.S. EIA, 2019).

CARB is responsible for developing and maintaining the California GHG emissions inventory. This inventory estimates the amount of GHGs emitted into and removed from the atmosphere by human activities within the state of California and supports the Assembly Bill (AB) 32 Climate Change Program. CARB's current GHG emission inventory covers the years 2000 through 2017 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, and agricultural lands).

In 2017, emissions from statewide emitting activities were 424 million metric tons of CO_2 equivalent (MMT CO_2e), which is 5 MMT CO_2e lower than 2016 levels. 2017 emissions have decreased by 14% since peak levels in 2004 and are 7 MMT CO_2e below the 1990 emissions level and the State's 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.1 tonnes per person to 10.7 tonnes per person in 2017, a 24% decrease (CARB 2019).

CARB estimates that transportation was the source of approximately 40% of California's GHG emissions in 2017, followed by electricity generation at 15%. Other sources of GHG emissions were industrial sources at 21%, residential plus commercial activities at 10%, and agriculture at 8% (CARB 2019).

CARB has projected the estimated statewide GHG emissions for the year 2020, which represent the emissions that would be expected to occur with reductions anticipated from Pavley I and the Renewables Electricity Standard (30 MMT CO_2e total), will be 509 MMT of CO_2e (CARB, 2014). GHG emissions from the transportation and electricity sectors as a whole are expected to increase at approximately 36% and 20% of total CO_2e emissions, respectively, as compared to 2009. The industrial sector consists of large stationary sources of GHG emissions and the percentage of the total 2020 emissions is projected to be 18% of total CO_2e emissions. The remaining sources of GHG emissions in 2020 are high global warming potential gases at 6%, residential and commercial activities at 10%, agriculture at 7%, and recycling and waste at 2%.

3.4.2 Effects of Global Climate Change

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

The Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In its Fifth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100 could range from 1.1 degree Celsius (°C) to 6.4 °C (8 to 10.4 °Fahrenheit) (IPCC, 2013). Global average temperatures and sea levels are expected to rise under all scenarios (IPCC, 2014). The IPCC concluded that global climate change was largely the result of human activity, mainly the burning of fossil fuels. However, the scientific literature is not consistent regarding many of the aspects of climate change, the actual temperature changes during the 20th century, and contributions from human versus non-human activities.

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

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

- A diminishing Sierra snowpack declining by 70% to 90%, threatening the state's water supply.
- A rise in sea levels, resulting in the displacement of coastal businesses and residences. During the past century, sea levels along California's coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Sea level rises of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems,

and disrupt wetlands and natural habitats. (Note: This condition would not affect the Proposed Project area, as it is a significant distance away from coastal areas.)

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

3.4.3 Global Climate Change Regulatory Issues

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United Nations Framework Convention on Climate Change established an agreement with the goal of controlling GHG emissions, including methane. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan consists of more than 50 voluntary programs. Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete O_3 in the stratosphere (chlorofluorocarbons [CFCs], halons, carbon tetrachloride, and methyl chloroform) were phased out by 2000 (methyl chloroform was phased out by 2005).

On September 27, 2006, Assembly Bill 32 (AB32), the California Global Warming Solutions Act of 2006 (the Act) was enacted by the State of California. The legislature stated, "Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." The Act caps California's GHG emissions at 1990 levels by 2020. The Act defines GHG emissions as all of the following gases: carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. This agreement represents the first enforceable statewide program in the U.S. to cap all GHG emissions from major industries that includes penalties for non-compliance. While acknowledging that national and international actions will be necessary to fully address the issue of global warming, AB32 lays out a program to inventory and reduce GHG emissions in California and from power generation facilities located outside the state that serve California residents and businesses.

AB32 charges CARB with responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. CARB has adopted a list of discrete early action measures that can be implemented to reduce GHG emissions. CARB has defined the 1990 baseline emissions for California and has adopted that baseline as the 2020 statewide emissions cap. CARB is conducting rulemaking for reducing GHG emissions to achieve the emissions cap by 2020. In designing emission reduction measures, CARB must aim to minimize costs, maximize benefits, improve and modernize California's energy infrastructure, maintain electric system reliability, maximize additional environmental and economic co-benefits for California, and complement the state's efforts to improve air quality.

Subsequent legislation by the California legislature has included Senate Bill (SB) 32, which expanded upon AB32 to reduce GHG emissions to 40% below the 1990 levels by 2030; AB197 which increased the legislative oversight of the CARB by adding two legislatively appointed non-voting members to the CARB Board and provided additional protection to disadvantaged communities; SB350, which increased California's renewable energy electricity procurement goal and SB100, which established a landmark policy requiring renewable energy and zero-carbon resources to supply 100 percent of electrical retail sales to end use customers and 100 percent of electricity procured to serve state agencies by 2045.

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

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

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

The City of Tulare, the Lead CEQA agency for this Project, has not developed specific thresholds for GHGs. As discussed in **Section 4.1**, the SJVAPCD, a CEQA Trustee Agency for this Project, has developed thresholds to determine significance of a proposed project – either implement Best Performance Standards or achieve a 29% reduction from BAU (a specific numerical threshold). A Best Performance Standards threshold has not been established. Therefore, the 29% reduction from BAU is applied to the subject Project in order to

determine significance. Therefore, the GHG analysis for this Project follows the suggestions from the Court's ruling on the Newhall Ranch development project in order to determine significance using the project design features.

4. IMPACT ASSESSMENT

4.1 Significance Criteria

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

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

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

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

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

- Creates a conflict with or obstructs implementation of the applicable air quality plan;
- Causes a violation of any air quality standard or generates substantial contribution towards exceeding an existing or projected air quality standard;
- Results in a cumulatively considerable net increase of any criteria pollutant for which the project region is designated non-attainment under a NAAQS and CAAQS (including emissions which exceed quantitative thresholds for O_3 precursors);
- Exposes sensitive receptors to substantial pollutant concentrations; or
- Creates objectionable odors that affect a substantial number of people.

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

Table 4-1. SJVAPCD CEQA Thresholds of Significance

Criteria Pollutant	Significance Level	
	Construction	Operational
CO	100 tons/yr	100 tons/yr
NOx	10 tons/yr	10 tons/yr
ROG	10 tons/yr	10 tons/yr
SOx	27 tons/yr	27 tons/yr
PM_{10}	15 tons/yr	15 tons/yr
$PM_{2.5}$	15 tons/yr	15 tons/yr
Source: SJVAPCD 2015		

4.1.2 Thresholds for Ambient Air Quality Impacts

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

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

4.1.3 Thresholds for Hazardous Air Pollutants

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

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

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

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

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

4.1.4 Global Climate Change Thresholds of Significance

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

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

4.2 Project Related Emissions

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

Project emissions were estimated for the following project development stages:

- Short-term (Construction and Demolition) – Construction emissions of the proposed Project were estimated in CalEEMod using a 9-month construction schedule and defaults for construction equipment for the development of 145 single family residences on 39 gross acres.
- Long-term (Operations) – Long term emissions were also estimated in CalEEMod using model defaults for operations of 145 single family residences on 39 gross acres.

4.2.1 Short-Term Emissions

The Project applicant did not provide a list of specific construction equipment; the construction emissions were therefore based on the default CalEEMod equipment list accordingly for the proposed Project's land use type and development intensity. Applying model defaults as well as a conservative analysis approach, construction emissions were estimated as if construction started in January of 2022. Based on estimates from the Project applicant, the Project construction is estimated to last 9 months and Project operations are estimated to begin during year 2022. The dates entered into the CalEEMod program may not represent the actual dates the equipment will operate; however, the total construction time is accurate, and therefore, all estimated emission totals are conservative and reflect a reasonable and legally sufficient estimate of potential impacts. All construction equipment activity levels were assumed based on the specified CalEEMod default values for type and number of equipment, hours per day and horsepower.

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

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

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

Table 4-3. Short-Term Project Emissions

Emissions Source	Pollutant (tons/year)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Unmitigated						
2022	**2.64**	**1.74**	**1.76**	**0.00**	**0.26**	**0.15**
Mitigated						
2022	**2.64**	**1.74**	**1.76**	**0.00**	**0.18**	**0.11**
Significance Threshold	10	10	100	27	15	15
Is Threshold Exceeded for a Single Year After Mitigation?	No	No	No	No	No	No
Source: Trinity Consultants 2021						

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

4.2.2 Long-Term Operations Emissions

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

4.2.2.1 Fugitive Dust Emissions

Operation of the Project site at full build-out is not expected to present a substantial source of fugitive dust (PM_{10}) emissions. The main source of PM_{10} emissions would be from vehicular traffic associated with the Project site.

PM_{10}, on its own as well as in combination with other pollutants, creates a health hazard. The SJVAPCD's Regulation VIII establishes required controls to reduce and minimizing fugitive dust emissions. The following SJVAPCD Rules and Regulations apply to the proposed Project (and all projects):

- Rule 4102 - Nuisance
- Regulation VIII – Fugitive PM10 Prohibitions
  - Rule 8011 - General Requirements
  - Rule 8021 - Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities
  - Rule 8041 - Carryout and Trackout
  - Rule 8051 - Open Areas

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

4.2.2.2 Exhaust Emissions

Project-related transportation activities from residents would generate mobile source ROG, NOx, SOx, CO, PM_{10}, and $PM_{2.5}$ exhaust emissions. Exhaust emissions would vary substantially from day to day but would average out over the course of an operational year. The variables factored into estimating total Project emissions include: level of activity, site characteristics, weather conditions, and number of residents and visitors. As the Project is not expected to generate an adverse change in current activity levels, substantial emissions are not anticipated.

4.2.2.3 Projected Emissions

The proposed Project is expected to have long-term air quality impacts as shown in **Table 4-4**. The output from the CalEEMod runs are available in Appendix B. Mitigation measures implemented within CalEEMod include:

- Improve Walkability Design;
- Improve Destination Accessibility;
- Improve Pedestrian Network (Project site and connecting off-site); and
- 3% Electric Landscaping Equipment

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

Emissions Source	Pollutant (tons/year)					
	ROG	NOX	CO	SOX	PM_{10}	$PM_{2.5}$
Unmitigated Emissions	1.87	1.25	7.02	0.02	1.45	0.41
Mitigated Emissions	1.85	1.15	6.49	0.01	1.28	0.37
SJVAPCD Threshold	**10**	**10**	**100**	**27**	**15**	**15**
Is Threshold Exceeded After Mitigation?	No	No	No	No	No	No
Source: Trinity Consultants 2020						

As shown in **Table 4-4**Table 4-4, operation-related emissions, as calculated by CalEEMod (See Appendix B), would be less than the SJVAPCD significant threshold levels. Therefore, the proposed Project would have a *less than significant impact* during Project operations.

4.3 Potential Impact on Sensitive Receptors

Sensitive receptors are defined as locations where young children, chronically ill individuals, the elderly or people who are more sensitive than the general population reside, such as schools, hospitals, nursing homes, and daycare centers. The nearest residential sensitive receptors boarder the proposed Project site to the east and south. The thirty-one known non-residential sensitive receptors within 2 miles of the Project site are listed below in **Table 4-5**.

Table 4-5. Sensitive Receptors Located < 2 Miles from Project

Receptor	Type of Facility	Distance from Project in Miles	Direction from Project
Liberty Elementary School	TK-8 Public	0.15	N
Accelerated Charter High School	9-12 Public	0.85	NE
Mission Valley Elementary	TK-6 Public	0.36	S
Kings Valley Academy II	Public K-12 Charter	0.89	S
Live Oak Middle School	Public 7-8	1.40	S
Tulare Technical Preparatory School	Public 9-12	1.82	S
Cherry Avenue Middle School	Public 6-8	1.72	SW
Garden School	Public K-6	1.59	SW
St. Aloysius School	Private JrK-8	1.90	SW
Los Tules Middle School	Public 6-8	1.93	SW
Nana's Daycare	Daycare	0.44	S
Happie Feet Daycare	Daycare	0.61	S
Dora's Day Care	Daycare	0.85	S
Little Lanbs Day Care	Daycare	0.60	S
Karys Day Care	Daycare	1.44	SW
Julie's Family Daycare	Daycare	1.37	SW
Tiny Treasures Inc.	Preschool	1.54	S
Little Me Preschool and Enrichment	Preschool	1.95	SW
Happy Bear Surgery Center	Hospital	0.48	SW
Altura General Hospital	Hospital	0.71	S
Altura Centers for Health	Hospital	1.35	SW
Palms Occupational Medical	Hospital	1.33	SW
Tulare Family Practice Medical	Hospital	1.33	SW
Tulare Pediatrics	Hospital	1.34	SW
Tulare District Hospital Rehab	Hospital	1.03	S
Family Healthcare Network	Hospital	1.39	SW
Adventist Health Tulare	Hospital	1.43	SW
Valley Industrial Medical Group	Hospital	1.58	SW
Tulare Nursing and Rehab Center	Hospital	1.37	SW
Merritt Manor Convalescent Hospital	Nursing Home	1.39	SW
Twin Oaks Assisted Living	Nursing Home	1.63	SW

4.4 Potential Impacts to Visibility to Nearby Areas

Visibility impact analyses are intended for stationary sources of emissions which are subject to the Prevention of Significant Deterioration (PSD) requirements in 40 CFR Part 60; they are not usually conducted for area sources. Because the Project's PM_{10} emissions increase is predicted to be less than the PSD threshold levels, an impact at any Class 1 area or military/airspace operation within 100 kilometers of the Project (including San Rafael Wilderness, Domeland Wilderness, Edwards Air Force Base, China Lake Naval Weapons Station, and the entire R-2508 Airspace Complex) is extremely unlikely. Therefore, based on the Project's predicted less-than significant PM_{10} emissions, the Project would be expected to have a less than significant impact to visibility at any Class 1 area or military/airspace operation.

4.5 Potential Impacts from Carbon Monoxide

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. CO concentrations are also influenced by wind speed and atmospheric mixing. CO

concentrations may be more uniformly distributed when inversion conditions are prevalent in the valley. Under certain meteorological conditions, CO concentrations along a congested roadway or intersection may reach unhealthful levels for sensitive receptors, e.g. children, the elderly, hospital patients, etc. This localized impact can result in elevated levels of CO, or "hotspots" even though concentrations at the closest air quality monitoring station may be below NAAQS and CAAQS.

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

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

According to the Project proponent, at the time of this analysis no traffic generation assessment impact study was prepared for this Project. However, due to the location and traffic increase anticipated from this Project, impacted intersections and roadway segments are anticipated to operate at a LOS of C or better. Therefore, CO "Hotspot" Modeling was not conducted for this Project and no concentrated excessive CO emissions are expected to be caused once the proposed Project is completed.

4.6 Predicted Health Risk Impacts

GAMAQI recommends that Lead Agencies consider situations wherein a new or modified source of HAPs is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to HAPs. Typical sources of HAPs include diesel trucks or permitted sources such as engines, boilers or storage tanks. The proposed Project includes 145 single family residential units. Because the Project is not considered an operational source of increased HAPs and construction is expected to only last 9 months, no screening level Health Risk Assessment (HRA) was required. Therefore, potential risk to the population attributable to emissions of HAPs from the proposed Project would be *less than significant*.

4.7 Potential impacts from Valley Fever

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

4.8 Potential Impacts from Asbestos

Naturally occurring asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects,

and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading of development projects, and at mining operations.

Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties associated with the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. However, according to information provided by the Department of Conservation Division of Mines and Geology, the project site is not located in an area where naturally occurring asbestos is likely to be present (CDCDMG, 2000). Therefore, impacts associated with exposure of construction workers and nearby sensitive receptors to asbestos would be less than significant.

4.9 Odor Impacts and Mitigation

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

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

The GAMAQI also states, "The District has identified some common types of facilities that have been known to produce odors in the San Joaquin Valley Air Basin. These are presented in Table 6 (Screening Levels for Potential Odor Sources), along with a reasonable distance from the source within which, the degree of odors could possibly be significant. [Table 6] can be used as a screening tool to qualitatively assess a project's potential to adversely affect area receptors." (SJVAPCD, 2015). Because the Project is a residential project and the anticipated activities for the Project site are not listed in Table 6 of the GAMAQI as a source that would create objectionable odors, the Project is not expected to be a source of objectionable odors.

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

4.10 Impacts to Ambient Air Quality

An ambient air quality analysis, when required, determines if the proposed Project has the potential to cause a violation of the ambient air quality standards or a substantial contribution to an existing or projected air quality standard. The SJVAPCD recommends that an ambient air quality analysis be performed for a project if emissions exceed 100 pounds per day of any pollutant. As demonstrated in *Sections 4.2.1 Short Term Emissions and 4.2.2 Long Term Operational Emissions*, the Project's potential increase to any criteria pollutants will not exceed 100 pounds per day for any pollutant and would not be anticipated to cause an exceedance of any ambient air quality thresholds; therefore, an ambient air quality analysis was not required. Therefore, the Project's contribution to potential violations of ambient air quality standards would be l*ess-than-significant*.

4.11 Impacts to Greenhouse Gases and Climate Change

The proposed Project's construction and operational GHG emissions were estimated using the CalEEMod program (version 2020.4.0). These emissions are summarized in **Table 4-9**. In order for the Project to

conform with the goals of AB32, at least a 29% reduction of GHG emissions from Business-as-Usual (BAU) must be achieved by 2020. The mitigated emissions were calculated using updated emission factors from CalEEMod. The unmitigated and mitigated GHG emissions are summarized in **Table 4-10**.

Table 4-6. Estimated Annual GHG Emissions (MT/Year)

Source	CO_2	CH_4	N_2O	CO_2e
Construction Emissions				
2022 Construction Emissions	293.36	0.064	0.005	296.35
Mitigated Operational Emissions				
Area Emissions	64.57	0.003	0.001	64.99
Energy Emissions	292.97	0.021	0.006	295.14
Mobile Emissions	1,169.4	0.078	0.064	1,190.6
Waste Emissions	30.33	1.792	0.000	75.13
Water Emissions	9.66	0.309	0.007	19.58
Total Project Operational Emissions	1,567.0	2.203	0.079	1,645.4
Annualized Construction Emissions[1]	9.78	0.002	0.000	9.88
Project Emissions	**1,576.8**	**2.205**	**0.079**	**1,655.3**
*Note: 0.000 could represent <0.000 1. Per South Coast AQMD's Methodology				

Table 4-7. Comparison of Unmitigated and Mitigated GHG Emissions (MT/Year)

	Project Unmitigated	Project Mitigated (2020)
CO_2e Emissions	2,416.2	1,645.4
Percent Reduction		32.0%

The Project will not result in the emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride (SF_6), the other gases identified as GHG in AB32. The proposed Project will be subject to any regulations developed under AB32 as determined by CARB. The Project will reduce GHG emissions by 32.0%; thus, it will meet the required 29% reduction to meet the AB32 goals (**Table 4-10**); therefore, the Project would have *less than significant* GHG impacts.

4.11.1 Feasible and Reasonable Mitigation Relative to Global Warming

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

While it is not possible to determine whether the Project individually would have a significant impact on global warming or climate change, the Project would potentially contribute to cumulative GHG emissions in California as well as related health effects. The Project emissions would only be a very small fraction of the statewide GHG emissions. However, without the necessary science and analytical tools, it is not possible to assess, with certainty, whether the Project's contribution would be cumulatively considerable, within the meaning of CEQA Guidelines Sections 15065(a)(3) and 15130. CEQA, however, does note that the more severe environmental problems the lower the thresholds for treating a project's contribution to cumulative impacts as significant. Given the position of the legislature in AB32 which states that global warming poses serious detrimental

effects, and the requirements of CEQA for the lead agency to determine that a project not have a cumulatively considerable contribution, the effect of the Project's CO_2 contribution may be considered cumulatively considerable. This determination is "speculative," given the lack of clear scientific evidence or other criteria for determining the significance of the Project's contribution of GHG to the air quality in the SJVAB.

The strategies currently being implemented by CARB may help in reducing the Project's GHG emissions and are summarized in the table below.

Table 4-8. Select CARB GHG Emission Reduction Strategies

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

Not all of these measures are currently appropriate or applicable to the proposed Project. While future legislation could further reduce the Project's GHG footprint, the analysis of this is speculative and in accordance with CEQA Guidelines Section 15145, will not be further evaluated in this AQIA.

CEQA Guidelines Section 15130 notes that sometimes the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis. Global climate change is this type of issue. The causes and effects may not be just regional or statewide, they may also be worldwide. Given the uncertainties in identifying, let alone quantifying the impact of any single project on global warming and climate change, and the efforts made to reduce emissions of GHGs from the Project through design, in accordance with CEQA Section 15130, any further feasible emissions reductions would be accomplished through CARB regulations adopted pursuant to AB32. The Project will achieve the required 29% reduction needed to conform with AB32 goals, as demonstrated in **Table 4-10**. Therefore, the Project's contribution to cumulative global climate change impacts would *not be cumulatively considerable*.

5. CUMULATIVE IMPACTS

By its very nature, air pollution has a cumulative impact. The District's nonattainment status is a result of past and present development within the SJVAB. Furthermore, attainment of ambient air quality standards can be jeopardized by increasing emissions-generating activities in the region. No single project would be sufficient in size, by itself, to result in nonattainment of the regional air quality standards. Instead, a project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development within the San Joaquin Valley Air Basin. When assessing whether there is a new significant cumulative effect, the Lead Agency shall consider whether the incremental effects of the project are cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects [CCR §15064(h)(1)]. Per CEQA Guidelines §15064(h)(3) a Lead Agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program, including, but not limited to an air quality attainment or maintenance plan that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located. (SJVAPCD 2015)

Owing to the inherently cumulative nature of air quality impacts, the threshold for whether a project would make a cumulatively considerable contribution to a significant cumulative impact is simply whether the project would exceed project-level thresholds. Based on the analysis conducted for this Project, it is individually *less than significant*. This AQIA, however, also considered impacts of the proposed Project in conjunction with the impacts of other projects previously proposed in the area. The following cumulative impacts were considered:

- Cumulative O_3 Impacts (ROG and NOx) from numerous sources within the region including transport from outside the region. O_3 is formed through chemical reactions of ROG and NOx in the presence of sunlight.
- Cumulative CO Impacts produced primarily by vehicular emissions.
- Cumulative PM_{10} Impacts from within the region and locally from the various projects. Such projects may cumulatively produce a significant amount of PM10 if several projects conduct grading or earthmoving activities at the same time; and
- Hazardous Air Pollutant (HAP) Impacts on sensitive receptors.

5.1 Cumulative Regional Air Quality Impacts

The most recent, certified SJVAB Emission Inventory data available from the SJVAPCD is based on data gathered for the 2020 annual inventory[1]. This data will be used to assist the SJVAPCD in demonstrating attainment of Federal 1-hour O_3 Standards (SJVAPCD 2007). **Table 5-1** provides a comparative look at the impacts proposed by the proposed Project to the SJVAB Emissions Inventory.

[1] SJVAPCD Emissions for Aggregated Stationary, Area-Wide, Mobile, and Natural Sources

Table 5-1. Comparative Analysis Based on SJV Air Basin 2020 Inventory - Tons per Year

	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Tulare County - 2020	16,425.0	7,592.0	20,148.0	146.0	12,702.0	2,518.5
SJVAB - 2020	108,113	74,204.5	162,425	2,847.0	96,652.0	21,535.0
Proposed Project	1.85	1.15	6.49	0.01	1.28	0.37
Proposed Project's % of Tulare	0.011%	0.015%	0.032%	0.007%	0.010%	0.015%
Proposed Project's % of SJVAB	0.002%	0.002%	0.004%	0.000%	0.001%	0.002%
Note: This is the latest inventory available as of April 2021 Source: CARB 2021b						

As shown in **Table 5-1** the proposed Project does not pose a substantial increase to basin emissions, as such basin emissions would be essentially the same if the Project is approved.

Table 5-1, **5-2**, and **5-3** provide CARB Emissions Inventory projections for the year 2025 for both the SJVAB and the Tulare County portion of the air basin. Looking at the SJVAB Emissions predicted by the CARB year 2025 emissions inventory, the Tulare County portion of the air basin is a moderate source of the emissions. The proposed Project produces a small portion of the total emissions in both Tulare County and the entire SJVAB.

Table 5-2. Emission Inventory SJVAB 2025 Projection - Tons per Year

	ROG	NOx	CO	SOx	PM10	PM2.5
Total Emissions	107,346.5	52,450.5	145,963.5	2,920.0	95,922.0	21,279.5
Percent Stationary Sources	32.78%	18.93%	6.93%	85.00%	5.97%	15.44%
Percent Area-Wide Sources	52.70%	5.15%	13.30%	3.75%	89.38%	71.87%
Percent Mobile Sources	14.52%	75.57%	79.77%	11.25%	4.68%	12.86%
Total Stationary Source Emissions	35,186.0	9,928.0	10,110.5	2,482.0	5,730.5	3,285.0
Total Area-Wide Source Emissions	56,575.0	2,701.0	19,418.0	109.5	85,738.5	15,293.5
Total Mobile Source Emissions	15,585.5	39,639.0	116,435.0	328.5	4,489.5	2,737.5
Source: CARB 2021b Note: Total may not add due to rounding						

Table 5-3. Emission Inventory Tulare County 2025 Projection - Tons per Year

	ROG	NOx	CO	SOx	PM10	PM2.5
Total Emissions	16,206.0	5,329.0	18,104.0	146.0	12,811.5	2,482.0
Percent Stationary Sources	14.41%	12.33%	6.25%	75.00%	4.56%	8.82%
Percent Area-Wide Sources	75.00%	6.16%	19.76%	0.00%	92.02%	80.88%
Percent Mobile Sources	10.59%	80.82%	74.19%	25.00%	3.42%	10.29%
Total Stationary Source Emissions	2,336.0	657.0	1,131.5	109.5	584.0	219.0
Total Area-Wide Source Emissions	12,154.5	328.5	3,577.0	0.0	11,789.5	2,007.5
Total Mobile Source Emissions	1,715.5	4,307.0	13,432.0	36.5	438.0	255.5
Source: CARB 2021b Note: Total may not add due to rounding						

Table 5-4. 2025 Emissions Projections - Proposed Project, Tulare County, and SJVAB

	ROG	NOx	PM_{10}
Proposed Project	1.85	1.15	1.28
Tulare County	16,206	5,329	12,812
SJVAB	107,347	52,451	95,922
Proposed Project Percent of Tulare County	0.011%	0.022%	0.010%
Proposed Project Percent of SJVAB	0.002%	0.002%	0.001%
Tulare County Percent of SJVAB	15.10%	10.16%	13.36%
Source: CARB 2021b			

As shown above, the proposed Project would pose no impact on regional O_3 and PM_{10} formation. Because the regional contribution to these cumulative impacts would be negligible, the Project would not be considered cumulatively considerable in its contribution to regional O_3 and PM_{10} impacts.

5.2 Cumulative Local Air Quality Impacts

The City of Tulare Planning Division provided a list of tentative development maps within a one-mile radius of the proposed Project area, however, the details provided for these projects do not provide enough information to accurately estimate their potential emissions. The cumulative projects are typically listed only as geographical reference to demonstrate the construction activity within a one-mile radius of the proposed Project. The number and sizes of these projects are of no particular significance since the cumulative considerable thresholds established are based on Project specific thresholds which are inherently cumulative in nature.

As details regarding the various cumulative projects were not readily available, emissions estimates were not calculated. As these projects are either currently under construction or, at a minimum, approved by the planning department for consistency with applicable regulation, for the purposes of this analysis, it is assumed that they are in conformance with the regional AQAP.

The cumulative projects are already approved or pending approval it is assumed that these projects are in conformance with the regional AQAP. Additionally, the proposed Project would generate less-than-significant impacts to criteria air pollutants, the Project's incremental contribution to cumulative air quality impacts would not be cumulatively considerable. (CEQA Guidelines Section 15064(h)(3); (SJVAPCD 2015).

5.3 Cumulative Hazardous Air Pollutants

The GAMAQI also states that when evaluating potential impacts related to HAPs, "*impacts of local pollutants (CO, HAPs) are cumulatively significant when modeling shows that the combined emissions from the project and other existing and planned projects will exceed air quality standards*." Because the Project would not be a significant source of HAPS, the proposed Project would also *not be expected to pose a significant cumulative CO or HAPs impact*.

5.4 Cumulative Carbon Monoxide (CO) – Mobile Sources

The SJVAPCD's GAMAQI has identified CO impacts from impacted traffic intersections and roadway segments as being potentially cumulatively considerable. Traffic increases and added congestion caused by a project can combine to cause a violation of the SJVAPCD's CO standard also known as a "Hotspot". There are two criteria established by the GAMAQI by which CO "Hot Spot" modeling is required:

- A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or

- A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity.

According to the Project proponent, at the time of this analysis no traffic generation assessment impact study was prepared for this Project. However, due to the location and traffic increase anticipated from this Project, impacted intersections and roadway segments are anticipated to operate at a LOS of C or better. Therefore, CO "Hotspot" Modeling was not conducted for this Project and no concentrated excessive CO emissions are expected to be caused once the proposed Project is completed.

6. CONSISTENCY WITH THE AIR QUALITY ATTAINMENT PLAN

Air quality impacts from proposed projects within Tulare County are controlled through policies and provisions of the SJVAPCD and the Tulare County General Plan (TCRMA 2012). In order to demonstrate that a proposed project would not cause further air quality degradation in either the SJVAPCD's plan to improve air quality within the air basin or the federal requirements to meet certain air quality compliance goals, each project should also demonstrate consistency with the SJVAPCD's adopted Air Quality Attainment Plans (AQAP) for O_3 and PM_{10}. The SJVAPCD is required to submit a "Rate of Progress" document to CARB that demonstrates past and planned progress toward reaching attainment for all criteria pollutants. The California Clean Air Act (CCAA) requires air pollution control districts with severe or extreme air quality problems to provide for a 5% reduction in non-attainment emissions per year. The AQAP prepared for the San Joaquin Valley by the SJVAPCD complies with this requirement. CARB reviews, approves or amends the document and forwards the plan to the EPA for final review and approval within the SIP.

Air pollution sources associated with stationary sources are regulated through the permitting authority of the SJVAPCD under the New and Modified Stationary Source Review Rule (SJVAPCD Rule 2201). Owners of any new or modified equipment that emits, reduces or controls air contaminants, except those specifically exempted by the SJVAPCD, are required to apply for an Authority to Construct and Permit to Operate (SJVAPCD Rule 2010). Additionally, best available control technology (BACT) is required on specific types of stationary equipment and are required to offset both stationary source emission increases along with increases in cargo carrier emissions if the specified threshold levels are exceeded (SJVAPCD Rule 2201, 4.7.1). Through this mechanism, the SJVAPCD would ensure that all stationary sources within the project area would be subject to the standards of the SJVAPCD to ensure that new developments do not result in net increases in stationary sources of criteria air pollutants.

6.1 Required Evaluation Guidelines

State CEQA Guidelines and the Federal Clean Air Act (Sections 176 and 316) contain specific references on the need to evaluate consistencies between the proposed project and the applicable AQAP for the project site. To accomplish this, CARB has developed a three-step approach to determine project conformity with the applicable AQAP:

1. *Determination that an AQAP is being implemented in the area where the project is being proposed*. The SJVAPCD has implemented the current, modified AQAP as approved by CARB.
2. *The proposed project must be consistent with the growth assumptions of the applicable AQAP*. The proposed Project land use type was not anticipated in the current growth assumptions. Therefore, growth assumptions in the Tulare County General Plan or City of Tulare General Plan will be modified with the approval of the proposed Project.
3. *The project must contain in its design all reasonably available and feasible air quality control measures*. The proposed project incorporates various policy and rule-required implementation measures that will reduce related emissions.

The CCAA and AQAP identify transportation control measures as methods to further reduce emissions from mobile sources. Strategies identified to reduce vehicular emissions such as reductions in vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, and traffic congestion, in order to reduce vehicular emissions, can be implemented as control measures under the CCAA as well. Additional measures may also be implemented through the building process such as providing electrical outlets on exterior walls of structures to encourage use of electrical landscape maintenance equipment or measures such as electrical outlets for electrical systems on diesel trucks to reduce or eliminate idling time.

As the growth represented by the proposed Project will be updated in the Tulare County General Plan and incorporated into the AQAP, conclusions may be drawn from the following criteria:

1. That, by definition, the proposed emissions from the Project are below the SJVAPCD's established emissions impact thresholds;
2. That the primary source of emissions from the Project will be motor vehicles that are licensed through the State of California and whose emissions are already incorporated into CARB's San Joaquin Valley Emissions Inventory.

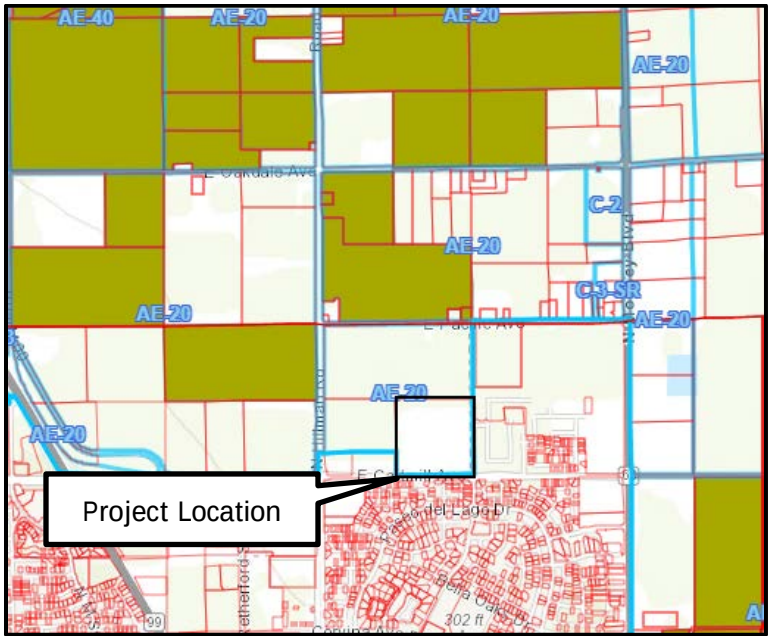
Based on these factors, the Project appears to be *consistent with the AQAP*.

6.2 Consistency with the Tulare County Association of Government's Air Quality Conformity Analysis

The Tulare County Association of Governments (TCAG) Final 2015 Conformity Analysis Addressing the 2008 Ozone and 2012 PM2.5 Standards for the 2015 Federal Transportation Improvement Program and the 2014 Regional Transportation Plan in the Tulare County would not hinder the efforts set out in the CARB's SIP for each area's non-attainment pollutants (CO, O_3, PM_{10} and $PM_{2.5}$) (TCAG 2015). The analysis uses the *San Joaquin Valley Demographic Forecasts 2010 to 2050* (Planning Center 2012).

The TCAG Air Quality Conformity Analysis considers General Plan Amendments (GPA) and zone changes that were enacted at the time of the analysis as projected growth within the area based on land use designations incorporated within the Tulare County General Plan. Land use designations that are altered based on subsequent GPAs that were not included in the Air Quality Conformity Analysis were not incorporated into the TCAG analysis. Consequently, if a proposed project is not included in the regional growth forecast using the latest planning assumptions, it may not be said to conform to the regional growth forecast. Under the current Tulare County Zoning, the project site is designated as "AE-20" (see **Figure 6-1**).

Figure 6-1. Tulare County Zoning



7. MITIGATION AND OTHER RECOMMENDED MEASURES

As the estimated construction and operational emissions from the proposed Project would be less than significant, no specific mitigation measures would be required. However, to ensure that Project is in compliance with all applicable SJVAPCD rules and regulations and emissions are further reduced, the applicant should implement and comply with a number of measures that are either recommended as a "good operating practice" for environmental stewardship or they are required by regulation. Some of the listed measures are regulatory requirements or construction requirements that would result in further emission reductions through their inclusion in Project construction and long-term design. The following measures either have been applied to the Project through the CalEEMod model and would be incorporated into the Project by design or would be implemented in conjunction with SJVAPCD rules as conditions of approval.

7.1 SJVAPCD Required PM_{10} Reduction Measures

As the Project would be completed in compliance with SJVAPCD Regulation VIII, dust control measures would be taken to ensure compliance specifically during grading and construction phases. The required Regulation VIII measures are as follows:

- Water previously exposed surfaces (soil) whenever visible dust is capable of drifting from the site or approaches 20% opacity.
- Water all unpaved haul roads a minimum of three-times/day or whenever visible dust from such roads is capable of drifting from the site or approaches 20% opacity.
- Reduce speed on unpaved roads to less than 15 miles per hour.
- Install and maintain a track out control device that meets the specifications of SJVAPCD Rule 8041 if the site exceeds 150 vehicle trips per day or more than 20 vehicle trips per day by vehicles with three or more axles.
- Stabilize all disturbed areas, including storage piles, which are not being actively utilized for production purposes using water, chemical stabilizers or by covering with a tarp or other suitable cover.
- Control fugitive dust emissions during land clearing, grubbing, scraping, excavation, leveling, grading, or cut and fill operations with application of water or by presoaking.
- When transporting materials offsite, maintain a freeboard limit of at least 6 inches and cover or effectively wet to limit visible dust emissions.
- Limit and remove the accumulation of mud and/or dirt from adjacent public roadways at the end of each workday. (Use of dry rotary brushes is prohibited except when preceded or accompanied by sufficient wetting to limit visible dust emissions and use of blowers is expressly forbidden).
- Stabilize the surface of storage piles following the addition or removal of materials using water or chemical stabilizer/suppressants.
- Remove visible track-out from the site at the end of each workday.
- Cease grading or other activities that cause excessive (greater than 20% opacity) dust formation during periods of high winds (greater than 20 mph over a one-hour period).

7.2 Recommended Measures to Reduce Equipment Exhaust

In addition, the GAMAQI guidance document lists the following measures as approved and recommended for construction activities. These measures are recommended:

- Maintain all construction equipment as recommended by manufacturer manuals.
- Shut down equipment when not in use for extended periods.
- Construction equipment shall operate no longer than eight (8) cumulative hours per day.

- Use electric equipment for construction whenever possible in lieu of diesel or gasoline powered equipment.
- Curtail use of high-emitting construction equipment during periods of high or excessive ambient pollutant concentrations.
- All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NOx emissions.
- On-Road and Off-Road diesel equipment shall use diesel particulate filters if permitted under manufacturer's guidelines.
- On-Road and Off-Road diesel equipment shall use cooled exhaust gas recirculation (EGR) if permitted under manufacturer's guidelines.
- All construction workers shall be encouraged to shuttle (car-pool) to retail establishments or to remain on-site during lunch breaks.
- All construction activities within the project area shall be discontinued during the first stage smog alerts.
- Construction and grading activities shall not be allowed during first stage O_3 alerts. First stage O_3 alerts are declared when the O_3 level exceeds 0.20 ppm (1-hour average).

7.3 Other Measures to Reduce Project Impacts

The following measures are recommended to further reduce the potential for long-term emissions from the Project. These measures are required as a matter of regulatory compliance:

- The Project design shall comply with applicable standards set forth in Title 24 of the Uniform Building Code to minimize total consumption of energy.
- Applicants shall be required to comply with applicable mitigation measures in the AQAP, SJVAPCD Rules, Traffic Control Measures, Regulation VIII and Indirect Source Rules for the SJVAPCD.
- The developer shall comply with the provisions of SJVAPCD Rule 4601 - Architectural Coatings, during the construction of all buildings and facilities. Application of architectural coatings shall be completed in a manner that poses the least emissions impacts whenever such application is deemed proficient.
- The applicant shall comply with the provisions of SJVAPCD Rule 4641 during the construction and pavement of all roads and parking areas within the project area. Specifically, the applicant shall not allow the use of:
  - Rapid cure cutback asphalt;
  - Medium cure cutback asphalt;
  - Slow cure cutback asphalt (as specified in SJVAPCD Rule 4641, Section 5.1.3); or Emulsified asphalt (as specified in SJVAPCD Rule 4641, Section 5.1.4).
  - The developer shall comply with applicable provisions of SJVAPCD Rule 9510 (Indirect Source Review).

8. LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed Project would have short-term air quality impacts due to facility construction activities as well as vehicular emissions. Both of these impacts would be mitigated and *were found to be less than significant before and after mitigation*.

The proposed Project would result in long-term air quality impacts due to operational and related mobile source emissions. These impacts would be mitigated and *were found to be less than significant before and after mitigation*.

The proposed Project, in conjunction with other past, present and foreseeable future projects, would result in cumulative short-term and long-term impacts to air quality. The proposed Project's incremental contribution to these impacts would be mitigated, are below thresholds of significance, and would not be considered cumulatively considerable. Therefore, the Project's contribution to cumulative impacts *were found to be less than significant*.

The proposed Project, in conjunction with other past, present and foreseeable future projects, would result in cumulative long-term impacts to global climate change. The proposed Project's incremental contribution to these impacts will be mitigated to the extent feasible and are considered *less than significant*.

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APPENDIX A. EXISTING AIR QUALITY MONITORING DATA

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

at Porterville-1839 Newcomb Street

iADAM

	2017		2018		2019	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Jul 7	0.100	Jul 7	0.093	Jun 4	0.081
Second High:	Jul 17	0.098	Aug 8	0.093	Aug 6	0.080
Third High:	Jun 22	0.097	Sep 27	0.092	Nov 9	0.080
Fourth High:	Jun 23	0.096	Jun 4	0.091	Jun 19	0.079
California:						
# Days Above the Standard:	4		0		0	
California Designation Value:	0.10		0.10		0.10	
Expected Peak Day Concentration:	0.101		0.100		0.096	
National:						
# Days Above the Standard:	*0*		*0*		*0*	
3-Year Estimated Expected Number of Exceedance Days:	*0.0*		*0.0*		*0.0*	
1-Year Estimated Expected Number of Exceedance Days:	*0.0*		*0.0*		*0.0*	
Nat'l Standard Design Value:	*0.101*		*0.101*		*0.096*	
Year Coverage:	97		97		94	

Notes:

Hourly ozone measurements and related statistics are available at Porterville-1839 Newcomb Street between 2010 and 2019. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour ozone standard are shown in or .

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

at Visalia-N Church Street

iADAM

	2017		2018		2019	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Aug 25	0.109	Aug 4	0.112	Jun 19	0.093
Second High:	Aug 28	0.108	Jul 17	0.107	Aug 14	0.093
Third High:	Jun 20	0.105	Jul 18	0.104	Aug 27	0.093
Fourth High:	May 23	0.104	Aug 9	0.104	Jun 5	0.091
California:						
# Days Above the Standard:	9		8		0	
California Designation Value:	0.10		0.10		0.11	
Expected Peak Day Concentration:	0.104		0.104		0.105	
National:						
# Days Above the Standard:	*0*		*0*		*0*	
3-Year Estimated Expected Number of Exceedance Days:	*0.0*		*0.0*		*0.0*	
1-Year Estimated Expected Number of Exceedance Days:	*0.0*		*0.0*		*0.0*	
Nat'l Standard Design Value:	*0.105*		*0.107*		*0.107*	
Year Coverage:	87		99		98	

Notes:

Hourly ozone measurements and related statistics are available at Visalia-N Church Street between 1979 and 2019. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour ozone standard are shown in or .

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

at Porterville-1839 Newcomb Street

iADAM

	2017		2018		2019	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National 2015 Std (0.070 ppm):						
First High:	Jun 22	0.090	Sep 27	0.085	Jun 4	0.073
Second High:	Jun 23	0.089	Aug 8	0.080	Jun 19	0.073
Third High:	Jul 7	0.086	Oct 27	0.080	Jun 5	0.072
Fourth High:	May 23	0.083	Jul 17	0.078	Aug 15	0.071
National 2015 Std (0.070 ppm):						
# Days Above the Standard:		34		36		6
Nat'l Standard Design Value:		0.086		0.083		0.077
National Year Coverage:		97		97		94

Notes:

Eight-hour ozone averages and related statistics are available at Porterville-1839 Newcomb Street between 2010 and 2019. Some years in this range may not be represented.

All averages expressed in parts per million.

An exceedance of a standard is not necessarily related to a violation of the standard.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

at Visalia-N Church Street

iADAM

	2017		2018		2019	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National 2015 Std (0.070 ppm):						
First High:	May 23	0.091	Aug 9	0.094	Aug 14	0.082
Second High:	Aug 28	0.090	Jul 18	0.091	Aug 15	0.080
Third High:	Sep 2	0.090	Aug 4	0.091	Aug 27	0.078
Fourth High:	Jun 20	0.087	Aug 6	0.091	Jun 19	0.076
National 2015 Std (0.070 ppm):						
# Days Above the Standard:		61		53		22
Nat'l Standard Design Value:		0.083		0.085		0.084
National Year Coverage:		87		99		98

Notes:

Eight-hour ozone averages and related statistics are available at Visalia-N Church Street between 1979 and 2019. Some years in this range may not be represented.

All averages expressed in parts per million.

An exceedance of a standard is not necessarily related to a violation of the standard.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

at Visalia-N Church Street

	2017		2018		2019	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Oct 9	144.8	Jan 3	153.4	Oct 27	411.1
Second High:	Oct 11	141.2	Nov 19	152.4	Oct 28	284.4
Third High:	Oct 18	140.7	Nov 16	135.8	Nov 25	255.5
Fourth High:	Dec 12	122.0	Nov 20	134.4	Oct 30	245.1
California:						
First High:	Oct 9	145.7	Nov 19	159.6	Oct 27	418.5
Second High:	Oct 11	141.9	Jan 3	159.4	Oct 28	292.9
Third High:	Oct 18	141.8	Nov 16	141.4	Nov 25	263.0
Fourth High:	Dec 12	129.3	Nov 20	140.3	Oct 30	253.5
National:						
Estimated # Days > 24-Hour Std:		0.0		0.0		5.0
Measured # Days > 24-Hour Std:		0		0		5
3-Yr Avg Est # Days > 24-Hr Std:		*		0.0		2.0
Annual Average:		*47.4*		*52.5*		*45.7*
3-Year Average:		*50*		*48*		*49*
California:						
Estimated # Days > 24-Hour Std:		135.9		164.4		115.8
Measured # Days > 24-Hour Std:		131		162		115
Annual Average:		46.9		52.0		46.3
3-Year Maximum Annual Average:		47		52		52
Year Coverage:		0		0		0

Notes:

Daily PM10 averages and related statistics are available at Visalia-N Church Street between 1988 and 2019. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics*.

An exceedance of a standard is not necessarily related to a violation of the standard.

All values listed above represent midnight-to-midnight 24-hour averages and may be related to an exceptional event.

State and national statistics may differ for the following reasons:

- State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.
- State statistics for 1998 and later are based on local conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on local conditions). National statistics are based on standard conditions.
- State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

3-Year statistics represent the listed year and the 2 years before the listed year.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

at Porterville-1839 Newcomb Street

iADAM

	2017		2018		2019	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:		*		*		*
Second High:		*		*		*
Third High:		*		*		*
Fourth High:		*		*		*
California:						
First High:	Dec 29	72.3	Jan 2	77.4	Jan 29	50.7
Second High:	Dec 25	63.5	Jan 3	72.5	Jan 28	44.8
Third High:	Dec 30	63.3	Nov 19	68.3	Jan 26	39.2
Fourth High:	Dec 28	61.5	Jan 1	67.2	Jan 30	38.1
National:						
Estimated # Days > 24-Hour Std:		*		*		*
Measured # Days > 24-Hour Std:		*		*		*
24-Hour Standard Design Value:		*		*		*
24-Hour Standard 98th Percentile:		*		*		*
2006 Annual Std Design Value:		*		*		*
2013 Annual Std Design Value:		*		*		*
Annual Average:		*		*		*
California:						
Annual Std Designation Value:		*		16		16
Annual Average:		*		16.4		*
Year Coverage:		*		*		*

Notes:

Daily PM2.5 averages and related statistics are available at Porterville-1839 Newcomb Street between 2010 and 2019. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.
An exceedance of a standard is not necessarily related to a violation of the standard.
State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

at Visalia-N Church Street

iADAM

	2017		2018		2019	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Dec 30	86.1	Jan 2	86.8	Jan 30	47.2
Second High:	Dec 29	80.7	Aug 6	64.6	Jan 27	46.3
Third High:	Dec 24	74.6	Feb 1	63.4	Jan 1	45.5
Fourth High:	Dec 15	67.6	Dec 22	46.8	Nov 8	42.3
California:						
First High:	Dec 25	89.0	Jan 1	96.2	Jan 30	47.2
Second High:	Dec 30	86.1	Jan 3	89.3	Jan 27	46.3
Third High:	Dec 29	80.7	Jan 2	86.8	Jan 1	45.5
Fourth High:	Dec 31	76.7	Nov 19	75.3	Jan 29	45.3
National:						
Estimated # Days > 24-Hour Std:		26.7		42.3		19.9
Measured # Days > 24-Hour Std:		9		12		6
24-Hour Standard Design Value:		54		60		61
24-Hour Standard 98th Percentile:		74.6		63.4		45.5
2006 Annual Std Design Value:		15.7		16.1		15.5
2013 Annual Std Design Value:		15.7		16.1		15.5
Annual Average:		16.2		17.3		12.9
California:						
Annual Std Designation Value:		17		17		17
Annual Average:		16.8		17.4		12.3
Year Coverage:		82		80		90

Notes:

Daily PM2.5 averages and related statistics are available at Visalia-N Church Street between 1999 and 2019. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.
An exceedance of a standard is not necessarily related to a violation of the standard.
State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

iADAM

at Visalia-N Church Street

	2017		2018		2019	
	Date	Measurement	Date	Measurement	Date	Measurement
National:						
First High:	Dec 29	58.1	Nov 16	69.2	Nov 8	70.7
Second High:	Dec 15	57.1	Nov 19	60.6	Nov 7	65.6
Third High:	Nov 22	57.0	Nov 20	56.1	Nov 4	65.4
Fourth High:	Dec 12	56.3	Oct 19	55.7	Nov 12	64.2
California:						
First High:	Dec 29	58	Nov 16	69	Nov 8	70
Second High:	Nov 22	57	Nov 19	60	Nov 4	65
Third High:	Dec 15	57	Nov 20	56	Nov 7	65
Fourth High:	Dec 12	56	Oct 19	55	Nov 12	64
National:						
1-Hour Standard Design Value:		49		51		55
1-Hour Standard 98th Percentile:		55.6		52.9		55.0
# Days Above the Standard:		0		0		0
Annual Standard Design Value:		11		11		10
California:						
1-Hour Std Designation Value:		60		70		70
Expected Peak Day Concentration:		63		67		70
# Days Above the Standard:		0		0		0
Annual Std Designation Value:		10		10		10
Annual Average:		10		10		9
Year Coverage:		97		95		94

Notes:

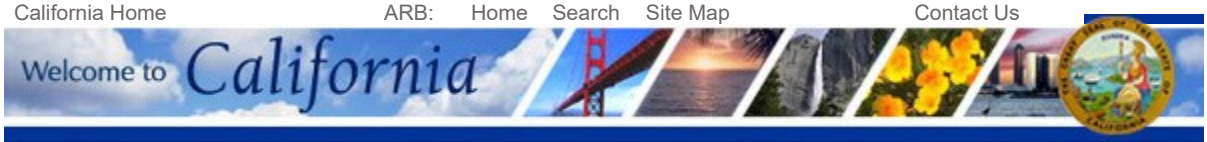
Hourly nitrogen dioxide measurements and related statistics are available at Visalia-N Church Street between 1979 and 2019. Some years in this range may not be represented.

All concentrations expressed in parts per billion.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.



Air Resources Board

View a Different Site
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Annual Toxics Summary

Fresno-Garland

Lead

nanograms per cubic meter

iADAM

FAQs

Read About New Estimated Risk

Year	Months Present	Minimum	Median	Mean	90th Percentile	Maximum	Standard Deviation	Number of Observations	Detection Limit	Estimated Risk
2020	----------	0.65	*	*	*	6.1	2.09	7	1.3	*
2019	----------	0.65	2.3	3.17	6.6	10.3	2.48	29	1.3	0.1
2018	----------	0.65	3.1	4.18	8.6	12.2	2.92	31	1.3	0.1
2017	----------	0.65	3.1	*	6.6	8.4	2.08	26	1.3	*
2016	----------	0.65	3.0	3.71	5.7	12.1	2.47	31	1.3	0.1
2015	----------	0.65	2.6	3.01	5.4	8.3	1.81	30	1.3	0.1
2014	----------	0.85	3.0	3.93	8.0	12	3.09	30	1.7	0.1
2013	----------	0.5	3.5	*	10.1	17	4.01	30	1.0	*
2012	----------	0.75	2.6	3.17	6.2	16	3.29	29	1.5	0.1
2011	----------	*	*	*	*	*	*	0	*	*
2010	----------	*	*	*	*	*	*	0	*	*
2009	----------	*	*	*	*	*	*	0	*	*
2008	----------	*	*	*	*	*	*	0	*	*
2007	----------	*	*	*	*	*	*	0	*	*
2006	----------	*	*	*	*	*	*	0	*	*
2005	----------	*	*	*	*	*	*	0	*	*
2004	----------	*	*	*	*	*	*	0	*	*
2003	----------	*	*	*	*	*	*	0	*	*
2002	----------	*	*	*	*	*	*	0	*	*
2001	----------	*	*	*	*	*	*	0	*	*
2000	----------	*	*	*	*	*	*	0	*	*
1999	----------	*	*	*	*	*	*	0	*	*
1998	----------	*	*	*	*	*	*	0	*	*
1997	----------	*	*	*	*	*	*	0	*	*
1996	----------	*	*	*	*	*	*	0	*	*
1995	----------	*	*	*	*	*	*	0	*	*
1994	----------	*	*	*	*	*	*	0	*	*
1993	----------	*	*	*	*	*	*	0	*	*
1992	----------	*	*	*	*	*	*	0	*	*
1991	----------	*	*	*	*	*	*	0	*	*
1990	----------	*	*	*	*	*	*	0	*	*
1989	----------	*	*	*	*	*	*	0	*	*

Graph It!

Toxics Statistics Home

Notes: Values below the Limit of Detection (LoD) assumed to be ½ LoD.
Means and risks shown only for years with data in all 12 months.
"*" means there was insufficient or no data available to determine the value.

Data Descriptions Page

APPENDIX B. PROJECT EMISSION CALCULATIONS

Cordeniz Residential Project - Tulare County, Annual

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

Cordeniz Residential Project

Tulare County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	145.00	Dwelling Unit	39.00	261,000.00	415

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	51
Climate Zone	3			**Operational Year**	2022
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Actual Lot acreage

Construction Phase - Anticipated COnstruction Schedule

Trips and VMT -

Grading -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Fleet Mix - SJVAPCD Approved Residential Fleet Mix for the year 2022

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

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

tblConstructionPhase	NumDays	30.00	6.00
tblConstructionPhase	NumDays	75.00	16.00
tblConstructionPhase	NumDays	740.00	151.00
tblConstructionPhase	NumDays	55.00	11.00
tblConstructionPhase	NumDays	55.00	11.00
tblFleetMix	HHD	0.02	0.02
tblFleetMix	LDA	0.49	0.53
tblFleetMix	LDT1	0.05	0.20
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.03	1.3000e-003
tblFleetMix	LHD2	8.5130e-003	9.0000e-004
tblFleetMix	MCY	0.02	2.5000e-003
tblFleetMix	MDV	0.19	0.05
tblFleetMix	MH	3.9140e-003	1.8000e-003
tblFleetMix	MHD	0.01	8.6000e-003
tblFleetMix	OBUS	6.5900e-004	0.00
tblFleetMix	SBUS	1.5410e-003	7.0000e-004
tblFleetMix	UBUS	4.7100e-004	4.4000e-003
tblLandUse	LotAcreage	47.08	39.00

2.0 Emissions Summary

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	2.6433	1.7374	1.7648	3.3400e-003	0.1747	0.0835	0.2582	0.0709	0.0782	0.1491	0.0000	293.3645	293.3645	0.0641	4.6300e-003	296.3486
Maximum	**2.6433**	**1.7374**	**1.7648**	**3.3400e-003**	**0.1747**	**0.0835**	**0.2582**	**0.0709**	**0.0782**	**0.1491**	**0.0000**	**293.3645**	**293.3645**	**0.0641**	**4.6300e-003**	**296.3486**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	2.6433	1.7374	1.7648	3.3400e-003	0.0938	0.0835	0.1773	0.0346	0.0782	0.1128	0.0000	293.3642	293.3642	0.0641	4.6300e-003	296.3484
Maximum	**2.6433**	**1.7374**	**1.7648**	**3.3400e-003**	**0.0938**	**0.0835**	**0.1773**	**0.0346**	**0.0782**	**0.1128**	**0.0000**	**293.3642**	**293.3642**	**0.0641**	**4.6300e-003**	**296.3484**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**46.31**	**0.00**	**31.33**	**51.21**	**0.00**	**24.36**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Cordeniz Residential Project - Tulare County, Annual

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2022	3-31-2022	0.8507	0.8507
2	4-1-2022	6-30-2022	0.6039	0.6039
3	7-1-2022	9-30-2022	2.8726	2.8726
		Highest	2.8726	2.8726

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3032	0.0667	1.1009	4.0000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	64.5738	64.5738	2.9000e-003	1.1500e-003	64.9894
Energy	0.0188	0.1606	0.0683	1.0300e-003		0.0130	0.0130		0.0130	0.0130	0.0000	292.9748	292.9748	0.0209	5.5100e-003	295.1379
Mobile	0.5446	1.0178	5.8535	0.0142	1.4168	0.0129	1.4297	0.3781	0.0121	0.3901	0.0000	1,320.1185	1,320.1185	0.0842	0.0709	1,343.3384
Waste						0.0000	0.0000		0.0000	0.0000	30.3269	0.0000	30.3269	1.7923	0.0000	75.1335
Water						0.0000	0.0000		0.0000	0.0000	2.9972	6.6585	9.6557	0.3089	7.4000e-003	19.5837
Total	**1.8666**	**1.2451**	**7.0227**	**0.0156**	**1.4168**	**0.0362**	**1.4530**	**0.3781**	**0.0354**	**0.4134**	**33.3241**	**1,684.3256**	**1,717.6496**	**2.2092**	**0.0849**	**1,798.1829**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3028	0.0666	1.0931	4.0000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	64.5579	64.5579	2.8800e-003	1.1500e-003	64.9730
Energy	0.0188	0.1606	0.0683	1.0300e-003		0.0130	0.0130		0.0130	0.0130	0.0000	292.9748	292.9748	0.0209	5.5100e-003	295.1379
Mobile	0.5317	0.9271	5.3278	0.0126	1.2496	0.0115	1.2611	0.3334	0.0108	0.3442	0.0000	1,169.4384	1,169.4384	0.0783	0.0644	1,190.5972
Waste						0.0000	0.0000		0.0000	0.0000	30.3269	0.0000	30.3269	1.7923	0.0000	75.1335
Water						0.0000	0.0000		0.0000	0.0000	2.9972	6.6585	9.6557	0.3089	7.4000e-003	19.5837
Total	**1.8532**	**1.1543**	**6.4892**	**0.0140**	**1.2496**	**0.0348**	**1.2844**	**0.3334**	**0.0340**	**0.3675**	**33.3241**	**1,533.6297**	**1,566.9537**	**2.2032**	**0.0785**	**1,645.4253**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.72**	**7.29**	**7.60**	**10.32**	**11.80**	**3.95**	**11.60**	**11.80**	**3.81**	**11.11**	**0.00**	**8.95**	**8.77**	**0.27**	**7.56**	**8.50**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2022	1/10/2022	5	6	
2	Grading	Grading	1/11/2022	2/1/2022	5	16	
3	Building Construction	Building Construction	2/2/2022	8/31/2022	5	151	

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

4	Paving	Paving	9/1/2022	9/15/2022	5	11	
5	Architectural Coating	Architectural Coating	9/16/2022	9/30/2022	5	11	

Acres of Grading (Site Preparation Phase): 9

Acres of Grading (Grading Phase): 48

Acres of Paving: 0

Residential Indoor: 528,525; Residential Outdoor: 176,175; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Cordeniz Residential Project - Tulare County, Annual

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

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	52.00	16.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0590	0.0000	0.0590	0.0303	0.0000	0.0303	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5100e-003	0.0993	0.0591	1.1000e-004		4.8400e-003	4.8400e-003		4.4500e-003	4.4500e-003	0.0000	10.0318	10.0318	3.2400e-003	0.0000	10.1129
Total	**9.5100e-003**	**0.0993**	**0.0591**	**1.1000e-004**	**0.0590**	**4.8400e-003**	**0.0638**	**0.0303**	**4.4500e-003**	**0.0348**	**0.0000**	**10.0318**	**10.0318**	**3.2400e-003**	**0.0000**	**10.1129**

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

3.2 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.5000e-004	1.6200e-003	0.0000	4.3000e-004	0.0000	4.3000e-004	1.1000e-004	0.0000	1.2000e-004	0.0000	0.3530	0.3530	1.0000e-005	1.0000e-005	0.3570
Total	**2.1000e-004**	**1.5000e-004**	**1.6200e-003**	**0.0000**	**4.3000e-004**	**0.0000**	**4.3000e-004**	**1.1000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3530**	**0.3530**	**1.0000e-005**	**1.0000e-005**	**0.3570**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0230	0.0000	0.0230	0.0118	0.0000	0.0118	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5100e-003	0.0993	0.0591	1.1000e-004		4.8400e-003	4.8400e-003		4.4500e-003	4.4500e-003	0.0000	10.0318	10.0318	3.2400e-003	0.0000	10.1129
Total	**9.5100e-003**	**0.0993**	**0.0591**	**1.1000e-004**	**0.0230**	**4.8400e-003**	**0.0278**	**0.0118**	**4.4500e-003**	**0.0163**	**0.0000**	**10.0318**	**10.0318**	**3.2400e-003**	**0.0000**	**10.1129**

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

3.2 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.5000e-004	1.6200e-003	0.0000	4.3000e-004	0.0000	4.3000e-004	1.1000e-004	0.0000	1.2000e-004	0.0000	0.3530	0.3530	1.0000e-005	1.0000e-005	0.3570
Total	**2.1000e-004**	**1.5000e-004**	**1.6200e-003**	**0.0000**	**4.3000e-004**	**0.0000**	**4.3000e-004**	**1.1000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3530**	**0.3530**	**1.0000e-005**	**1.0000e-005**	**0.3570**

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0736	0.0000	0.0736	0.0292	0.0000	0.0292	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0290	0.3108	0.2323	5.0000e-004		0.0131	0.0131		0.0120	0.0120	0.0000	43.6277	43.6277	0.0141	0.0000	43.9804
Total	**0.0290**	**0.3108**	**0.2323**	**5.0000e-004**	**0.0736**	**0.0131**	**0.0867**	**0.0292**	**0.0120**	**0.0413**	**0.0000**	**43.6277**	**43.6277**	**0.0141**	**0.0000**	**43.9804**

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

3.3 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	4.5000e-004	4.8100e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2800e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.0460	1.0460	4.0000e-005	4.0000e-005	1.0576
Total	**6.1000e-004**	**4.5000e-004**	**4.8100e-003**	**1.0000e-005**	**1.2700e-003**	**1.0000e-005**	**1.2800e-003**	**3.4000e-004**	**1.0000e-005**	**3.5000e-004**	**0.0000**	**1.0460**	**1.0460**	**4.0000e-005**	**4.0000e-005**	**1.0576**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0287	0.0000	0.0287	0.0114	0.0000	0.0114	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0290	0.3108	0.2323	5.0000e-004		0.0131	0.0131		0.0120	0.0120	0.0000	43.6276	43.6276	0.0141	0.0000	43.9804
Total	**0.0290**	**0.3108**	**0.2323**	**5.0000e-004**	**0.0287**	**0.0131**	**0.0418**	**0.0114**	**0.0120**	**0.0234**	**0.0000**	**43.6276**	**43.6276**	**0.0141**	**0.0000**	**43.9804**

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

3.3 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	4.5000e-004	4.8100e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2800e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.0460	1.0460	4.0000e-005	4.0000e-005	1.0576
Total	**6.1000e-004**	**4.5000e-004**	**4.8100e-003**	**1.0000e-005**	**1.2700e-003**	**1.0000e-005**	**1.2800e-003**	**3.4000e-004**	**1.0000e-005**	**3.5000e-004**	**0.0000**	**1.0460**	**1.0460**	**4.0000e-005**	**4.0000e-005**	**1.0576**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1288	1.1790	1.2354	2.0300e-003		0.0611	0.0611		0.0575	0.0575	0.0000	174.9526	174.9526	0.0419	0.0000	176.0004
Total	**0.1288**	**1.1790**	**1.2354**	**2.0300e-003**		**0.0611**	**0.0611**		**0.0575**	**0.0575**	**0.0000**	**174.9526**	**174.9526**	**0.0419**	**0.0000**	**176.0004**

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

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6900e-003	0.0675	0.0193	2.5000e-004	7.9900e-003	7.7000e-004	8.7500e-003	2.3100e-003	7.3000e-004	3.0400e-003	0.0000	24.3697	24.3697	1.7000e-004	3.6700e-003	25.4688
Worker	0.0150	0.0110	0.1180	2.8000e-004	0.0313	1.7000e-004	0.0315	8.3100e-003	1.6000e-004	8.4700e-003	0.0000	25.6654	25.6654	9.6000e-004	8.8000e-004	25.9518
Total	**0.0177**	**0.0785**	**0.1373**	**5.3000e-004**	**0.0393**	**9.4000e-004**	**0.0402**	**0.0106**	**8.9000e-004**	**0.0115**	**0.0000**	**50.0351**	**50.0351**	**1.1300e-003**	**4.5500e-003**	**51.4206**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1288	1.1790	1.2354	2.0300e-003		0.0611	0.0611		0.0575	0.0575	0.0000	174.9524	174.9524	0.0419	0.0000	176.0002
Total	**0.1288**	**1.1790**	**1.2354**	**2.0300e-003**		**0.0611**	**0.0611**		**0.0575**	**0.0575**	**0.0000**	**174.9524**	**174.9524**	**0.0419**	**0.0000**	**176.0002**

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

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6900e-003	0.0675	0.0193	2.5000e-004	7.9900e-003	7.7000e-004	8.7500e-003	2.3100e-003	7.3000e-004	3.0400e-003	0.0000	24.3697	24.3697	1.7000e-004	3.6700e-003	25.4688
Worker	0.0150	0.0110	0.1180	2.8000e-004	0.0313	1.7000e-004	0.0315	8.3100e-003	1.6000e-004	8.4700e-003	0.0000	25.6654	25.6654	9.6000e-004	8.8000e-004	25.9518
Total	**0.0177**	**0.0785**	**0.1373**	**5.3000e-004**	**0.0393**	**9.4000e-004**	**0.0402**	**0.0106**	**8.9000e-004**	**0.0115**	**0.0000**	**50.0351**	**50.0351**	**1.1300e-003**	**4.5500e-003**	**51.4206**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.0700e-003	0.0612	0.0802	1.3000e-004		3.1200e-003	3.1200e-003		2.8700e-003	2.8700e-003	0.0000	11.0152	11.0152	3.5600e-003	0.0000	11.1042
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.0700e-003**	**0.0612**	**0.0802**	**1.3000e-004**		**3.1200e-003**	**3.1200e-003**		**2.8700e-003**	**2.8700e-003**	**0.0000**	**11.0152**	**11.0152**	**3.5600e-003**	**0.0000**	**11.1042**

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

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	2.3000e-004	2.4800e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5393	0.5393	2.0000e-005	2.0000e-005	0.5453
Total	**3.2000e-004**	**2.3000e-004**	**2.4800e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.7000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5393**	**0.5393**	**2.0000e-005**	**2.0000e-005**	**0.5453**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.0700e-003	0.0612	0.0802	1.3000e-004		3.1200e-003	3.1200e-003		2.8700e-003	2.8700e-003	0.0000	11.0151	11.0151	3.5600e-003	0.0000	11.1042
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.0700e-003**	**0.0612**	**0.0802**	**1.3000e-004**		**3.1200e-003**	**3.1200e-003**		**2.8700e-003**	**2.8700e-003**	**0.0000**	**11.0151**	**11.0151**	**3.5600e-003**	**0.0000**	**11.1042**

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

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	2.3000e-004	2.4800e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5393	0.5393	2.0000e-005	2.0000e-005	0.5453
Total	**3.2000e-004**	**2.3000e-004**	**2.4800e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.7000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5393**	**0.5393**	**2.0000e-005**	**2.0000e-005**	**0.5453**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.4497					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1200e-003	7.7500e-003	9.9700e-003	2.0000e-005		4.5000e-004	4.5000e-004		4.5000e-004	4.5000e-004	0.0000	1.4043	1.4043	9.0000e-005	0.0000	1.4066
Total	**2.4508**	**7.7500e-003**	**9.9700e-003**	**2.0000e-005**		**4.5000e-004**	**4.5000e-004**		**4.5000e-004**	**4.5000e-004**	**0.0000**	**1.4043**	**1.4043**	**9.0000e-005**	**0.0000**	**1.4066**

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

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.5000e-004	1.6500e-003	0.0000	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3596	0.3596	1.0000e-005	1.0000e-005	0.3636
Total	**2.1000e-004**	**1.5000e-004**	**1.6500e-003**	**0.0000**	**4.4000e-004**	**0.0000**	**4.4000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3596**	**0.3596**	**1.0000e-005**	**1.0000e-005**	**0.3636**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.4497					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1200e-003	7.7500e-003	9.9700e-003	2.0000e-005		4.5000e-004	4.5000e-004		4.5000e-004	4.5000e-004	0.0000	1.4043	1.4043	9.0000e-005	0.0000	1.4066
Total	**2.4508**	**7.7500e-003**	**9.9700e-003**	**2.0000e-005**		**4.5000e-004**	**4.5000e-004**		**4.5000e-004**	**4.5000e-004**	**0.0000**	**1.4043**	**1.4043**	**9.0000e-005**	**0.0000**	**1.4066**

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

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.5000e-004	1.6500e-003	0.0000	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3596	0.3596	1.0000e-005	1.0000e-005	0.3636
Total	**2.1000e-004**	**1.5000e-004**	**1.6500e-003**	**0.0000**	**4.4000e-004**	**0.0000**	**4.4000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3596**	**0.3596**	**1.0000e-005**	**1.0000e-005**	**0.3636**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Walkability Design

Improve Destination Accessibility

Improve Pedestrian Network

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5317	0.9271	5.3278	0.0126	1.2496	0.0115	1.2611	0.3334	0.0108	0.3442	0.0000	1,169.4384	1,169.4384	0.0783	0.0644	1,190.5972
Unmitigated	0.5446	1.0178	5.8535	0.0142	1.4168	0.0129	1.4297	0.3781	0.0121	0.3901	0.0000	1,320.1185	1,320.1185	0.0842	0.0709	1,343.3384

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,368.80	1,383.30	1239.75	3,812,157	3,362,322
Total	1,368.80	1,383.30	1,239.75	3,812,157	3,362,322

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	38.40	22.60	39.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.534300	0.203000	0.167300	0.054500	0.001300	0.000900	0.008600	0.020700	0.000000	0.004400	0.002500	0.000700	0.001800

5.0 Energy Detail

Historical Energy Use: N

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

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	106.9782	106.9782	0.0173	2.1000e-003	108.0361
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	106.9782	106.9782	0.0173	2.1000e-003	108.0361
NaturalGas Mitigated	0.0188	0.1606	0.0683	1.0300e-003		0.0130	0.0130		0.0130	0.0130	0.0000	185.9966	185.9966	3.5600e-003	3.4100e-003	187.1019
NaturalGas Unmitigated	0.0188	0.1606	0.0683	1.0300e-003		0.0130	0.0130		0.0130	0.0130	0.0000	185.9966	185.9966	3.5600e-003	3.4100e-003	187.1019

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	3.48544e+006	0.0188	0.1606	0.0683	1.0300e-003		0.0130	0.0130		0.0130	0.0130	0.0000	185.9966	185.9966	3.5600e-003	3.4100e-003	187.1019
Total		**0.0188**	**0.1606**	**0.0683**	**1.0300e-003**		**0.0130**	**0.0130**		**0.0130**	**0.0130**	**0.0000**	**185.9966**	**185.9966**	**3.5600e-003**	**3.4100e-003**	**187.1019**

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

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	3.48544e+006	0.0188	0.1606	0.0683	1.0300e-003		0.0130	0.0130		0.0130	0.0130	0.0000	185.9966	185.9966	3.5600e-003	3.4100e-003	187.1019
Total		**0.0188**	**0.1606**	**0.0683**	**1.0300e-003**		**0.0130**	**0.0130**		**0.0130**	**0.0130**	**0.0000**	**185.9966**	**185.9966**	**3.5600e-003**	**3.4100e-003**	**187.1019**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.15622e+006	106.9782	0.0173	2.1000e-003	108.0361
Total		**106.9782**	**0.0173**	**2.1000e-003**	**108.0361**

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

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.15622e+006	106.9782	0.0173	2.1000e-003	108.0361
Total		**106.9782**	**0.0173**	**2.1000e-003**	**108.0361**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3028	0.0666	1.0931	4.0000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	64.5579	64.5579	2.8800e-003	1.1500e-003	64.9730
Unmitigated	1.3032	0.0667	1.1009	4.0000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	64.5738	64.5738	2.9000e-003	1.1500e-003	64.9894

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2450					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0193					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.3500e-003	0.0542	0.0231	3.5000e-004		4.3900e-003	4.3900e-003		4.3900e-003	4.3900e-003	0.0000	62.8151	62.8151	1.2000e-003	1.1500e-003	63.1884
Landscaping	0.0326	0.0124	1.0778	6.0000e-005		5.9600e-003	5.9600e-003		5.9600e-003	5.9600e-003	0.0000	1.7587	1.7587	1.7000e-003	0.0000	1.8011
Total	**1.3032**	**0.0667**	**1.1009**	**4.1000e-004**		**0.0104**	**0.0104**		**0.0104**	**0.0104**	**0.0000**	**64.5738**	**64.5738**	**2.9000e-003**	**1.1500e-003**	**64.9894**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2450					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0193					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.3500e-003	0.0542	0.0231	3.5000e-004		4.3900e-003	4.3900e-003		4.3900e-003	4.3900e-003	0.0000	62.8151	62.8151	1.2000e-003	1.1500e-003	63.1884
Landscaping	0.0321	0.0124	1.0700	6.0000e-005		5.9100e-003	5.9100e-003		5.9100e-003	5.9100e-003	0.0000	1.7428	1.7428	1.6700e-003	0.0000	1.7846
Total	**1.3028**	**0.0666**	**1.0931**	**4.1000e-004**		**0.0103**	**0.0103**		**0.0103**	**0.0103**	**0.0000**	**64.5579**	**64.5579**	**2.8700e-003**	**1.1500e-003**	**64.9730**

7.0 Water Detail

7.1 Mitigation Measures Water

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	9.6557	0.3089	7.4000e-003	19.5837
Unmitigated	9.6557	0.3089	7.4000e-003	19.5837

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	9.44733 / 5.95593	9.6557	0.3089	7.4000e-003	19.5837
Total		**9.6557**	**0.3089**	**7.4000e-003**	**19.5837**

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	9.44733 / 5.95593	9.6557	0.3089	7.4000e-003	19.5837
Total		**9.6557**	**0.3089**	**7.4000e-003**	**19.5837**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	30.3269	1.7923	0.0000	75.1335
Unmitigated	30.3269	1.7923	0.0000	75.1335

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	149.4	30.3269	1.7923	0.0000	75.1335
Total		**30.3269**	**1.7923**	**0.0000**	**75.1335**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	149.4	30.3269	1.7923	0.0000	75.1335
Total		**30.3269**	**1.7923**	**0.0000**	**75.1335**

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Cordeniz Residential Project BAU - Tulare County, Annual

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

Cordeniz Residential Project

Tulare County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	145.00	Dwelling Unit	39.00	261,000.00	415

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	51
Climate Zone	3			**Operational Year**	2005
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Actual Lot acreage

Construction Phase - Operational Run Only

Grading -

Trips and VMT - Operational Run Only

Fleet Mix -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	740.00	0.00

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

tblConstructionPhase	PhaseEndDate	3/28/2008	5/27/2005
tblLandUse	LotAcreage	47.08	39.00
tblTripsAndVMT	VendorTripNumber	16.00	0.00
tblTripsAndVMT	WorkerTripNumber	52.00	0.00
tblWoodstoves	NumberCatalytic	39.00	0.00
tblWoodstoves	NumberNoncatalytic	39.00	0.00

2.0 Emissions Summary

Cordeniz Residential Project - Tulare County, Annual

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2005											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum											**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2005											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum											**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

Cordeniz Residential Project - Tulare County, Annual

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

		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	64.5738	64.5738	4.0200e-003	1.1500e-003	65.0174
Energy											0.0000	292.9748	292.9748	0.0209	5.5100e-003	295.1379
Mobile											0.0000	1,888.1835	1,888.1835	0.2810	0.2218	1,961.3187
Waste											30.3269	0.0000	30.3269	1.7923	0.0000	75.1335
Water											2.9972	6.6585	9.6557	0.3089	7.4000e-003	19.5837
Total											**33.3241**	**2,252.3906**	**2,285.7147**	**2.4071**	**0.2359**	**2,416.1913**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	64.5738	64.5738	4.0200e-003	1.1500e-003	65.0174
Energy											0.0000	292.9748	292.9748	0.0209	5.5100e-003	295.1379
Mobile											0.0000	1,888.1835	1,888.1835	0.2810	0.2218	1,961.3187
Waste											30.3269	0.0000	30.3269	1.7923	0.0000	75.1335
Water											2.9972	6.6585	9.6557	0.3089	7.4000e-003	19.5837
Total											**33.3241**	**2,252.3906**	**2,285.7147**	**2.4071**	**0.2359**	**2,416.1913**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	5/28/2005	5/27/2005	5	0	

Acres of Grading (Site Preparation Phase): 0

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

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	9	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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

3.2 Building Construction - 2005

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

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

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

3.2 Building Construction - 2005

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	1,888.1835	1,888.1835	0.2810	0.2218	1,961.3187
Unmitigated											0.0000	1,888.1835	1,888.1835	0.2810	0.2218	1,961.3187

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,368.80	1,383.30	1239.75	3,812,157	3,812,157
Total	1,368.80	1,383.30	1,239.75	3,812,157	3,812,157

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	38.40	22.60	39.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.445143	0.090887	0.165130	0.187970	0.045320	0.007055	0.014780	0.012618	0.000711	0.000220	0.019746	0.001150	0.009270

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	106.9782	106.9782	0.0173	2.1000e-003	108.0361
Electricity Unmitigated											0.0000	106.9782	106.9782	0.0173	2.1000e-003	108.0361
NaturalGas Mitigated											0.0000	185.9966	185.9966	3.5600e-003	3.4100e-003	187.1019
NaturalGas Unmitigated											0.0000	185.9966	185.9966	3.5600e-003	3.4100e-003	187.1019

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	3.48544e+006											0.0000	185.9966	185.9966	3.5600e-003	3.4100e-003	187.1019
Total												**0.0000**	**185.9966**	**185.9966**	**3.5600e-003**	**3.4100e-003**	**187.1019**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	3.48544e+006											0.0000	185.9966	185.9966	3.5600e-003	3.4100e-003	187.1019
Total												**0.0000**	**185.9966**	**185.9966**	**3.5600e-003**	**3.4100e-003**	**187.1019**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.15622e+006	106.9782	0.0173	2.1000e-003	108.0361
Total		**106.9782**	**0.0173**	**2.1000e-003**	**108.0361**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.15622e+006	106.9782	0.0173	2.1000e-003	108.0361
Total		**106.9782**	**0.0173**	**2.1000e-003**	**108.0361**

6.0 Area Detail

6.1 Mitigation Measures Area

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	64.5738	64.5738	4.0200e-003	1.1500e-003	65.0174
Unmitigated											0.0000	64.5738	64.5738	4.0200e-003	1.1500e-003	65.0174

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											0.0000	62.8151	62.8151	1.2000e-003	1.1500e-003	63.1884
Landscaping											0.0000	1.7587	1.7587	2.8200e-003	0.0000	1.8291
Total											**0.0000**	**64.5738**	**64.5738**	**4.0200e-003**	**1.1500e-003**	**65.0174**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											0.0000	62.8151	62.8151	1.2000e-003	1.1500e-003	63.1884
Landscaping											0.0000	1.7587	1.7587	2.8200e-003	0.0000	1.8291
Total											**0.0000**	**64.5738**	**64.5738**	**4.0200e-003**	**1.1500e-003**	**65.0174**

7.0 Water Detail

7.1 Mitigation Measures Water

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	9.6557	0.3089	7.4000e-003	19.5837
Unmitigated	9.6557	0.3089	7.4000e-003	19.5837

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	9.44733 / 5.95593	9.6557	0.3089	7.4000e-003	19.5837
Total		**9.6557**	**0.3089**	**7.4000e-003**	**19.5837**

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	9.44733 / 5.95593	9.6557	0.3089	7.4000e-003	19.5837
Total		**9.6557**	**0.3089**	**7.4000e-003**	**19.5837**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	30.3269	1.7923	0.0000	75.1335
Unmitigated	30.3269	1.7923	0.0000	75.1335

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	149.4	30.3269	1.7923	0.0000	75.1335
Total		**30.3269**	**1.7923**	**0.0000**	**75.1335**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	149.4	30.3269	1.7923	0.0000	75.1335
Total		**30.3269**	**1.7923**	**0.0000**	**75.1335**

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX C. CARB 2020 AND 2025 ESTIMATED EMISSION INVENTORIES

2016 SIP Emission Projection Data

2020 Estimated Annual Average Emissions

SAN JOAQUIN VALLEY AIR BASIN

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	17.9	3.2	24.7	24.1	2.4	4.8	4.7	4.6	2.2
WASTE DISPOSAL	527.3	26.9	0.6	0.3	0.2	0.9	0.3	0.2	11.2
CLEANING AND SURFACE COATINGS	27.8	25.2	-	-	-	0.3	0.3	0.3	0.0
PETROLEUM PRODUCTION AND MARKETING	111.0	16.6	1.0	0.4	0.4	0.2	0.1	0.1	0.0
INDUSTRIAL PROCESSES	20.6	19.5	1.4	3.9	3.6	20.9	9.5	3.6	1.7
*** TOTAL STATIONARY SOURCES**	**704.7**	**91.3**	**27.7**	**28.6**	**6.5**	**27.2**	**14.9**	**8.7**	**15.2**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	55.0	49.9	-	-	-	-	-	-	113.1
MISCELLANEOUS PROCESSES	761.8	103.0	53.2	7.9	0.3	473.4	236.8	41.8	193.9

* TOTAL AREAWIDE SOURCES	816.8	152.8	53.2	7.9	0.3	473.4	236.8	41.8	307.0
MOBILE SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
ON-ROAD MOTOR VEHICLES	27.3	24.9	167.9	96.9	0.6	7.8	7.6	3.4	3.6
OTHER MOBILE SOURCES	30.6	27.2	196.2	69.8	0.3	5.6	5.5	5.0	0.0
* TOTAL MOBILE SOURCES	57.9	52.0	364.1	166.8	1.0	13.4	13.1	8.5	3.6
GRAND TOTAL FOR SAN JOAQUIN VALLEY AIR BASIN	1579.4	296.2	445.0	203.3	7.8	514.0	264.8	59.0	325.9

Start a new query.

2016 SIP Emission Projection Data

2020 Estimated Annual Average Emissions

TULARE COUNTY

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	0.6	0.2	2.8	1.9	0.1	0.2	0.2	0.2	0.1
WASTE DISPOSAL	33.0	1.4	0.1	0.0	0.0	0.2	0.0	0.0	1.1
CLEANING AND SURFACE COATINGS	1.9	1.6	-	-	-	0.0	0.0	0.0	-
PETROLEUM PRODUCTION AND MARKETING	7.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	-
INDUSTRIAL PROCESSES	2.2	2.0	0.0	0.0	0.1	2.9	1.3	0.4	0.2
*** TOTAL STATIONARY SOURCES**	**44.7**	**6.0**	**2.9**	**2.0**	**0.3**	**3.4**	**1.5**	**0.6**	**1.4**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	6.0	5.4	-	-	-	-	-	-	4.0
MISCELLANEOUS PROCESSES	195.2	27.6	9.8	1.0	0.0	61.6	31.9	5.4	54.9
*** TOTAL AREAWIDE SOURCES**	**201.2**	**33.1**	**9.8**	**1.0**	**0.0**	**61.6**	**31.9**	**5.4**	**58.9**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	2.9	2.7	18.3	8.4	0.1	0.8	0.7	0.3	0.4
OTHER MOBILE SOURCES	3.7	3.3	24.2	9.4	0.0	0.6	0.6	0.5	0.0
*** TOTAL MOBILE SOURCES**	**6.6**	**5.9**	**42.5**	**17.8**	**0.1**	**1.4**	**1.3**	**0.9**	**0.4**
GRAND TOTAL FOR TULARE COUNTY	**252.5**	**45.0**	**55.2**	**20.8**	**0.4**	**66.3**	**34.8**	**6.9**	**60.6**

2016 SIP Emission Projection Data

2025 Estimated Annual Average Emissions

TULARE COUNTY

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	0.6	0.2	2.9	1.8	0.1	0.2	0.2	0.2	0.1
WASTE DISPOSAL	35.5	1.5	0.1	0.0	0.1	0.2	0.0	0.0	1.2
CLEANING AND SURFACE COATINGS	2.1	1.8	-	-	-	0.0	0.0	0.0	-
PETROLEUM PRODUCTION AND MARKETING	7.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	-
INDUSTRIAL PROCESSES	2.4	2.2	0.0	0.0	0.1	3.2	1.4	0.4	0.2
*** TOTAL STATIONARY SOURCES**	**47.6**	**6.4**	**3.1**	**1.8**	**0.3**	**3.6**	**1.6**	**0.6**	**1.5**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	6.3	5.7	-	-	-	-	-	-	-
MISCELLANEOUS PROCESSES	195.2	27.6	9.8	0.9	0.0	62.3	32.3	5.5	55.0

* TOTAL AREAWIDE SOURCES	201.5	33.3	9.8	0.9	0.0	62.3	32.3	5.5	58.9
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	2.1	1.9	12.2	4.6	0.1	0.8	0.7	0.3	0.3
OTHER MOBILE SOURCES	3.2	2.8	24.6	7.2	0.0	0.5	0.5	0.4	0.0
* TOTAL MOBILE SOURCES	5.3	4.7	36.8	11.8	0.1	1.2	1.2	0.7	0.3
GRAND TOTAL FOR TULARE COUNTY	254.4	44.4	49.6	14.6	0.4	67.1	35.1	6.8	60.7

Start a new query.

2016 SIP Emission Projection Data

2025 Estimated Annual Average Emissions

SAN JOAQUIN VALLEY AIR BASIN

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	17.7	3.0	24.6	23.0	2.4	4.7	4.6	4.5	2.3
WASTE DISPOSAL	572.3	29.2	0.6	0.3	0.2	1.0	0.3	0.2	12.2
CLEANING AND SURFACE COATINGS	30.8	27.9	-	-	-	0.4	0.4	0.3	0.0
PETROLEUM PRODUCTION AND MARKETING	109.5	15.1	0.9	0.3	0.4	0.2	0.1	0.1	0.0
INDUSTRIAL PROCESSES	22.4	21.1	1.6	4.2	3.8	22.6	10.3	3.9	1.9
*** TOTAL STATIONARY SOURCES**	**752.7**	**96.4**	**27.7**	**27.7**	**6.8**	**28.9**	**15.7**	**9.0**	**16.4**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH**
SOLVENT EVAPORATION	57.5	52.0	-	-	-	-	-	-	109.9
MISCELLANEOUS PROCESSES	761.9	103.0	53.2	7.4	0.3	469.2	234.9	41.9	194.5

* TOTAL AREAWIDE SOURCES	819.4	155.0	53.2	7.4	0.3	469.2	234.9	41.9	304.4
MOBILE SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
ON-ROAD MOTOR VEHICLES	20.5	18.8	118.9	54.2	0.6	7.9	7.7	3.2	3.4
OTHER MOBILE SOURCES	26.8	23.9	200.1	54.4	0.3	4.7	4.6	4.2	0.0
* TOTAL MOBILE SOURCES	47.3	42.7	319.0	108.6	0.9	12.6	12.3	7.5	3.5
GRAND TOTAL FOR SAN JOAQUIN VALLEY AIR BASIN	1619.4	294.1	399.9	143.7	8.0	510.7	262.8	58.3	324.3

Start a new query.

CONTACT US

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Appendix C – Biological Analysis Report

BIOLOGICAL ANALYSIS REPORT

CORDENIZ RESIDENTIAL DEVELOPMENT PROJECT

AUGUST 2021

BIOLOGICAL ANALYSIS REPORT

CORDENIZ RESIDENTIAL DEVELOPMENT PROJECT

Prepared for:

San Joaquin Valley Homes
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August 2021

Project #210079

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Acronyms and Abbreviations

BAR	Biological Analysis Report
BSA	Biological Study Area
Cal-IPAC	California Invasive Plant Council
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWHR	California Wildlife Habitat Relationship System
ESRI	Environmental Systems Research Institute
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
GIS	Geographic Information System
GPS	Global Positioning System
HCP	Habitat Conservation Plan
MBTA	Migratory Bird Treaty Act
NHD	National Hydrography dataset
NEPA	National Environmental Quality Act
NRCS	United States Department of Agriculture, Natural Resource Conservation Service
NWI	National Wetlands Inventory
PG&E	Pacific Gas and Electric Co.
QK	Quad Knopf, Inc.
ROW	Right of Way
RWQCB	Regional Water Quality Control Board
SR	State Route
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

EXECUTIVE SUMMARY

Quad Knopf, Inc. (QK) has prepared this Biological Analysis Report (BAR) to evaluate the potential for sensitive biological resources to be impacted by the construction of the Cordeniz Residential Development Project (Project) in Tulare County, California.

The proposed Project is located on the Central Valley floor on the north side of the city of Tulare in west Tulare County, California, one mile east of the intersection of State Route (SR) 99 and East Cartmill Avenue. San Joaquin Valley Homes (the Applicant) proposes to develop approximately 38 acres for a 144-lot residential development. The Project has historically been used for agricultural purposes.

A database review and reconnaissance site visit were completed by QK Environmental Scientists to characterize existing conditions and determine the potential for special-status species and other sensitive biological resources to occur on-site that may be impacted by the Project.

The database and literature review identified 14 special-status plant species that had a potential of occurring on the Project. All 14 special status plant species were eliminated from consideration because the Project occurs outside of the species' known range, outside of the elevation range of the species, or because habitat that could support the species was absent from the Biological Study Area.

The database and literature review identified two sensitive plant communities with potential to occur on the Project. These two sensitive plant communities do not occur within the Project area and the lands surrounding the Project have been developed for agricultural or residential use for years and do not support suitable habitat for these plant communities.

The database and literature search identified 26 special status wildlife species with potential to occur on the Project. Of those, all but four were eliminated from consideration due to lack of habitat or other unsuitable conditions: western burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), American badger (*Taxidea taxus*), and San Joaquin kit fox (*Vulpes macrotis mutica*). These four species have potential to occur within the Project as transients in the agricultural fields west and north of the Project.

One special-status species was positively identified as occurring on the Project: Swainson's hawk, which is a California Department of Fish and Wildlife Threatened Species. Two Swainson's hawks were observed soaring over the Project during the reconnaissance survey, and suitable nesting habitat occurs on the Project site. Swainson's hawk and other native bird species, covered by the Migratory Bird Treaty Act have the potential to nest and forage on the Project site.

Direct and indirect impacts of the Project to these and other potentially occurring species could include injury or mortality of individuals and loss of habitat. Avoidance and minimization measures are recommended which, when implemented, would reduce Project impacts to biological resources.

SECTION 1 - INTRODUCTION

Quad Knopf, Inc. (QK) has prepared this Biological Analysis Report (BAR) to evaluate the potential for sensitive biological resources to be impacted by the construction of the Cordeniz Land Development Unit 1 Project (Project) in Tulare County, California.

1.1 - Project Location

The Project is located on Assessor's Parcel Number (APN) 149-060-005 at the northwest corner of East Cartmill Avenue and De La Vina Street adjacent to and just outside the boundary of the City of Tulare, California (Figures 1-1 and 1-2).

The Project site is located within the *Tulare, California* USGS 7.5-minute topographic quadrangle map in the SW ¼2 of SW ¼ of Section 25 Township 19 South, Range 24 East, of the Mount Diablo Base and Meridian (MDB&M). Elevation of the site is approximately 300 feet above mean sea level.

1.2 - Project Description

The Cordeniz Residential Development Project proposes to construct a 144-lot tentative subdivision on approximately 38 acres of undeveloped land (Project). The development would include single story homes of 3 to 4 bedrooms ranging in size from 1,200 to 2500 square feet with the associated road and utility improvements. Access to the proposed subdivision will be from Almaden Street and De La Vina Avenue.

The Project will be annexed into the City of Tulare and will connect to the City's water and sewer system.

The construction of subdivision will take approximately 9 months and will be completed in 2 phases. It is anticipated that construction will include up to 15 crew onsite. Equipment that may be used during construction includes:

- 12 CY & 20 CY Scrapers
- Motor Graders (Blades)
- Vibratory and Static Compactors (Sheep's Foot & Smooth Drum)
- 3500 Gallon Water Trucks
- Track Excavators and Rubber Tired Backhoes
- Rubber-Tired Loaders
- 12 CY Concrete Trucks
- Concrete Extrusion Machine

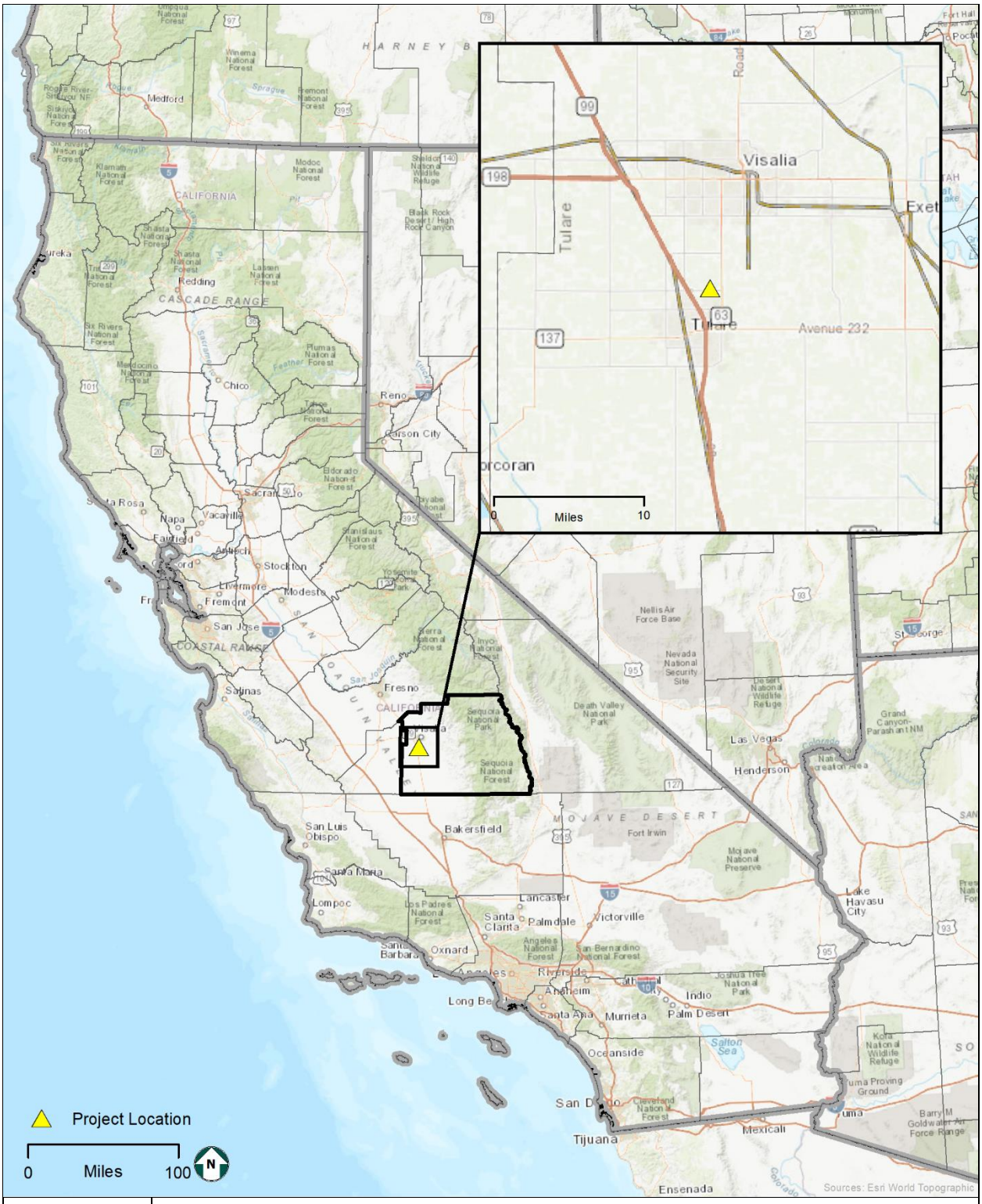

Figure 1-1
Regional Map
Cordeniz Land Development Unit 1 Project
Tulare County, California

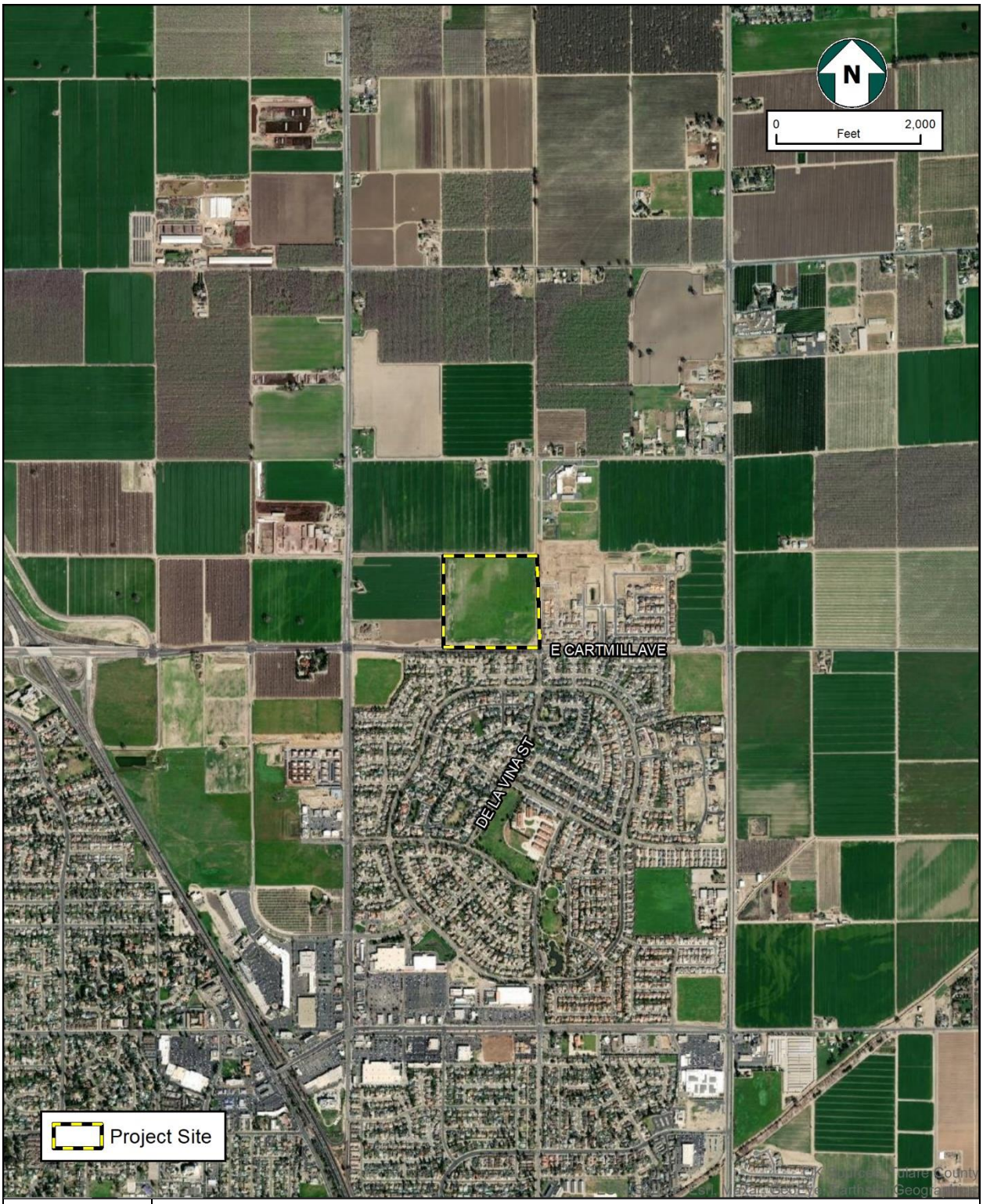

Figure 1-2
Project Vicinity Map
Cordeniz Land Development Unit 1 Project
Tulare County, California

1.3 - Purpose, Goals, and Objectives

The purpose of this BAR is to identify where potential sensitive biological resources may occur within the Project site, determine how those resources may be impacted by the Project, and recommend avoidance and minimization measures to reduce impacts to a less than significant level. This BAR was prepared to support an analysis of biological conditions as required by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), and to support regulatory permit applications, if needed.

SECTION 2 - METHODS

2.1 - Definition of Biological Study Area

The Biological Study Area (BSA) consists of the proposed Project and a surrounding 250-foot survey buffer (Figure 2-1).

2.2 - Definition of Special-Status Species

Special-status species evaluated in this report include:

- Species listed as threatened or endangered under the Federal Endangered Species Act (FESA). Species that are under review by the United States fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) may be included if there is a reasonable expectation of listing within the life of the Project,
- Species listed as candidate, threatened, or endangered under the California Endangered Species Act (CESA),
- Species designated as Fully Protected, Species of Special Concern, or included on a Watch List by the California Department of Fish and Wildlife (CDFW),
- Other species included on the CDFW's Special Animals List,
- Plant species with a California Rare Plant Rank (CRPR), and
- Species designated as locally important by a Local Agency and/or otherwise protected through ordinance or local policy.

The potential for each special-status species to occur in the BSA was evaluated according to the following criteria:

- No Potential to Occur. Habitat on and adjacent to the site is clearly unsuitable to meet the needs of the species (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identified on-site if present (e.g., oak trees).
- Yes, Potential to Occur. Conditions on the site may, in some way, support a portion of the species ecology (foraging, reproduction, movement/migration). Negative survey results independent of other information does not exclude the potential for a species to occur.
- Present. Species was observed on the site or has been recorded (e.g., California Natural Diversity Database, California Native Plant Society) on the site recently (within the last 5 years).

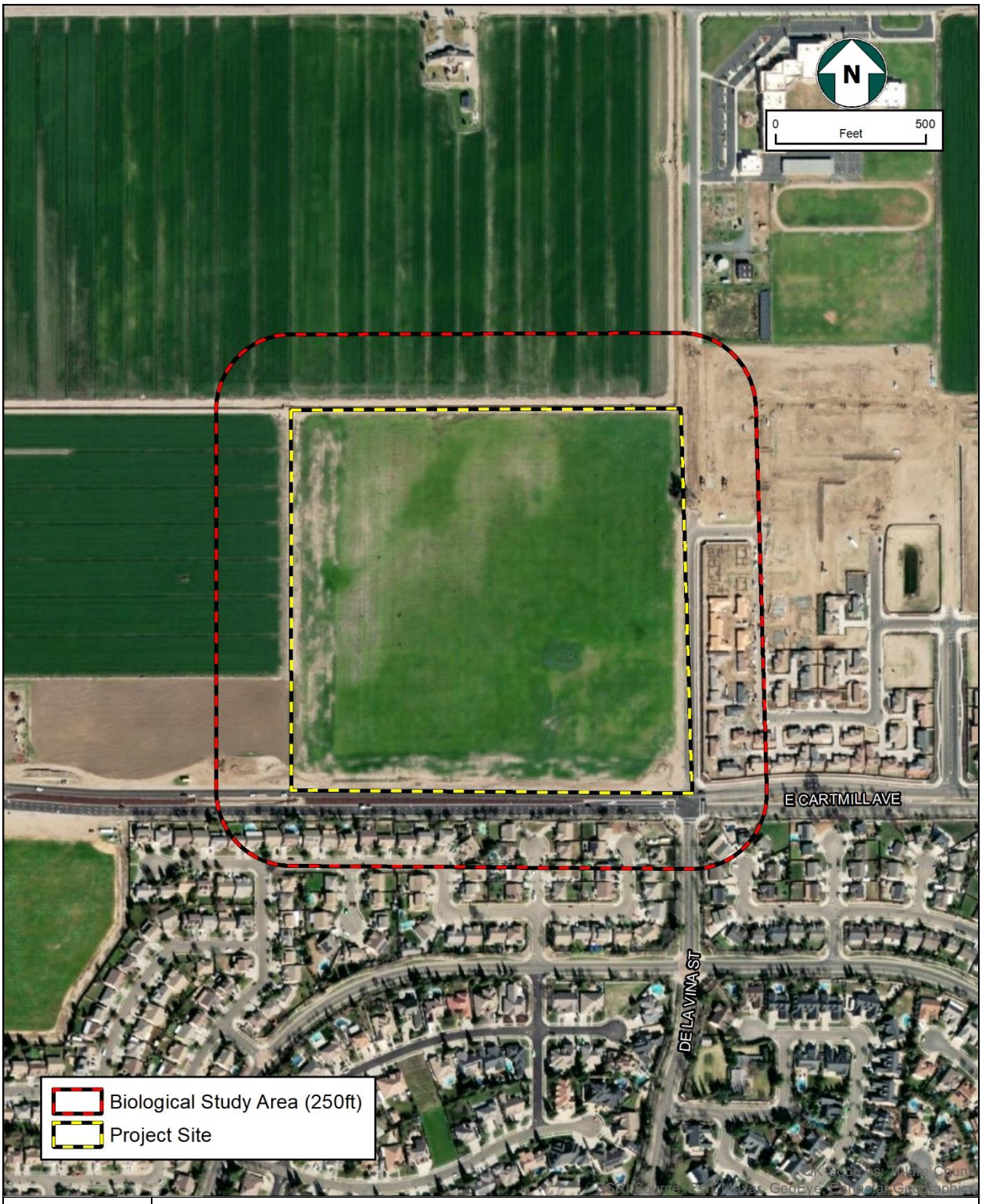

Figure 2-1
Biological Study Area (BSA) Map
Cordeniz Residential Development Project
Tulare County, California

2.3 - Literature Review and Database Analysis

The following sources were reviewed for information on sensitive biological resources in the Project vicinity:

- CDFW's California Natural Diversity Database (CDFW, 2021a)
- CDFW's Biogeographic Information and Observation System (CDFW, 2021b)
- CDFW's Special Animals List (CDFW, 2021c)
- CDFW's California Wildlife Habitat Relationships (CWHR) System (Mayer, K.E., and W.F. Laundenslayer, Jr., 1988)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (California Native Plant Society (CNPS), 2021)
- USFWS Information for Planning and Consultation system (USFWS, 2021a)
- USFWS Critical Habitat Mapper (USFWS , 2021b)
- USFWS National Wetlands Inventory (USFWS, 2021c)
- USGS National Hydrography Dataset (U.S. Geological Survey (USGS), 2021)
- Federal Emergency Management Agency (FEMA) flood zone maps (Federal Emergency Management Agency (FEMA) , 2021)
- U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) Web Soil Survey (United States Department of Agricultural, 2021a)
- NRCS List of Hydric Soils (United States Department of Agriculture, Natural Resources Conservation Service (NRCS), 2021b)
- Current and historical aerial imagery (Google LLC, 2021)
- Topographic maps (U.S. Geological Survey (USGS), 2021)

For each of these data sources, the search was focused on the California USGS 7.5-minute quadrangles *Tulare,* in which the Project is located, plus the surrounding eight quadrangles: *Paige, Goshen, Visalia, Exeter, Cairns Corner, Woodville, Tipton,* and *Taylor Weir*.

The CNDDB 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 CNDDB is still undergoing review by the CDFW; these records are identified as unprocessed data. The CNPS database provides similar information as the CNDDB, 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 National Wetlands Inventory (NWI), National Hydrography Dataset (NHD), and Web Soil Survey provide comprehensive data, but at a low resolution that requires confirmation in the field. The CDFW Special Animals List and USFWS Information for Planning and Consultation system provide no spatial data on wildlife occurrences and provide only lists of species that might potentially be present.

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 of the BSA to determine which sensitive resources are or could be present, and then the potential for impacts to those resources to occur from Project implementation.

2.4 - Reconnaissance-Level Field Survey

A reconnaissance survey of the BSA was conducted on July 8, 2021, by QK Environmental Scientists Shannon Gleason and Mitch Wayman (Table 2-1). The survey consisted of walking meandering pedestrian transects spaced 50 to 100 feet apart throughout the BSA, where feasible. A portion of the survey buffer was inaccessible because it overlapped with private residential properties or active private agricultural fields. Those areas were surveyed visually with the aid of binoculars to gather a representative inventory of the plant and wildlife species present. The entire Project area was surveyed on foot.

Table 2-1
Reconnaissance Survey Personnel and Timing
Cordeniz Land Development Unit 1 Project, Tulare County, California

Date	Personnel	Time	Weather Conditions	Temperature
July 8, 2021	Shannon Gleason, Mitch Wayman	0935-1055	Clear, Sunny	82-94°F

The survey included creating an inventory of plant and wildlife species observed, characterizing vegetation associations and habitat conditions, determining presence of wetlands and waters on and near the Project site, assessing the potential for federal- and State- listed and special-status plant and wildlife species to occur on and near the Project site, and assessing the potential for migratory birds and raptors to nest on and near the Project site. All locational data were recorded using ESRI Collector for ArcGIS software installed on an iPad and site conditions were documented with representative photographs (Appendix A).

SECTION 3 - REGULATORY SETTING

Regulated or sensitive resources that were studied and analyzed include special-status plant and animal species, sensitive plant communities, nesting birds and raptors, jurisdictional waters and wetlands, wildlife movement areas, and locally protected resources such as protected trees. Regulatory authority over biological resources is shared by federal, State, and local authorities. Primary authority for regulation of general biological resources lies within the land use control and planning authority of local jurisdictions (in this instance, Tulare County).

Potential impacts to biological resources were analyzed based on the following list of statutes. Summaries of these statues are provided in Appendix B.

- CEQA
- FESA
- CESA
- Federal Clean Water Act
- California Fish and Game Code
- Migratory Bird Treaty Act
- The Bald and Golden Eagle Protection Act
- Porter-Cologne Water Quality Control Act
- City of Tulare General Plan

SECTION 4 - ENVIRONMENTAL SETTING

This section identifies the regional and local environmental setting of the BSA and describes existing baseline conditions. The environmental setting of the BSA was obtained from various sources of literature, databases, and aerial photographs. Information on site conditions were gathered during a survey of the Project site conducted by QK biologists.

4.1 - Physical Characteristics

The BSA is in a region dominated by agriculture and urban development on the eastern San Joaquin Valley floor, west of the Sierra Nevada Mountain range. The BSA is situated among residential and active agricultural lands. Residential development is located to the east and south of the Project site and agricultural development is located to the north and west. The Project is located on the northeast section of the City of Tulare, Tulare County, a census-designated place. Land within the Project boundary was formerly used for agriculture and still retains some related disturbance such as a well and pumping unit in the southeast quadrant of the site. Physical characteristics of the BSA are described below. Representative photographs of the BSA are included in Appendix B.

4.1.1 - TOPOGRAPHY

The Project is on the floor of the San Joaquin Valley west of the Sierra Nevada foothills. The topography is flat, with an elevation range between approximately 300 and 305 feet above mean sea level.

4.1.2 - CLIMATE

The region in which the BSA is located is characterized by a Mediterranean climate of hot summers and wet, mild winters. Average high temperatures range from 56.0°F in January to 97.5°F in July, and it is not uncommon for temperatures to exceed 100°F during the summer (WRCC, 2021). Average low temperatures range from 36.8°F in December to 63.5°F in July. Precipitation occurs primarily as rain, most of which falls between November and April. Precipitation may also occur as dense fog during the winter known as Tule Fog. Rain rarely falls during the summer months and there has been numerous years of drought conditions for region resulting in lower-than-average rainfall.

4.1.3 - LAND USE

Lands surrounding the Project area consist of urban development, an elementary school, agriculture, and a water irrigation canal along the eastern boundary. Land use within the Project boundary consists of an abandoned water pumping unit and was historically agricultural but is currently fallow land. The Project is bounded by paved streets with associated residences and actively used agricultural lands. East Cartmill Avenue is to the south, De La Vina Street is to the east, and agricultural lands are located to the north and south (see Figure 2-1).

4.1.4 - SOILS

The BSA is underlain by one soil type: Nord fine sandy loam.

The Nord soil series is characterized by very deep and well drained soils (United States Department of Agricultural, 2021a). This soil series has a negligible to low rate of runoff and moderate permeability; however, in saline-sodic phases the permeability is moderate. They are formed of mixed alluvium from granitic and sedimentary rock. Nord can be found in alluvial fans and flood plains areas. Slopes range between 0 to 2 percent. This soil series can be used for irrigated crops including wheat (*Triticum* sp.), sugar beets (*Beta vulgaris*), corn (*Zea mays*), cotton (*Gossypium* sp.), alfalfa, walnuts (*Juglans* sp.), peaches and other fruit or nut trees. Natural vegetation that can grow on this soil type includes annual grasses and forbs and valley oak (*Quercus lobata*).

4.1.5 - HYDROLOGY

There are no waterways on or intersecting the Project site. There is an agricultural canal along the eastern boundary of the Project site that runs east-west (Figure 4-1). This canal was dry at the time of the survey (see Appendix B Photograph 5). Historically there was an agricultural irrigation canal running through the southeastern quadrant of the Project site, however this canal was backfilled sometime between September 1994 and July 2003 (Google LLC, 2021). The pumping unit associated with this canal remains on-site. The entire BSA is located within an Area of Minimal Flood Hazard.

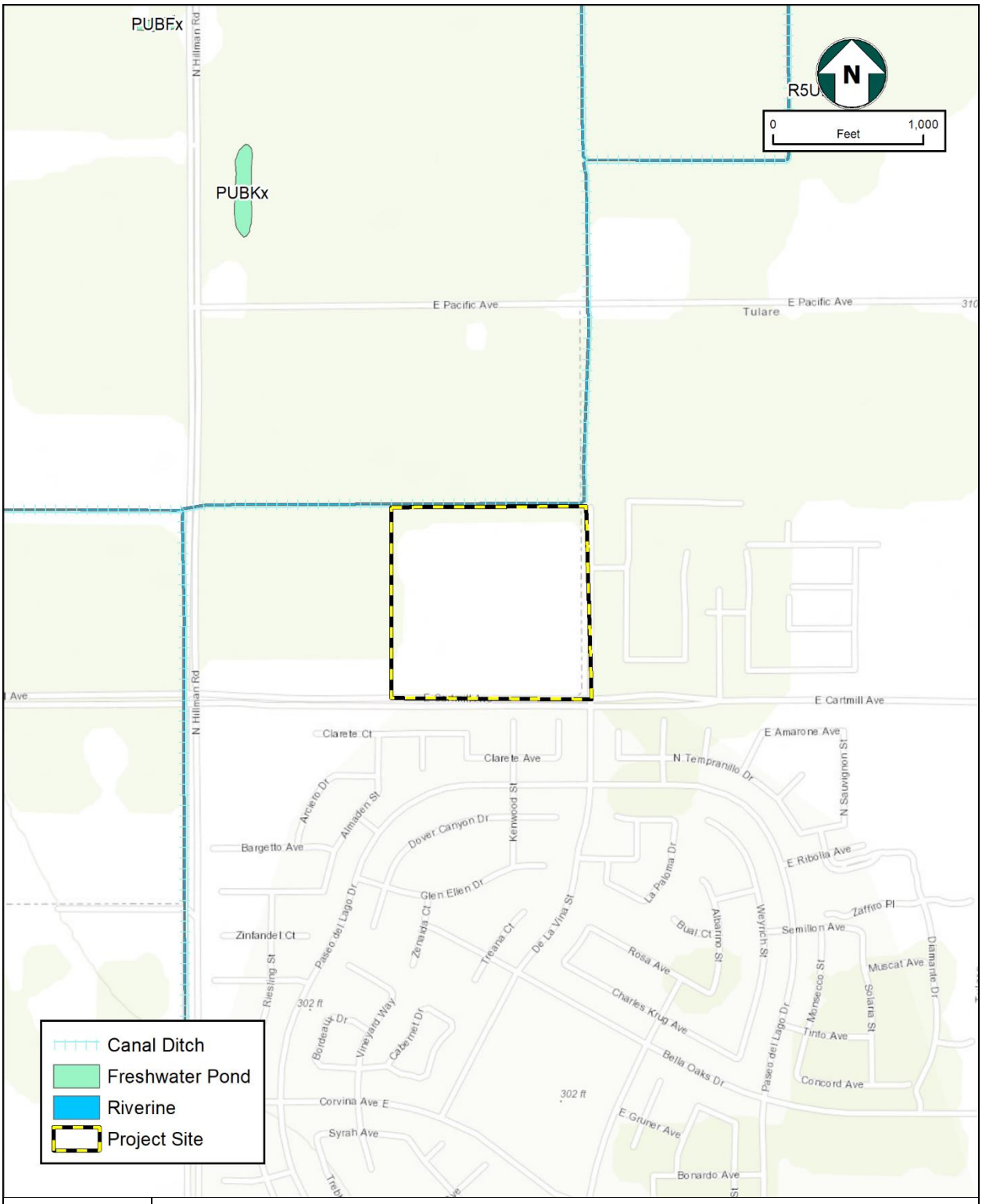

Figure 4-1
NHD and NWI Mapped within the BSA
Cordeniz Residential Development Project
Tulare County, California

4.2 - Vegetation and Other Land Cover

Five habitat types were observed within the BSA: Annual Grassland, Barren, Irrigated Grain Crop, Dryland Grain Crop, and Urban (Table 4-1, Figure 4-2). Habitats were characterized following the CWHR (Mayer, K.E., and W.F. Laundenslayer, Jr., 1988). The entire Project site is within Annual Grassland except for the pump site located in the southeast quadrant which is classified as Barren. One large valley oak tree is located on the eastern boundary of the Project site. A complete list of plant species observed is presented in Appendix C of this document.

Table 4-1
Habitat Acreages Observed Within the BSA
Cordeniz Land Development Unit 1 Project, Tulare County, California

Habitat Type	Acreages	
	Project	250' Buffer
Annual Grassland	36.68	0.00
Barren	3.66	12.68
Irrigated Grain Crop	0.00	7.05
Dryland Grain Crop	0.00	5.70
Urban	0.00	13.00

Figure 4-2
Vegetation Communities within the BSA
Cordeniz Residential Development Project
Tulare County, California

4.2.1 - ANNUAL GRASSLAND

Annual grassland is described by Mayer & Laudenslayer (Mayer, K.E., and W.F. Laundenslayer, Jr., 1988) as open grasslands composed primarily of annual plant species, which also will occur as understory plants in woodland habitats. Habitat structure is dependent largely on weather patterns and livestock grazing. Large quantities of dead plant material may accumulate in summer months. Plant species of this habitat include introduced annual grasses such as brome (*Bromus* sp.) and wild oats (*Avena* sp.), and forbs such as filaree (*Erodium* sp.) and turkey mullein (*Croton setiger*). Many wildlife species use annual grassland habitat for foraging, but some require special habitat features such as cliffs, ponds, and woodlands for breeding and refuge. Characteristic species of annual grasslands include western fence lizard (*Sceloporus occidentalis*), western rattlesnake (*Crotalus oreganus*), California ground squirrel (*Otospermophilus beecheyi*), coyote (*Canis latrans*), turkey vulture (*Cathartes aura*), burrowing owl (*Athene cunicularia*), and horned lark (*Eremophila alpestris*).

Annual Grassland is the predominant vegetative land cover of the BSA, covering approximately 36.7 acres of the Project (see Table 4-1). This habitat is absent from the buffer. Species observed were mainly non-native and included grasses such as ripgut brome (*Bromus diandrus*) and foxtail barley (*Hordeum murinum*), with scattered herbaceous species such as fiddleneck (*Amsinckia menziesii*), redstem filaree (*Erodium cicutarium*), and Russian thistle (*Salsola tragus*). Many plant specimens in this habitat were desiccated and identification to a species-level was not possible.

4.2.2 - BARREN

This non-vegetated habitat is defined by the absence of vegetation. Any habitat with <2% total vegetation cover by herbaceous, desert, or non-wildland species and <10% cover by tree or shrub species is defined this way. Barren habitat may be found in combination with many different habitats, depending on the region of the State. Where there is little or no vegetation, structure of the non-vegetated substrate becomes a critical component of the habitat. Certain bird species nest on rock ledges and open ground covered with sand or gravel to construct scrape nests. Rocky canyon walls above open water are preferred foraging habitat for many bats. The physical settings for permanently barren habitat represent extreme environments for vegetation.

Barren habitat occurs within the BSA, covering approximately 3.7 acres of the Project site and approximately 12.7 acres of the survey buffer (see Table 4-1). This habitat consisted of compacted soil, asphalt roadways, and concrete sidewalks. Some ruderal and non-native plant species were found scattered along the compacted borders that run on the edges of the BSA. There are two paved roads bordering the east and south sides of the Project that are paved and have public access.

4.2.3 - IRRIGATED GRAIN CROP

Mayer and Laudenslayer (Mayer, K.E., and W.F. Laundenslayer, Jr., 1988) describe Irrigated Grain Crops as including vegetation consisting of a variety of sizes, shapes, and growing patterns which primarily includes annuals like corn, dry beans, safflower, barley, and wheat. Milo, grain sorghum, and sunflowers can also be grown. All seed and grain crops are annuals meaning they are usually planted in spring and harvested in the summer or fall. They may be planted in rotation with other irrigated crops and sometimes with winter wheat or barley. Irrigated grain and seed crops are established on the State's most fertile soils, which historically supported an abundance of wildlife. Croplands have greatly reduced the wildlife habitat richness and diversity in California. Many species of rodents and birds have adapted to croplands and are controlled by fencing, trapping, and poisoning to prevent excessive crop losses. Hawks, owls, and other predators feed on the rodents within the habitat and deer, elk, antelope, and wild pigs can cause depredation problems. Local populations of some bird species have become excessive resulting in serious crop losses and are generally not welcomed by growers. Irrigated Grain Crops are located on flat to gently rolling terrain throughout California.

Irrigated Grain Crop is present on the privately owned agriculture field directly north of the Project and is present as planted corn (*Zea mays*) covering approximately 7.0 acres of the buffer and no acreage within the Project (see Table 4-1).

4.2.4 - DRYLAND GRAIN CROP

Mayer and Laudenslayer (Mayer, K.E., and W.F. Laundenslayer, Jr., 1988) describe Dryland Grain Crops as non-irrigated grain and seed crops which include annual seed producing grasses, primarily barley, cereal rye, oats, and wheat. They are generally planted in the fall and harvested in the spring and can be planted in rotation with other irrigated crops such as winter wheat or barley. Dryland grain and seed crops are usually established on fertile soils, which historically supported an abundance of wildlife. Grain crops have reduced the wildlife habitat richness and diversity. Many species of rodents and birds have adapted to croplands and are controlled by fencing, trapping, and poisoning to prevent excessive crop losses. Deer, elk, antelope, and wild pigs forage in grain fields and can cause depredation problems. Pheasants introduced to the cropland habitat have experienced recent population declines owing to changes in crop patterns and cultural practices for growing small grains. Dryland Grain Crops are generally located on flat to gently rolling terrain throughout California.

This habitat type occurs in the buffer of the BSA. Dryland Grain Crop, consisting of winter wheat (*Triticum* sp.), was observed west of the Project on privately owned land, covering approximately 5.7 acres of the buffer with no acreage within the Project site (see Table 4-1).

4.2.5 - URBAN

Mayer and Laudenslayer (Mayer, K.E., and W.F. Laundenslayer, Jr., 1988) describe urban habitat as variable with five vegetative structures defined: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. These structures vary based on the associated urban

development. Vegetation commonly associated with this habitat includes ornamental herbs (grass lawns, weeds, and flowers), shrubs, hedges, and trees, as well as ruderal species. Species composition within urban habitat varies with the type of ornamental plantings.

There is Urban habitat to the east and south of the BSA within the survey buffer that are residential neighborhoods, covering approximately 13.0 acres of the buffer and no acreage within the Project (see Table 4-1). Vegetation within these urban areas consists mainly of non-native ornamental plant species, including larger trees.

4.3 - General Wildlife Observations

Wildlife species observed within the BSA were typical for the Urban, agricultural, and Annual Grassland habitats Bird species observed included common raven (*Corvus corax*), killdeer (*Charadrius vociferus*), rock pigeon (*Columba livia*) and red-tailed hawk (*Buteo jamaicensis*). There were multiple active California ground squirrel (*Otospermophilus beecheyi*) burrows scattered throughout the Project site. A complete list of wildlife observed is included in Appendix C.

SECTION 5 - SENSITIVE BIOLOGICAL RESOURCES

Local, State, and federal agencies regulate special-status species and other sensitive biological resources and require an assessment of their presence or potential to be present on-site prior to the approval of a proposed development. This section discusses sensitive biological resources observed on the BSA and evaluates the potential for the BSA to support other sensitive biological resources. Assessments for the potential occurrence of special-status species were based upon known ranges, habitat preferences of the species, species occurrence records from the CNDDB and CNPS, species occurrence records from other sites in the vicinity of the BSA, relevant reports, and the results of surveys conducted at the Project site and associated Project components.

5.1 - Special-Status Species

A complete list of species generated from literature and database searches that were evaluated for this Project are included in Appendix D. From this search, it was determined that no plant species and four wildlife species have the potential to occur within the BSA (Table 5-1). The wildlife species with potential to occur are discussed in the subsections below.

Table 5-1
Cordeniz Residential Development Project, Tulare County, California

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Potentially Affected by Project? Yes/No	Viability Threat? Yes/No
Birds			
Athene cunicularia burrowing owl	-/- SSC	Yes	No
Buteo swainsoni Swainson's hawk	-/ST -/-	Yes	No
Mammals			
Taxidea taxus American badger	-/- SSC	Yes	No
Vulpes macrotis mutica San Joaquin kit fox	FE/ST -/-	Yes	No

FE Federally Endangered
ST State Threatened
SSC State Species of Special Concern

5.1.1 - SPECIAL-STATUS PLANT SPECIES

The literature and database review identified 14 special-status plant species known or with potential to occur in the vicinity of the Project (see Appendix D). Of those, all special status plant species were eliminated from consideration because the project occurs outside of the species known range, outside of the elevation range of the species, or because habitat that could support the species was absent from the BSA.

5.1.2 - SPECIAL-STATUS WILDLIFE SPECIES

The literature and database review identified 26 special-status wildlife species known or with potential to occur in the vicinity of the Project (see Appendix D). Of those, four have a potential to occur within the BSA (see Table 5-1). These species are discussed below.

Western Burrowing Owl

ATHENE CUNICULARIA

Status: State Species of Special Concern

The western burrowing owl is a small ground-dwelling owl that is found throughout western North America. This species occupies a variety of habitat types including grassland, shrub steppe, desert, natural prairie, agricultural areas (including pastures, un-tilled margins of cropland, and irrigation canals), earthen levees and berms, ruderal, grassy fields, pastures, coastal uplands, and urban vacant lots as well as the margins of airports, golf courses, and roads. Burrowing owls use earthen burrows, typically relying on other fossorial mammals to construct their burrows (USFWS, 1998). In California, they are most often associated with California ground squirrel burrows (Winchell, Clark S., 1994). They use a burrow throughout the year for temperature regulation, offspring rearing, shelter, and escape from predators. While burrows are most often earthen, they have been documented using atypical burrows such as pipes, culverts, and other man-made structures, most often as shelter (Gardali, 2008). Burrowing owls can have several burrows close to one other that they may use frequently to avoid predators.

There is suitable habitat for the species in the existing California ground squirrel burrows in the Annual Grassland habitat within the BSA. Individuals could become established as residents or occur as transients at any time. There are no CNDDB records within 10 miles of the Project.

Swainson's Hawk

BUTEO SWAINSONI

Status: State Threatened

Swainson's hawks occur in grassland, desert, and agricultural landscapes in the Central Valley and Antelope Valley of California (Bechard, M. J., C. S. Houston, J. H. Saransola, and A. S. England, 2010) (Zeiner, D., W.F. Laudenslayer, Jr., and K.E. Mayer, 1990). Some hawks may be residents, especially in the southern portion of their range, but most migrate between wintering habitat in Central and South America and breeding habitats in North America. They prefer larger isolated trees or small woodlots for nesting, usually with grassland or dry-land grain fields nearby for foraging. They have been known to nest in large eucalyptus trees along heavily traveled freeway corridors. Swainson's hawks forage in grassland, open scrub, pasture, and dryland grain agricultural habitats, primarily for rodents. Swainson's hawks exhibit a moderate to high nest site fidelity at successful nest sites.

Two Swainson's hawks were observed soaring over the east side of the BSA during the reconnaissance survey. The Project provides suitable foraging habitat, and the valley oak

tree on-site provides suitable nesting habitat, along with the large trees planted in the nearby residential communities. The nearest CNDDB occurrence is approximately 4.1 miles southwest of the Project, where a nesting pair was observed in April 2016 in a lone oak tree in a wheat field (EONDX 115249).

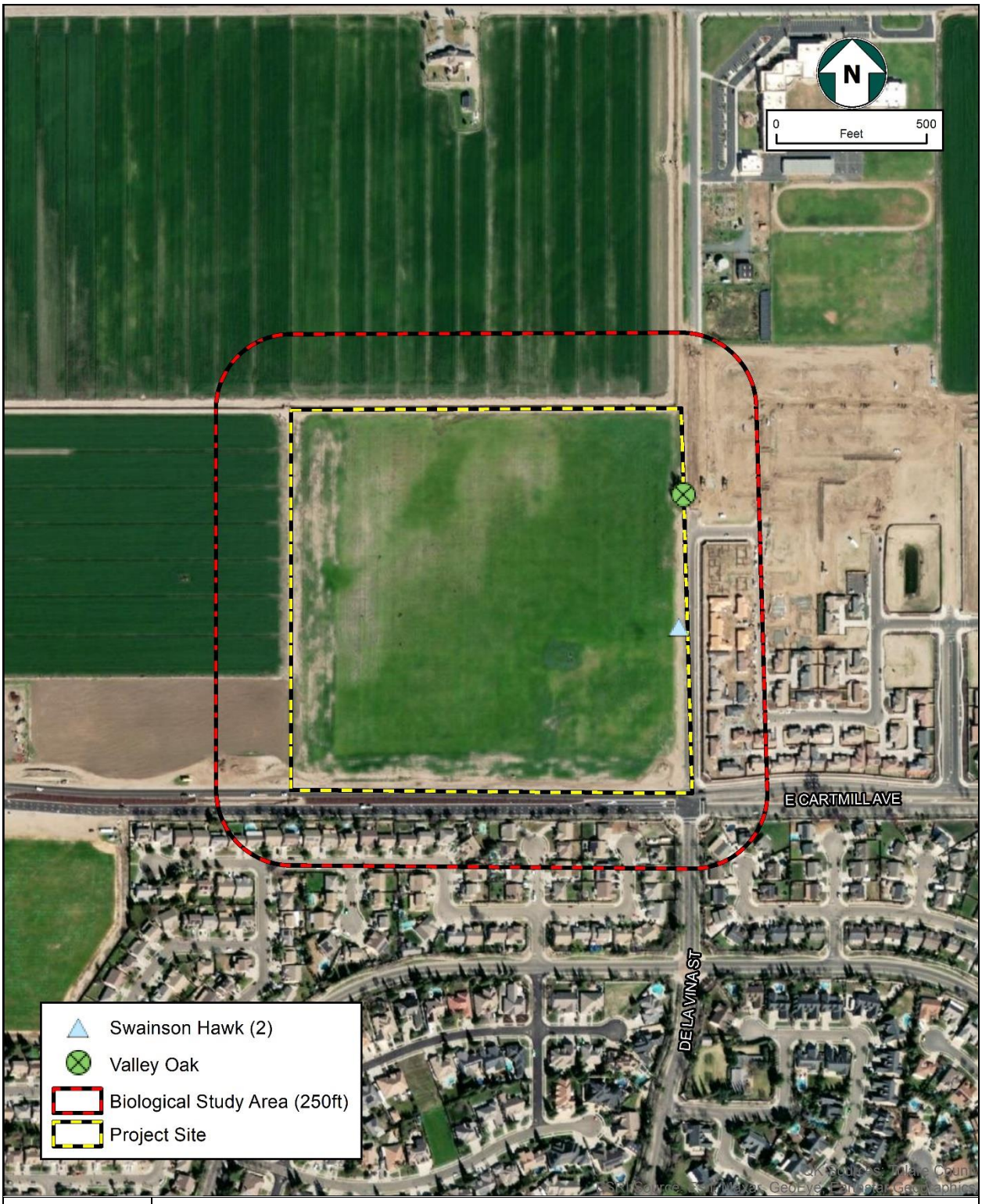

Figure 5-1
Observations of Bird Species of Concern
Cordeniz Residential Development Project
Tulare County, California

American Badger

TAXIDEA TAXUS

Status: State Species of Special Concern

The American badger is an uncommon permanent resident throughout California, except in high alpine habitats and in the northern North Coast (CDFG, 1995). They can typically be found in grasslands, deserts, and drier habitats. Badgers are typically nocturnal and hunt or forage at night while spending daylight hours below ground. Normally, they have a single den entrance that is approximately eight to 12 inches in width, in an elliptical or half-moon shape, similar to their body shape. Dens are usually found in friable soils. American badgers spend most of their time near a den, but they may have multiple dens in an area that they may often frequent. American badgers are known to be able to dig a new den each night. During cooler nights, the entrance to the den may be partially plugged with soil to help regulate temperatures. American badgers primarily feed on small mammals that they capture from digging out the prey's burrows. Such prey may include pocket gophers, mice, chipmunks, and ground squirrels (CDFG, 1995). Other prey may include birds, bird eggs, reptiles, invertebrates, and carrion.

The Annual Grassland within the BSA provides both denning and foraging habitat for the species, with a large prey base of California ground squirrels. Although the BSA is relatively isolated from other suitable habitat, the species has been known to traverse over agricultural land and could establish within the BSA or occur as a transient at any time. The nearest CNDDB occurrence is approximately 9.8 miles northeast of the Project in pasture and fallow field from 1994 (EONDX 56600).

San Joaquin Kit Fox

VULPES MACROTIS MUTICA

Status: Federally Endangered and State Threatened

San Joaquin kit foxes are a subspecies of kit fox that is endemic to the Central Valley of California (USFWS, 1998) (USFWS, 2021a). They are found primarily in the San Joaquin Valley, Carrizo Plain, and Cuyama Valley, as well as other small valleys in the western foothills of the Central Valley. They are only found west of the Sierra Nevada crest. They occupy arid to semi-arid grasslands, open shrublands, savannahs, and grazed lands with loose-textured soils. San Joaquin kit foxes are well-established in some urban areas and are highly adaptable to human-altered landscapes. They generally avoid intensively maintained agricultural land uses. San Joaquin kit foxes use subterranean dens year-round for shelter and pup-rearing. They are nocturnally active but may be visible above ground near their dens during the day, particularly in the spring. The feed primarily on small mammals, but will consume a variety of prey, and will scavenge for human food. The City of Bakersfield hosts an urban population of San Joaquin kit fox and they have shown to be adaptable to human presence.

There is suitable denning and foraging habitat within the BSA and this species is highly adaptable to urban environments. Individuals may establish dens or pass through the BSA as transients at any time. There are numerous CNDDB occurrences within 10 miles of the

Project, the closest of which documents a San Joaquin kit fox population from 1992, approximately 1.5 miles south of the Project (EONDX 70631).

5.1.3 - OTHER PROTECTED SPECIES

Nesting Birds and Raptors

Habitat within the BSA could support numerous nesting migratory bird species, which are protected by the federal MBTA and the California Fish and Game Code. The survey was conducted during the nesting bird season (February 1 to September 15), but no bird nests, active or inactive, were observed within the areas surveyed. There are private residences to the east and south of the Project where suitable nest trees and structures for nesting birds are present, though most were not surveyed due to lack of access.

Various species of migratory birds will construct nests in a variety of habitats and structures, and nests may be constructed in trees or shrubs, man-made structures, and directly on the ground. Because the BSA supports several types of habitats suitable for nesting birds, it is likely that birds will nest on or near the Project site.

5.2 - Sensitive Natural Communities

5.2.1 - SENSITIVE PLANT COMMUNITIES

The literature and database review identified two sensitive natural communities known or with potential to occur in the vicinity of the Project, Great Valley Oak Riparian Forest and Valley Sacaton Grassland (see Appendix D). These two sensitive plant communities, their habitat requirements, and characteristic plant species were not observed within the BSA. There are no occurrences of Great Valley Oak Riparian Forest within 10 miles of the Project and the nearest CNDDB occurrence for Valley Sacaton Grassland is approximately 9.7 miles northeast of the Project.

5.2.2 - CRITICAL HABITATS

There is no critical habitat present within the BSA or in its immediate vicinity. Due to its repeated and consistent agricultural uses, the Project land would not be suitable for any native plants and most native wildlife species. There are no areas of critical habitat mapped within 10 miles of the Project.

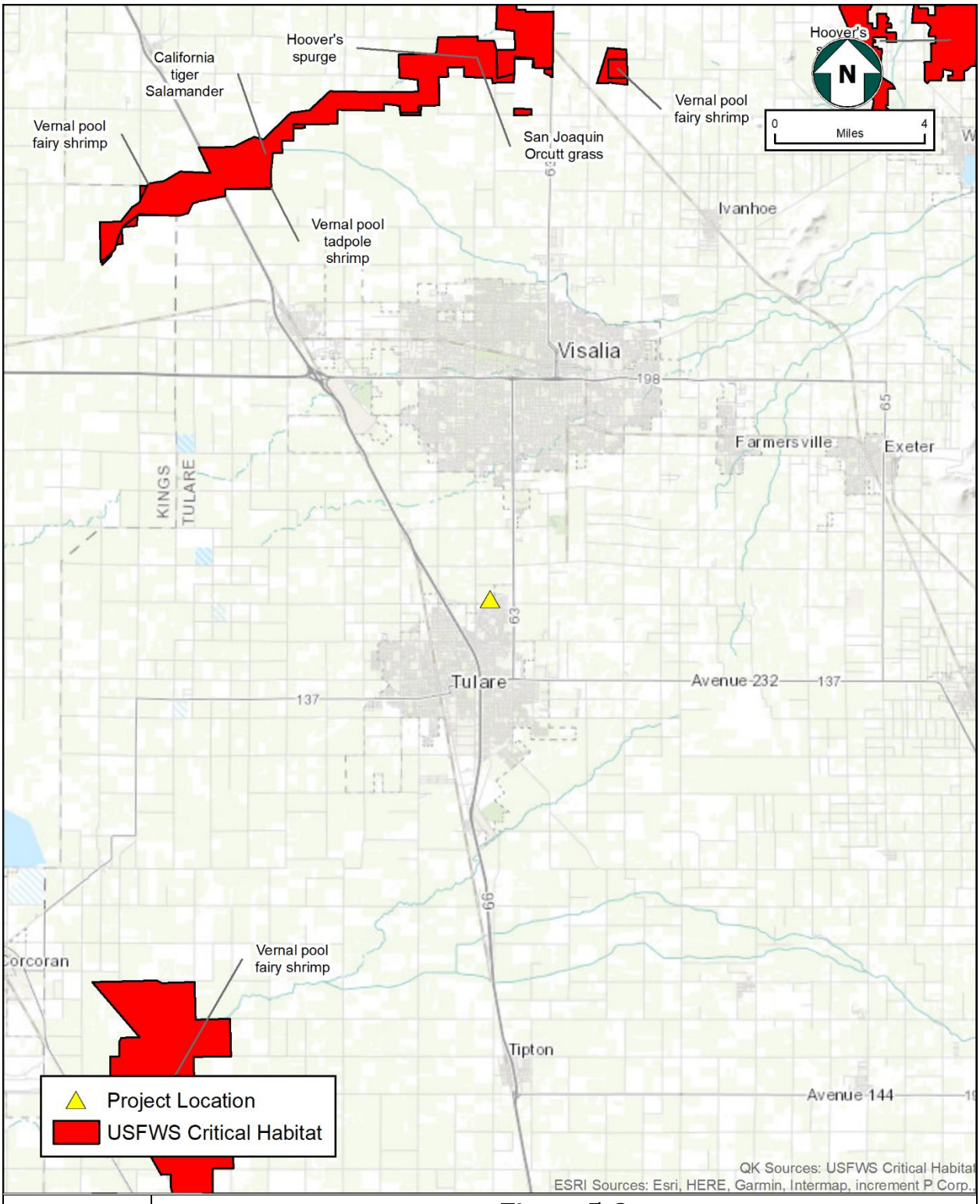

Figure 5-2
Mapped Critical Habitat in the Project Vicinity
Cordeniz Land Development Unit 1 Project
Tulare County, California

5.3 - Jurisdictional Aquatic Resources

A formal delineation of Waters of the U.S. and waters of the State was not conducted for this BAR. Field verification was focused on addressing the presence of features resulting from the NHD and NWI database queries, and any additional water features that might be present in the Project Footprint or in its vicinity. The NHD identified one agricultural canal, which was observed during the reconnaissance survey (Figure 4-1; Appendix B Photograph 5). This canal has regulated irrigation flows and was dry at the time of the survey and will not be impacted by the Project. No wetlands or other water features were identified by the NWI (Figure 4-1).

5.4 - Wildlife Movement

Wildlife movement corridors, also referred to as dispersal corridors or landscape linkages, are generally defined as linear features along which animals can travel from one habitat or resource area to another. Wildlife movement corridors can be large tracts of land that connect regionally important habitats that support wildlife in general, such as stop-over habitat that supports migrating birds or large contiguous natural habitats that support animals with very large home ranges (e.g., coyotes, mule deer [*Odocoileus hemionus californicus*]). They can also be small scale movement corridors such as riparian zones that provide connectivity and cover to support movement at a local scale.

The BSA is situated within the Pacific Flyway, which is a significant avian migration route that covers a wide swath of land along the western Americas from Patagonia to Alaska. The BSA is not located within any other wildlife movement corridors, although it is within approximately 20 miles of such corridors (Figure 5-3).

The Project site is bordered on all four sides by residential development and agricultural development. These converted land uses surround the Project for several miles on each side. The Project site is isolated by these surrounding land use. Conversion of this agricultural site to residential usage would not significantly alter this site relative to regional wildlife movements.

5.5 - Resources Protected by Local Policies and Ordinances

The City of Tulare General Plan protects the valley oak (*Quercus lobata*). The General Plan will "preserve mature Valley Oaks" according to Measure COS-P2.7. There is one valley oak on the east side of the Project, and the Project is designed to avoid and have no impacts to this tree. The surrounding land has been used for agriculture for numerous years and any impacts to the agricultural land will not be significant.

5.6 - Habitat Conservation Plans

The Project is located within an area covered by the PG&E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan (HCP). This HCP applies to maintenance and operations of PG&E facilities only and does not apply to the Project.

SECTION 6 - IMPACT ANALYSIS AND RECOMMENDED MITIGATION MEASURES

This section provides an analysis of the potential for special-status biological resources to be impacted by the proposed Project. The analysis was developed using the CEQA Appendix G questions, but also provides sufficient information to support NEPA) documentation. In addition to the standard CEQA analysis topics, we have added another topic that could result in impacts to wildlife, which is an analysis of the quality of irrigation reuse water and the potential effect on wildlife of its reuse within the Land Application Area.

6.1 - Special-Status Species

The proposed project would have a significant effect on biological resources if it would:

a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

Avoidance and minimization measures are designed to reduce or eliminate impacts to special-status species during Project construction activities. Detailed specific measures are outlined below for each special-status species that may occur on the Project Footprint or within potential gen-tie routes.

6.1.1 - PROJECT IMPACTS TO SPECIAL-STATUS PLANT SPECIES

There is no suitable habitat for any of the fourteen (14) special-status plant species with potential to occur in the vicinity of the Project. Mitigation and minimization measures are not warranted for these species.

6.1.2 - PROJECT IMPACTS TO SPECIAL-STATUS ANIMAL SPECIES

Twenty-six (26) special-status wildlife species have potential to occur within the BSA. Of these, four were determined to potentially occur based on habitat conditions: western burrowing owl, Swainson's hawk, American badger, and San Joaquin kit fox. Potential impacts to these species are described below.

Western Burrowing Owl

No burrowing owls or sign of the species was observed during the reconnaissance survey. However, there is suitable habitat for the species within the BSA in the Annual Grassland within the BSA where there are also California ground squirrel burrows suitable for the species. The species is known to inhabit the region and may become an established resident in suitable habitat within the BSA or pass through as a transient at any time.

Direct and/or indirect impacts to burrowing owl could occur if there is an active burrow within the BSA during the period of construction activities. Construction activities could

result in crushing or destroying a burrow, with or without a burrowing owl inside. Noise, vibration, and increased human activity resulting from Project construction activities could alter the daily behaviors of individual owls and affect foraging success, displace owls from their burrows, or lead to nest failure. Suitable nesting and foraging habitat would be lost as a result of the Project. Implementation of mitigation measures BIO-1 through BIO-3, BIO-6, and BIO-7 as listed below, would reduce any potential impacts.

Swainson's Hawk

Two Swainson's hawks were observed during the survey, and the Project provides suitable foraging habitat and potentially suitable nesting habitat in the existing valley oak and the planted ornamental trees in the residential development nearby.

Direct and indirect impacts to the species could result if an active nest is present in the vicinity during construction activities. Noise, vibration, and increased human activity could alter the normal behaviors of individual hawks and affect foraging success or lead to nest abandonment or failure. Loss of foraging habitat could also impact the species, although this would be minimal because the Project area is relatively small compared to the vast amount of nearby suitable foraging habitat. Implementation of Measures BIO-4 through BIO-7, listed below, would reduce impacts to the Swainson's hawk.

American Badger

There is no evidence that the American badger is present within the BSA but the Annual Grassland withing the BSA could provide potential denning and foraging habitat. Because this species is highly mobile, there is a potential that American badger could become established in the areas or be present from time to time throughout the BSA as a transient forager.

Potential impacts to this species could occur if there is an active badger den or transient individual within or near the area of development during the period of construction activities. Potential direct impacts resulting in injury, death, or entrapment in dens, trenches, or pipes could occur if an American badger occupies the construction area or travels through. Noise, vibration, and the presence of construction workers could alter normal behaviors if badgers are present, which could affect reproductive success and overall fitness. Implementation of mitigation measures BIO-1 through BIO-3, and BIO-7, listed below would reduce any potential impacts to American badger.

San Joaquin Kit Fox

There is no evidence that San Joaquin kit fox is present within the BSA but the Annual Grassland habitat could provide potential denning and foraging habitat. Because this species is highly mobile, there is a potential that San Joaquin kit fox could become established in these areas or be present from time to time throughout the BSA as transient foragers.

Potential impacts to this species could occur if there is an active San Joaquin kit fox den or transient individual within or near the area of development during construction activities. Potential direct impacts resulting in injury, death, or entrapment in dens, trenches, or pipes could occur if a San Joaquin kit fox occupies the construction area or travels through. Noise, vibration, and the presence of construction workers could alter normal behaviors if kit foxes are present, which could affect reproductive success and overall fitness. Implementation of mitigation measures BIO-1 through BIO-3, and BIO-7 as listed below, would reduce any potential impacts to San Joaquin kit fox.

Nesting Birds

No bird nests were identified during the reconnaissance survey. However, the BSA supports several habitats for nesting birds, which may nest on trees and shrubs, man-made structures, and directly on the ground. Migratory birds could nest throughout the entire BSA.

Construction activities and vegetation removal could lead to the destruction of nests. Construction-related vibration, noise, and dust production, and human presence could alter the normal behaviors of nesting birds in the vicinity of the Project and lead to nest failure.

To avoid and minimize impacts to migratory birds including special-status bird species, mitigation measures BIO-4 through BIO-7, listed below, should be implemented during construction to reduce impacts to nesting birds.

Avoidance and Minimization Measures

Implementation of the avoidance and minimization measures listed below would reduce impacts of the Project to special-status wildlife species to level that would be less than significant.

BIO-1 **Avoidance of Burrows for Burrowing Owl, American Badger, and San Joaquin Kit Fox.** 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, should be conducted by a qualified biologist knowledgeable in the identification of these species. If dens/burrows that could support any of these species are discovered during the pre-activity survey, the avoidance buffers outlined below should be established. No work would occur within these buffers unless the biologist approves and monitors the activity.

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 Den –Contact CDFW for consultation

BIO-2 **Burrowing Owl, American Badger, and San Joaquin Kit Fox Avoidance.** A qualified biologist should remain on-call throughout the construction phase if a burrowing owl, American badger, or SJKF occurs on the site during construction. If one of these species occurs on-site, the biologist should be contacted immediately to determine whether biological monitoring or the implementation of avoidance buffers may be warranted.

BIO-3 **Standard Avoidance and Minimization Measures for the protection of San Joaquin Kit Fox, Western Burrowing Owl, and American Badger.**
The following avoidance and minimization measures should be implemented during all phases of the Project to reduce the potential for impact from the Project. They are modified from the *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered SJKF Prior to or During Ground Disturbance* ((USFWS, 2011) Appendix E).

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

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

BIO-4 **Pre-activity Surveys for Swainson's Hawk Nests**. If Project construction activities must occur during the Swainson's hawk nesting season (February 15 to August 31), pre-construction activity surveys should be conducted over the Project area and within 0.5-mile for Swainson's hawk nests in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley*, Swainson's Hawk Technical Advisory Committee (CDFG, 2000).

BIO-5 **Swainson's Hawk Nest Avoidance.** If an active Swainson's hawk nest is discovered at any time within 0.5-mile of active construction, a qualified biologist should complete an assessment of the potential for current construction activities to impact the nest. The assessment would 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 will determine if construction activities can proceed, and the level of nest monitoring required. Construction activities should 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 should 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.

BIO-6 **Pre-activity Surveys for Nesting Birds.** If Project construction activities will be initiated during the nesting season (February 1 to September 15), a pre-activity nesting bird survey should be conducted within 14 days prior to the start of construction. The surveys should encompass the Project footprint and accessible areas or land visible from accessible areas within a 250-foot buffer for songbirds and a 500-foot buffer for raptors. If no active nests are found, no further action is required. However, existing nests may become active and new nests may be built at any time prior to and throughout the nesting season, including when construction activities are in progress.

If active nests are found during the survey or at any time during construction of the Project, an avoidance buffer ranging from 50 feet to 500 feet may be required, with the avoidance buffer from any specific nest being determined by a qualified biologist. The avoidance buffer will remain in place until the biologist has determined that the young are no longer reliant on the adults or the nest, or if breeding attempts have otherwise been unsuccessful. Work may occur within the avoidance buffer under the approval and guidance of the biologist, but full-time monitoring may be required. The biologist shall have the ability to stop construction if nesting adults show any sign of distress.

BIO-7 **Preconstruction Clearance Survey.** Within 14 days prior to the start of ground disturbance activities, a pre-activity survey should be conducted by a qualified biologist knowledgeable in the identification of wildlife species with potential to occur in the vicinity of the Project. All suitable burrows that could support Tipton kangaroo rat, or other special-status wildlife species will be avoided during construction in accordance with BIO-5 and BIO-6, unless verification surveys have indicated that the species are not present. Consultation with the USFWS and CDFW may be required if listed or fully protected species are detected during the survey.

BIO-8 **Worker Environmental Awareness Training.** 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.

The Program shall be developed and presented by the project qualified biologist(s) or designee approved by the qualified biologist(s). The program should 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 Tulare Planning Department.
d. A copy of the training transcript, training video or informational binder for specific procedures shall be kept available for all personnel to review and be familiar with, as necessary.

BIO-9 **Valley Oak Removal Permit and Replacement Plantings**. The Project is not expected to impact the one valley oak tree. If there will be impacts, the following will be recommended. Prior to any impacts to the valley oak trees on-site, a permit must be obtained from the City of Tulare. Each tree removed should be replaced with same species at a minimum 2:1 ratio. Note that the City may require a higher ratio of replacement plantings. The replacement plantings should be incorporated into the landscape design of the Project, such as at the proposed park. All replacement plantings should be 15-gallon containers or larger and should be monitored for a minimum of 5 years to ensure successful establishment. If any replacement planting dies during the 5 years, it should be promptly replaced, and that tree should be monitored for 5 years. A Valley Oak Replacement and Monitoring Plan should be developed and should include at a minimum: maps of the locations of the replacement plantings and irrigation plans, methods for planting and maintenance (including irrigation), success criteria, and monitoring

and reporting schedule. The plan and all subsequent reports should be submitted to the City for compliance with this measure.

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.

6.2 - Sensitive Natural Communities and Critical Habitat

The proposed project would have a significant effect on biological resources if it would:

b) Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.

As noted in Section 5.2.1, there are two sensitive natural communities known or with potential to occur in the vicinity of the Project, Great Valley Oak Riparian Forest and Valley Sacaton Grassland (see Appendix D). These two sensitive plant communities, their habitat requirements, and characteristic plant species were not observed within the BSA. There are no occurrences of Great Valley Oak Riparian Forest within 10 miles of the Project and the nearest CNDDB occurrence for Valley Sacaton Grassland is approximately 9.7 miles northeast of the Project. Critical Habitats

There is no critical habitat present within the BSA or in its immediate vicinity. Due to its repeated and consistent agricultural uses, the Project land would not be suitable for any native plants and most native wildlife species. There are no areas of critical habitat mapped within 10 miles of the Project.

No avoidance or minimization measures are warranted.

6.3 - Jurisdictional Aquatic Resources

The proposed project would have a significant effect on biological resources if it would:

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

A formal delineation of wetlands and water features was not conducted for this BAR. The water feature that was observed is an agricultural irrigation canal outside of the north boundary of the Project which did not contain water at the time of the reconnaissance (see Figure 4-1). This canal is within the Project footprint; however Project construction activities will not impact these areas. Therefore, the Project will have no impact on any jurisdictional aquatic resources and no measures are warranted.

6.4 - Wildlife Movement

The proposed project would have a significant effect on biological resources if it would:

d) Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors or impede the use of wildlife nursery sites.

The Project is not located within any mapped wildlife linkage or movement corridors (Figure 5-3). Therefore, the Project will have no impact on the movement of any wildlife species.

6.5 - Local Policies and Ordinances

The proposed project would have a significant effect on biological resources if it would:

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

The Project does conflict with the City of Tulare General Plan and is subject to local ordinances. The valley oak tree on the Project site is greater than two (2) inches dbh and therefore is considered a heritage tree per the City's Municipal Code Chapter 8.52.

Significance After Implementation. The implementation of Measure BIO-9 will conform the Project to the City of Tulare's Municipal Code.

6.6 - Adopted or Approved Plans

The proposed project would have a significant effect on biological resources if it would:

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan.

The Project is located within an area covered by the PG&E San Joaquin Valley Operation and Maintenance HCP. This HCP applies only to PG&E's activities and does not apply to this Project. No Project impacts related to adopted or approved plans would occur, and no measures are warranted.

SECTION 7 - LIMITATIONS, ASSUMPTIONS, AND USE RELIANCE

This Biological Analysis Report has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, focused biological surveys, jurisdictional areas, and specified historical and literature sources. The biological investigation is limited by the scope of work performed. Biological surveys for certain taxa may not have been performed during a particular blooming period or portion of the season when species would be present and when positive identification of plants and wildlife would be possible, and therefore, results cannot necessarily be considered definitive. The biological surveys are limited also by the environmental conditions present at the time of the surveys. In addition, general biological (or protocol) surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. Specifically, mobile animal species could occupy the site on a transient basis or re-establish populations in the future. No other guarantees or warranties, expressed or implied, are provided.

SECTION 8 - REFERENCES

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APPENDIX A

REPRESENTATIVE PHOTOGRAPHS

Photograph 1: View of Project site from southwest corner, looking north.
GPS Coordinates: 36.240780, 119.322222.
Photograph taken by Shannon Gleason on July 8, 2021.

Photograph 2: View of Project site from southeast corner, looking east.
GPS Coordinates: 36.240780, 119.322222, facing west.
Photograph taken by Shannon Gleason on July 8, 2021.

Photograph 3: View of well and pump from southeast corner.
GPS Coordinates: 36.240780, 119.322222, facing northwest.
Photograph taken by Shannon Gleason on July 8, 2021.

Photograph 4: View of Project site from northeast corner facing south.
GPS Coordinates: 36.243962, 119.322191, facing south.
Photograph taken by Mitch Wayman on July 8, 2021.

Photograph 5: View of Project site from northeast corner.
GPS Coordinates: 36.243962, 119.322191, facing west.
Photograph taken by Mitch Wayman on July 8, 2021.

Photograph 6: View of agricultural lands from northwest corner of Project site.
GPS Coordinates: 36.243917, 119.326561, facing west.
Photograph taken by Mitch Wayman on July 8, 2021.

Photograph 7: View of Project site from northwest corner.
GPS Coordinates: 36.243917, 119.326561, facing east.
Photograph taken by Mitch Wayman on July 8, 2021.

Photograph 8: View of Project site from northwest corner.
GPS Coordinates: 36.243917, 119.326561, facing south.
Photograph taken by Mitch Wayman on July 8, 2021.

Photograph 9: View of Project site from southwest corner.
GPS Coordinates: 36.240579, 119.326421, facing north.
Photograph taken by Mitch Wayman on July 8, 2021.

Photograph 10: View of Project site from southwest corner.
GPS Coordinates: 36.240579, 119.326421, facing east.
Photograph taken by Mitch Wayman on July 8, 2021.

Photograph 11: Pump and well in the southeast area of Project site.
GPS Coordinates: 36.241674, 119.323374, facing south southwest.
Photograph taken by Shannon Gleason on July 8, 2021.

Photograph 12: Typical California ground squirrel (*Otospermophilus beecheyi*) burrow.
GPS Coordinates: 36.241298, 119.325534.
Photograph taken by Shannon Gleason on July 8, 2021.

Photograph 13: View of Project site from near center of site.
GPS Coordinates: 36.242271, 119.324058, facing north.
Photograph taken by Shannon Gleason on July 8, 2021.

Photograph 14: View of Project site from near center of site.
GPS Coordinates: 36.242271, 119.324058, facing east.
Photograph taken by Shannon Gleason on July 8, 2021.

Photograph 15: View of Project site from near center of site.
GPS Coordinates: 36.242271, 119.324058, facing south.
Photograph taken by Shannon Gleason on July 8, 2021.

Photograph 16: View of Project site from center.
GPS Coordinates: 36.242271, 119.324058, facing west.
Photograph taken by Shannon Gleason on July 8, 2021.

APPENDIX B

REGULATORY SETTING

Regulatory Setting

Federal Laws and Regulations

Federal Endangered Species Act of 1973 (USC, Title 16, Sections 1531 -1543)

The federal Endangered Species Act (FESA) and subsequent amendments provide guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend. The FESA defines species as threatened or endangered and provides regulatory protection for listed species. The FESA provides a program for the conservation and recovery of threatened and endangered species as well as the protection of designated critical habitat that USFWS determines is required for the survival and recovery of listed species.

Section 9 lists actions that are prohibited under the FESA. Although take of a listed species is prohibited, it is allowed when it is incidental to an otherwise legal activity. Section 9 prohibits take of listed species of fish, wildlife, and plants without special exemption. The definition of "harm" includes significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns related to breeding, feeding, or shelter. "Harass" is defined as actions that create the likelihood of injury to listed species by disrupting normal behavioral patterns related to breeding, feeding, and shelter significantly.

Section 7 of the FESA requires federal agencies, in consultation with and assistance from the Secretary of the Interior or the Secretary of Commerce, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction of adverse modification of critical habitat for these species. The USFWS and National Marine Fisheries Service (NMFS) share responsibilities for administering the FESA. Regulations governing interagency cooperation under Section 7 are found in California Code of Regulations (CCR) Title 50, Part 402. If an activity could result in "take" of a listed species as an incident of an otherwise lawful activity, then a biological opinion can be issued with an incidental take statement that exempts the activity from FESA's take prohibitions.

Section 10 provides a means whereby a nonfederal action with the potential to result in take of a listed species can be allowed under an incidental take permit. Application procedures are found at CFR Title 50, Sections 13 and 17 for species under the jurisdiction of USFWS and CFR, Title 50, Sections 217, 220, and 222 for species under the jurisdiction of NMFS. Section 10 would apply to the Project if take of a species (as defined in Section 9) were determined to occur.

Section 4(a)(3) and (b)(2) of the FESA requires the designation of critical habitat to the maximum extent possible and prudent based on the best available scientific data and after considering the economic impacts of any designations. Critical habitat is defined in section 3(5)(A) of the FESA: 1) areas within the geographic range of a species that are occupied by

individuals of that species and contain the primary constituent elements (physical and biological features) essential to the conservation of the species, thus warranting special management consideration or protection; and 2) areas outside of the geographic range of a species at the time of listing but that are considered essential to the conservation of the species.

Migratory Bird Treaty Act (USC, Title 16, Sections 703 - 711)

The MBTA, first enacted in 1918, is a series of treaties that the United State has with Great Britain (on behalf of Canada), Mexico, Japan, and the former Soviet Union that provide for international migratory bird protection. The MBTA authorizes the Secretary of the Interior to regulate the taking of migratory birds. The act provides that it shall be unlawful, except as permitted by regulations, "to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird" (U.S. Code Title 16, Section 703). The MBTA currently includes several hundred species and includes all native birds.

BALD AND GOLDEN EAGLE PROTECTION ACT OF 1940 (USC, TITLE 16, SECTION *668)*

The Bald and Golden Eagle Protection Act (BGEPA) of 1940 protects bald eagles (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) by prohibiting the taking, possession, and commerce of these species and established civil penalties for violation of this act. Take of bald and golden eagles includes to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." To disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially inferring with normal breeding, feeding, or sheltering behavior. (Federal Register [FR], volume 72, page 31132; 50 CFR 22.3).

Federal Clean Water Act (USC, Title 33, Sections 1521 - 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 that a Project applicant that is pursuing a federal license or permit allowing a discharge to waters of the U.S. to obtain State Certification of Water Quality, thereby ensuring that the discharge will comply with provisions of the CWA. The Regional Water Quality Control Board (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 the United States Army Corps of Engineers (USACE) that regulates the discharge of the dredged or fill material into waters of the U.S., including wetlands. The USACE implementing regulations are found in 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 United States 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.

Applicable State Laws and Regulations

California Environmental Quality Act (California Public Resources Code, Sections 21000 - 21178, and Title 14 CCR, Section 753, and Chapter 3, Sections *15000 - 15387)*

The California Environmental Quality Act (CEQA) is California's broadest environmental law. CEQA helps guide the issuance of permits and approval of projects. Courts have interpreted CEQA to afford the fullest protection of the environment within the reasonable scope of the statutes. CEQA applies to all discretionary projects proposed to be conducted or approved by a State, County, or City agency, including private projects requiring discretionary government approval.

The purpose of CEQA is to disclose to the public the significant environmental effects of a proposed discretionary project; prevent or minimize damage to the environment through development of project alternatives, mitigation measures, and mitigation monitoring; disclose to the public the agency decision making process to approve discretionary projects; enhance public participation in the environmental review process; and improve interagency coordination.

State CEQA Guidelines Section 15380(b) provides that a species not listed on the federal or State list of protected species nonetheless may be considered rare or endangered for purposed of CEQA if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants or animals.

California Endangered Species Act (California Fish and Game Code Section 2050 et seq.)

The California Endangered Species Act (CESA) establishes the policy of the State to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that State agencies should not approve Projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For Projects that would result in take of a species listed under the CESA, a project proponent would need to obtain a take permit under Section 2081(b). Alternatively, the CDFW has the option of issuing a Consistency Determination (Section 2080.1) for Projects that would affect a species listed under both the CESA and the FESA, as long as compliance with the FESA would satisfy the "fully mitigate" standard of CESA, and other applicable conditions.

Porter-Cologne Water Quality Control Act

Under Section 401 of the CWA, the RWQCB must certify those actions receiving authorization under Section 404 of the CWA also meet State water quality standards. The RWQCB regulates

waters of the State under the authority of the Porter-Cologne Water Quality Control Act (Porter Cologne Act). The RWQCB requires Projects to avoid impacts to wetlands whenever 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 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 into waters of the State, and such discharges are authorized through an Order of Waste Discharge (or waiver of discharge) from the RWQCB.

Various Sections of the California State and Fish and Game Code

SECTION 460 AND SECTIONS 4000-4003

Chapter 5 of the California Fish and Game Code (FGC) describes regulations concerning the take of furbearing mammals, including defining methods of take, seasons of take, bag and possession limits, and areas of the State where take is allowed. Section 4000-4003 defines furbearing mammals, and the issuance of permits by the Department. Sections 460 and 4000 identifies fisher, marten, river otter, desert kit fox and red fox as furbearing mammals, and Section 460 prohibits take of these species at any time. This section of the California Fish and Game Code (FGC) has historically been interpreted to apply to restriction on furbearer trapping permit but has recently been expanded by CDFW to apply to any forms of take and treated as if these species were listed under CESA.

SECTIONS 1600 THROUGH 1616

Under these sections of the FGC, a Project operator is required to notify CDFW prior to any Project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Pursuant to the California Code of Regulations, a "stream" is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Based on this definition, a watercourse with surface or subsurface flows that supports of has supported riparian vegetation is a stream and is subject to CDFW jurisdiction. Altered or artificial watercourses valuable to fish and wildlife are subject to CDFW jurisdiction. CDFW also has jurisdiction over dry washes that carry water during storm events. Preliminary notification and Project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable Project changes to protect the resource. These modifications are formalized in a Streambed Alteration Agreement.

SECTIONS 3511, 4700, 5050, AND 5515

The protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the FGC. These statues prohibit take or possession of fully protected species. CDFW is

unable to authorize incidental take of fully protected species, except as allowed for in an approved Natural Communities Conservation Plan (NCCP), or through direct legislative action.

SECTIONS 1900 THROUGH 1913 - NATIVE PLANT PROTECTION ACT

California's Native Plant Protection Act (NPPA) requires all State agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provision of the NPPA prohibit that taking of listed plants from the wild and require notification of CDFW at least ten days in advance of any change in land use. This allows CDFW to salvage listed plant species that otherwise would be destroyed. A Project proponent is required to conduct botanical inventories and consult with CDFW during Project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

Local and Regional Laws, Regulations, and Policies

CITY OF TULARE GENERAL PLAN

Pursuant to California Code Title 14, Section 65300, the City of Tulare General Plan (City of Tulare 2014) addresses biological resources in its Conservation and Open Space Element. The plan also includes local, regional, State, and federal programs and regulations as well as a comprehensive set of guiding and implementing policies. The City of Tulare General Plan sets forth the following goals and policies relevant to biological resources:

Conservation and Open Space Element

Goal COS-2: To preserve and protect sensitive significant habitats, enhance biodiversity, and promote healthy ecosystems throughout the Urban Development Boundary (UDB).

Policy COS-P2.1: **Protection of Rare and Endangered Species**. The City shall support preservation, restoration, and enhancement of designated habitats of State or federally-listed rare, threatened, endangered and/or other sensitive and special status species.

Policy COS-P2.2: **Protection of Natural Areas**. The City shall support preservation, maintenance, restoration, and enhancement of natural systems, waterways, and open space.

Policy COS-P2.3: **Development in Environmentally-Sensitive Areas**. The City shall require careful planning of new development in environmentally sensitive habitat areas and to avoid or otherwise mitigate potential significant impacts whenever feasible. The focus of efforts shall be on project design to avoid impacts whenever feasible. Environmentally-sensitive habitat shall include, at a minimum, the following:

- Any habitat for a federally- or State-listed rare, threatened or endangered animal or plant

- Identifiable wildlife movement corridors, including, but not limited to, non-fragmented stream environment zones, and avian and mammalian migratory routes.

Policy COS-P2.4: **Site Planning**. The City shall encourage site planning that incorporates and protects creek and wetland edges.

Policy COS-P2.5: **Open Space Buffers**. The City shall require buffer areas between development projects and significant watercourses, riparian vegetation, wetlands, and other sensitive habitats and natural communities.

Policy COS-P2.6: **Planting of Native Vegetation**. The City shall encourage the planting of native trees, shrubs, and grasslands in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native vegetation and wildlife, and ensure that a maximum number and variety of well-adapted plants are maintained.

Policy COS-P2.7: **Valley Oaks**. The City shall preserve mature Valley Oaks and their habitats located within the UDB to the extent possible.

Policy COS-P2.8: **Wetlands Dedication**. The City shall require all preserved wetlands be dedicated to the City or a non-profit organization approved by the City and preserved through perpetual covenants enforceable by the City or other appropriate agencies.

Policy COS-P2.9: **Wetlands Management**. The City shall support the management of wetland and riparian plant communities for passive recreation, groundwater recharge, and wildlife habitats. Such communities shall be restored or expanded, where possible and as appropriate. Any project that proposes to restore or enhance riparian habitat shall require a Streambed Alteration Agreement in compliance with California Fish and Game Code sections 1600-1616. Any project that proposes to restore, enhance, or otherwise affect a jurisdictional wetland shall require consultation with the US Army Corps of Engineers and compliance with the Clean Water Act.

Policy COS-P2.10: **Stream Buffer**. The City shall require a conservation easement or setback of a minimum of 100 feet from the edge of the Elk Bayou riparian zone to avoid the stream channel and the surrounding riparian vegetation. The riparian zone should encompass the edge of the bayou bank (minimally) to the edge of the riparian vegetation bordering the stream (maximally).

MUNICIPAL CODE CHAPTER 8.52 HERITAGE TREES PROTECTION

Chapter 8.52 of the Municipal Code regulates the preservation and protection of heritage trees. Heritage trees are defined as any valley oak with a trunk diameter of two (2) inches or greater dbh (diameter at breast height), or any living tree designated by resolution of the Tulare City Council as a historic tree because of an association of an event or a person of historical significance to the community. Other trees may qualify as heritage trees based on

their size, condition, or aesthetic qualities. Approved heritage trees are protected from destruction, removal, or pruning without a permit on both public and private properties; however, emergency events and public utilities are exempt.

APPENDIX C

PLANT AND ANIMAL SPECIES OBSERVED WITHIN THE BIOLOGICAL STUDY AREA CORDENIZ RESIDENTIAL DEVELOPMENT UNIT 1 PROJECT

Table C-1
Plant Species Observed within the Biological Study Area on July 8, 2021.
Cordeniz Land Development Unit 1, Tulare County, California

Scientific Name	Common Name	Native or Introduced
Trees		
Quercus lobata	valley oak	Native
	horticultural trees	Introduced
Herbs		
Amaranthus blitoides	mat amaranth	Native
Amsinckia menziesii	fiddleneck	Native
Capsella bursa-pastoris	shepherd's purse	Introduced
Chenopodium album	lamb's quarters	Introduced
Convolvulus arvensis	field bindweed	Introduced
Erodium cicutarium	redstem filaree	Introduced; Cal-IPC: Limited
Lactuca serriola	prickly lettuce	Introduced
Malva parviflora	cheeseweed	Introduced
Rumex crispus	curly dock	Introduced; Cal-IPC: Limited
Salsola tragus	Russian thistle	Introduced; Cal-IPC: Limited
Sisymbrium irio	London rocket	Introduced; Cal-IPC: Limited
Grasses		
Bromus diandrus	ripgut brome	Introduced; Cal-IPC: Moderate
Cynodon dactylon	Bermuda grass	Introduced; Cal-IPC: Moderate
Hordeum murinum	foxtail barley	Introduced; Cal-IPC: Moderate
Phalaris sp.	canary grass	-
Sorghum halepense	johnsongrass	Introduced
Triticum sp.	wheat	-
Zea mays	corn	Introduced

Table C-2
Animal Species Observed within the Biological Study Area on July 8, 2021.
Cordeniz Residential Development, Tulare County, California

Scientific Name	Common Name	Native or Introduced
Amphibians and Reptiles		
Uta stansburiana	side-blotched lizard	Native
Birds		
Aphelocoma californica	California scrub jay	Native
Buteo jamaicensis	red-tailed hawk	Native
Buteo swainsoni	Swainson's hawk	Native
Charadrius vociferus	killdeer	Native
Columba livia	rock pigeon	Native
Corvus corax	common raven	Native
Haemorhous mexicanus	house finch	Native
Sturnella neglecta	western meadowlark	Native
Tyrannus verticalis	western kingbird	Native
Zenaida macroura	mourning dove	Native
Mammals		
Otospermophilus beecheyi	California ground squirrel	Native

APPENDIX D

SPECIAL-STATUS SPECIES DATABASE SEARCH RESULTS

Special-Status Species in the Regional Vicinity of the Project Site
Cordeniz Residential Development, Tulare County, California

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
Sensitive Natural Communities				
Great Valley Oak Riparian Forest	G1/ S1.1	This community occurs in relatively fine-textured alluvium, somewhat back from active river channels. These sites experience overbank flooding (with abundant alluvial deposition and groundwater recharge) without severe physical battering or erosion.	No	There are no rivers or other natural waterways that would support riparian species in the vicinity of the Project. The nearest CNDDB occurrence is approximately 9.8 miles northeast of the Project (EONDX 15609) and is presumed extant.
Valley Sacaton Grassland	G1/ S1.1	This community is dominated by alkali sacaton, a tuft formed grass. It is found in areas with fine textured, poorly drained, and usually alkaline soils with high water tables, or that are flooded during winter months.	No	No alkali sacaton was observed and the site was dominated by non-native ruderal species. The nearest CNDDB occurrence is approximately 9.7 miles northeast of the Project (EONDX 8664) and is presumed extant.
Plants				
Atriplex cordulata var. *cordulata* heartscale	-/- 1B.2/-	This is an annual herb that is endemic to California and blooms from April to October. It occurs in saline and alkaline soils, chenopod scrub, meadows and seeps, and sandy soils in valley foothill grassland habitats. It occurs at elevations ranging from approximately sea level to 1,837 feet and is known to occur in Alameda, Butte, Contra Costa, Colusa, Fresno, Glenn, Kern, Madera, Merced, San Joaquin, Solano, Stanislaus, Tulare, and Yolo counties. This species is threatened by competition from non-native plants and possibly threated by trampling.	No	Suitable habitat is absent from the BSA. The nearest CNDDB occurrence is approximately 9 miles northwest of the Project (EONDX 3244).
Atriplex cordulata var. *erecticaulis* Earlimart orache	-/- 1B.2/-	This is an annual herb that is endemic to California and blooms from August to September, sometimes as late as November. It occurs in low-lying, sparsely vegetated valley and foothill grasslands and on mounds between vernal pools. It occurs at elevations ranging from 130 to 330 feet and is known primarily from the valley floor in Kings, Kern, and Tulare counties. It is threatened by vehicles and possibly development and competition from non-native plants.	No	Suitable habitat is absent from the BSA. The nearest CNDDB occurrence is approximately 7.8 miles southeast of the Project (EONDX 66427).
Atriplex depressa brittlescale	-/- 1B.2/-	This is an annual herb that is endemic to California and blooms April to October. It occurs on alkaline and clay soils in chenopod scrub, meadows and seeps, playas, vernal pools, and valley and foothill grassland. It occurs at elevations ranging from sea level to 1,050 feet and is known to occur in Alameda, Contra Costa, Colusa, Fresno, Glenn, Kern, Merced, Solano, Stanislaus, Tulare, and Yolo counties. It is threatened by development, grazing, and trampling; documented on Central Valley floor, foothills, and lower mountains.	No	Suitable habitat is absent from the BSA. The nearest CNDDB occurrence is approximately 6.4 miles north of the Project (EONDX 83720).
Atriplex minuscula lesser saltscale	-/- 1B.1/-	This is an annual herb that is endemic to California and blooms May to October. It occurs on alkaline and sandy soils in chenopod scrub, playas, and valley and foothill grassland. It occurs at elevations ranging from 50 to 655 feet and is known to occur in Alameda, Butte, Fresno, Kings, Kern, Madera, Merced, Stanislaus, and Tulare counties. It is threatened by agriculture and solar energy development; documented primarily on Central Valley floor with some lower foothill occurrences.	No	Suitable habitat is absent from the Project. The nearest CNDDB occurrence is approximately 7.9 miles southeast of the Project (EONDX 56694).
Atriplex subtilis subtle orache	-/- 1B.1/-	This is an annual herb that is endemic to California and blooms June, August, September, and possibly October. It occurs on alkaline soils in valley and foothill grassland habitats. It occurs at elevations	No	Suitable habitat is absent from the Project. The nearest CNDDB occurrence is approximately 7.8 miles southeast of the Project (EONDX 56690).

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
		ranging from approximately 130 to 330 feet and is known to occur in Butte, Fresno, Kings, Kern, Madera, Merced, Stanislaus, and Tulare counties. This species is threatened by agriculture and possibly solar energy development and is documented primarily on Central Valley floor.		
Caulanthus californicus California jewelflower	E/E 1B.1/-	This is an annual herb that blooms from February to May. It occurs in slightly alkaline sandy soils in chenopod scrub, valley and foothill grassland, and pinyon and juniper woodland typically at elevations from approximately 200 to 3,280 feet. It occurs in the San Joaquin Valley, Carrizo Plain, and Cuyama Valley from Fresno County south to Santa Barbara County and many occurrences are presumed extirpated. It is threatened by development, grazing, and competition from non-native plants.	No	Habitat to support this species is absent from the BSA. The nearest CNDDB occurrence is approximately 1.9 miles south of the Project and is extirpated (EONDX 63227).
Delphinium recurvatum recurved larkspur	-/- 1B.1/-	This is a perennial herb that blooms from March to June. It occurs in alkaline conditions in chenopod scrub, cismontane woodland, and valley and foothill grassland. It occurs at elevations ranging from approximately 10 to 2,591 feet. This species is endemic to California. It occurs throughout the Central Valley and Coast Ranges from Butte County south. Few occurrences are in the Antelope Valley. This species is threatened by agriculture and competition from non-native plants.	No	Suitable habitat is absent from the Project. The nearest CNDDB occurrence is approximately 7.9 miles southeast of the Project (EONDX 58418).
Eryngium spinosepalum spiny-sepaled button celery	-/- 1B.2/-	This annual or perennial herb blooms from April to June. It occurs in vernal pools and moist areas in valley and foothill grasslands at elevations between 260 and 3,200 feet. It has been documented primarily in the foothills of the Sierra Nevada mountains with scattered occurrences on the Central Valley floor and western foothills and lower mountains. The species is threatened by development, grazing, road maintenance, hydrological alterations, and agriculture.	No	Suitable habitat is absent from the Project. The nearest CNDDB occurrence is approximately 10 miles east of the Project (EONDX 6121).
Imperata brevifolia California satintail	-/- 2B.1/-	This perennial rhizomatous herb blooms between September and May. It occurs in chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps, and riparian scrub on mesic or alkali soils. It is found at elevations from approximately sea level up to 3,985 feet. The species is threatened by development and agriculture.	No	Suitable habitat is absent from the Project. The nearest CNDDB occurrence is approximately 6.3 miles north of the Project (EONDX 69849).
Lasthenia chrysantha alkali-sink goldfields	-/- 1B.1/-	This California endemic annual herb blooms between February and April. It occurs on alkaline soils in vernal pools and on wet saline flats at elevations of 655 feet and lower. It has been documented in the Central Valley from Sacramento south to Bakersfield and in the foothills on the western margin of the Valley. Threats to the species include habitat loss, agriculture, urbanization, and development.	No	Suitable habitat is absent from the Project. The nearest CNDDB occurrence is approximately 2.5 miles south of the Project (EONDX 118547).
Pseudobahia peirsonii San Joaquin adobe sunburst	T/E 1B.1/-	This is an annual herb endemic to California that blooms from March to April. It occurs on adobe clay in cismontane woodland and valley and foothill grasslands at elevations from approximately 295 to 2,625 feet. More than half of the known occurrences are in very small areas. It is seriously threatened by agriculture, grazing, development, non-native plants, road construction, and flood control activities and is possibly threatened by road maintenance.	No	Suitable habitat is absent from the Project. The nearest CNDDB occurrence is approximately 2.0 miles south of the Project (EONDX 12603).
Puccinellia simplex California alkali grass	-/- 1B.2/-	This is an annual herb that blooms from March to May. It usually occurs on sinks, flats, and lake margins in vernally moist, alkaline conditions of chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools. It occurs at elevations from	No	Suitable habitat is absent from the Project. The nearest CNDDB occurrence is approximately 7.9 miles southeast of the Project (EONDX 100188).

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
		approximately 6 to 3,050 feet. It is threatened by hydrological alterations, urbanization, agricultural conversion, development, and habitat fragmentation, disturbance alteration and loss. It is potentially threatened by solar energy development and is possibly threatened by grazing and proximity to roads.		
Invertebrates				
Bombus crotchii Crotch bumblebee	-/CE -/-	This bee occurs in relatively warm and dry environments, including the inner Coast Range of California and the margins of the Mojave Desert. It inhabits grassland and scrub habitats, where it nests in abandoned rodent burrows, occasionally nesting above ground in tufts of grass, rock piles, or cavities in dead trees. This species is classified as a short-tongued species, whose food plants include *Asclepias, Chaenactis, Lupinus, Medicago, Phacelia,* and *Salvia*. The species is threatened by habitat loss and degradation, including agricultural intensification and rapid urbanization.	No	Suitable habitat is absent from the Project, and there were no native flowering species present. The nearest CNDDB occurrence is approximately 6.2 miles north of the Project in Visalia, from 1961 (EONDX 98758).
Branchinecta lynchi vernal pool fairy shrimp	T/- -/-	This species occurs in a variety of vernal pool habitats that range from small, clear sandstone rock pools to large, turbid, alkaline, grassland valley floor pools. It occurs more commonly in pools less than 0.05 acre, typically as part of larger vernal pool complexes. Adults are active from early December to early May. Pools must hold water for at least 18 days, the minimum to complete the life cycle if temperatures are optimal. Eggs are laid in spring and persist through dry season as cysts. The current California distribution includes the Central Valley and coast ranges. This species is threatened by habitat loss, degradation, fragmentation, and interference with vernal pool hydrology.	No	No vernal pool habitat or swales were present to support this species. The nearest CNDDB occurrence is approximately 8.3 miles northwest of the Project (EONDX 645).
Desmocerus californicus diplacus valley elderberry longhorn beetle	T/- -/-	This beetle species is closely associated with elderberry shrubs (*Sambucus* sp.) for food and reproduction. This species usually occur along rivers and streams and eggs are laid on the bark of elderberry shrubs and larvae hatch and burrow into the stems. Adults eat elderberry leaves and flowers. Stem diameter must be a minimum of one inch and exit holes in stems are the most common methods for identification. This species ranges from southern Shasta County to Fresno County.	No	No elderberry shrubs were observed on the Project site or in the vicinity, which has been developed for agriculture or housing. There are no CNDDB records within 10 miles of the Project.
Fish				
Hypomesus transpacificus delta smelt	T/E -/-	This is a small fish species endemic to the San Francisco Estuary and the larger Sacramento-San Joaquin Delta. It moves between freshwater and low salinity water throughout the year and most spawning happens in tidally influenced backwater sloughs and channel edge waters. It occurs primarily in main water bodies and sloughs of the Delta and Suisun Bay and is not directly associated with small stream systems. This species historical distribution does not extend beyond Mossdale on the San Joaquin River and Sacramento on the Sacramento River.	No	Habitat to support this species is absent from BSA. There are no CNDDB records within 10 miles of the Project.
Amphibians				
Ambystoma californiense California tiger salamander	T/T -/-	This stocky salamander spends most of its life aestivating in upland habitat in abandoned small mammal burrows, such as those of ground squirrels. After a sufficient winter rain event, adults emerge to breed in ephemeral pools or artificial ponds, which must remain	No	There is no suitable breeding habitat within or near the BSA. There are no CNDDB occurrences within 10 miles of the Project.

		inundated for at least 12 weeks for reproductive success. Young hatch as larvae with external gills and feed on benthic invertebrates and smaller tadpoles; adults feed on a variety of terrestrial invertebrates, small fish, and small mammals. Upland habitat typically consists of valley and foothill grasslands but can also include oak woodlands and uncommonly riparian habitats. The species is found in the Central Valley and Central Coast at elevations up to 3,200 feet. Threatened by habitat loss, predation by larger amphibians and fish, and hybridization with other tiger salamander species.		
Rana draytonii California red-legged frog	FT/- -/SSC	Occurs primarily in and near ponds in forests, woodlands, grasslands, coastal scrub, and stream sides with plant cover. Breeding habitat may be permanent or ephemeral. Adults estivate in animal burrows or other moist refuges when aquatic habitat is dry, up to several miles from an aquatic resource. It is found throughout coastal California from Mendocino County south. Its inland distribution includes the northern Sacramento Valley and the foothills of the Sierra Nevada south to Tulare County (possibly Kern County) at elevations up to 5,000 feet.	No	There is no suitable breeding habitat within or near the BSA. There are no CNDDB records within 10 miles of the Project.
Spea hammondii western spadefoot	-/- -/SSC	This species relies on vernal pools for breeding where predators cannot become established. It occurs in open areas with sand or gravelly soils in a variety of habitats: grasslands, coastal scrub, woodlands, chaparral, sandy washes, lowland river floodplains, alkali flats, foothills, and mountains. This species is endemic to California and northern Baja California with a distribution from Redding south throughout Central Valley and foothills, throughout the South Coast mountain range into coastal southern California to Transverse mountains and Peninsular mountains. This species occurs at elevations ranging from sea level to 4,500 feet.	No	There is no suitable breeding habitat within or near the BSA. The nearest CNDDB occurrence is approximately 7.8 miles southwest of the Project (EONDX 114572).
Reptiles				
Anniella pulchra Northern California legless lizard	-/- -/SSC	This secretive species burrows in moist, warm, loose soils with sparse vegetation in areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Individuals can be found under leaf litter from trees and shrubs or under objects such as rocks, boards, driftwood, and logs. Soil moisture is an important characteristic of suitable habitat. Breeding occurs between early spring and July, with live young born between September and November.	No	The Project does not support suitable habitat for the species. The nearest CNDDB occurrence is approximately 6.2 miles north of the Project and is from 1934 (EONDX 107010).
Emys marmorata western pond turtle	-/- -/SSC	Highly aquatic and diurnally active; found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with vegetation and rocky/muddy bottoms; wide variety of habitats; need basking areas near water (logs, rocks, vegetation mats, banks); may enter brackish water and even seawater; digs nest on land near water; range from north of San Francisco Bay area south, including Central Valley.	No	Suitable habitat is absent from the Project. The nearest CNDDB occurrence is a historical record from 1879 and approximately 6 miles north of the Project in Visalia (EONDX 8143).
Gambelia silus [=sila] blunt-nosed leopard lizard	E/E -/FP	This large lizard occurs in semiarid habitats within the southern Central Valley, Cuyama Valley, and Panoche Valley, at elevations between 100 and 2,400 feet. Preferred habitats are typically flat, sparsely vegetated grasslands with large open areas with scattered shrubs for cover, and sandy washes. The species spends most of the year underground in abandoned small mammal burrows, with adults surfacing in the spring and early summer to breed and feed. Young hatch in July and August, and both adults and young recede to refugia between August and November. Individuals feed primarily	No	The Project does contain suitable grassland habitat with burrows that could support this species. However, the land had been continuously disturbed by agricultural practices for years beforehand, which would have precluded the species. The plot is surrounded by agriculture and residential development on all sides which would prevent the species from accessing the site to re-establish. There are no CNDDB records within 10 miles.

		on grasshoppers and smaller lizards. The species is threatened mainly by habitat loss and fragmentation		
Thamnophis gigas giant gartersnake	T/T -/-	This is a highly aquatic snake found in marshes and sloughs, drainage canals, and irrigation ditches and prefers sloughs to be flooded in summer and dry in winter. It prefers vegetation close to water for basking and typically does not venture more than 200 feet from aquatic habitat. It ranges in elevation from sea level to 400 feet. It is endemic to California and currently ranges from Glenn County to southern edge of San Francisco Bay Delta, and from Merced County to northern Fresno County.	No	Suitable habitat is absent from the Project. There are no CNDDB records within 10 miles of the Project.

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
Birds				
Agelaius tricolor tricolored blackbird	-/T BCC/SSC	This species is a year-round resident that is a colonial breeder. It occurs in freshwater, emergent wetlands with tall, dense cattails or tule, but also thickets of willow, blackberry, wild rose, and tall herbs. Breeding colonies consist of a minimum of approximately 50 pairs. This species forages for mostly insects and spiders and less often seeds and cultivated grains in pastures, grain fields, cropland, and similar habitats near breeding areas.	No	Suitable habitat is absent from the Project. There are no CNDDB occurrences within 10 miles of the Project.
Athene cunicularia burrowing owl	-/- BCC/SSC	This species occupies a variety of open, semi-arid to arid habitats throughout central and southern California, including desert regions. It prefers open habitats with few shrubs or trees and low-growing vegetation. It is most active around sunrise and sunset and utilizes burrows constructed by mammals year-round for shelter and nesting. This species is well documented in urban areas where patches of undeveloped areas are present (e.g., canals, airports, drainage basins), and in areas of dense agricultural development, particularly where canals provide burrow habitat. It forages primarily for rodents and insects within several miles of its burrow, usually in open grassy habitats if available. It has been observed hunting bats and insects around parking lot lights. Threats to this species include development resulting in habitat loss/fragmentation.	Yes	There is suitable habitat for the species in the annual grassland habitat within the BSA, and the species could occupy any of the numerous California ground squirrel (*Otospermophilus beecheyi*) burrows that are present. There are no CNDDB records within 10 miles of the Project.
Buteo swainsoni Swainson's hawk	-/T -/-	This species occurs in grassland, desert and agricultural landscapes in the Central Valley and Antelope Valley. These hawks may be resident or migrant, and nest and breed in stands with few trees in juniper-sage flats, riparian areas, and oak savannah habitats. This species has also been observed nesting and breeding in large eucalyptus trees along freeways and in trees over rural residences surrounded by agriculture. It may nest on the ground if no suitable trees are available. Nests are a platform of sticks, bark, and fresh leaves at or near the top of trees. This species breeds from late March to late August. It forages in grassland, open scrub, and grain fields, primarily for rodents.	Present	Two Swainson's hawks were observed soaring over the east side of the BSA during the reconnaissance survey. The Project provides suitable foraging habitat and the valley oak tree on-site, as well as large trees planted in the nearby residential communities, provides suitable nesting habitat. The nearest CNDDB occurrence is approximately 4.1 miles southwest of the Project (EONDX 115249), where a nesting pair was observed in April 2016.
Charadrius montanus mountain plover	-/- BCC/SSC	This terrestrial plover does not breed in California but is a winter resident and migrant between September and March, when it often forms large overwintering flocks. Preferred habitats include grasslands, open sagebrush, and plowed and grazed fields throughout central and southern California. Mountain plovers feed on large insects, especially grasshoppers.	No	Although the Project presents a small patch of marginal overwintering and migratory stopover habitat, the species does not nest in California. The nearest CNDDB occurrence is approximately 9.3 miles southwest of the Project (EONDX 40908), where mountain plovers were observed on the Creighton Ranch Preserve most recently in 1987.

Coccyzus americanus occidentalis western yellow-billed cuckoo	T/E BCC/-	This migratory species nests in open riparian woodlands along broad lower flood bottoms of larger river systems. It prefers willows, often mixed with cottonwood, with understory of blackberry, nettles or wild grape. Its nest is most often placed in willows with cottonwoods used extensively for foraging and also occasionally nests in orchards adjacent to river bottoms.	No	Suitable habitat is absent from the Project. The nearest CNDDB occurrence is a historical record from 1919 and is approximately 6.1 miles north of the Project and is considered extirpated after agricultural and residential development in the area since that date (EONDX 97213).
Lanius ludovicianus loggerhead shrike	-/- BCC/SSC	This species is a common resident in lowlands and foothills throughout California. It prefers open grassland and pasture habitats with scattered trees, fence posts, utility lines, shrubs, and other perches. This species primarily consumes large insects but will prey upon other small animals. It nests in densely foliaged and/or thorny shrubs and trees less than 50 feet above the ground.	No	Suitable habitat is absent from the BSA. There are no CNDDB occurrences within 10 miles of the Project.
Mammals				

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
Antrozous pallidus Pallid bat	-/- SSC	This species occurs at low elevations throughout California in a wide variety of habitats including grasslands, shrublands, woodlands, forests, and mixed conifer. It occurs most commonly in open, dry habitats with rocky areas for roosting. It is a yearlong nocturnal resident that hibernates during winter. It forages in open areas mainly on insects and arachnids, occasionally on the ground. Day roosts occur in caves, crevices, mines, and occasionally hollow trees, buildings, and bridges and night roosts occur in more open sites. Maternity colonies form in early April with young volant by July or August. This bat species is very sensitive to disturbance of roosting sites	No	This species may forage within the BSA but there is no suitable roosting habitat. This species was not observed during the survey. The nearest CNDDB occurrence is from 2004 and approximately 9.8 miles northeast of the Project at a bridge crossing over St. John's River (EONDX 68476). This was a newer bridge designed to include roost habitat as mitigation.
Dipodomys nitratoides nitratoides Tipton kangaroo rat	FE/SE -/-	This is a subspecies of the San Joaquin kangaroo rat (*Dipodomys nitratoides*) that occurs in valley saltbush scrub, valley sink scrub, and grasslands. It is historically known to occur in the southern San Joaquin Valley from southern margins on Tulare Lakebed near Lemoore and Hanford, and on the valley floor in Tulare and Kern counties but now is found only east of the California Aqueduct. Population distribution is not continuous and occurs only in small, isolated patches. It is a nocturnal foraging species that excavates burrows for temperature regulation, litter-rearing, shelter, and escape from predators. This species is threatened by habitat loss, fragmentation, degradation and by land conversions to agricultural, industrial, and urban developments, but it can quickly inhabit fallow agricultural fields if a source population is nearby.	No	Suitable habitat is absent from the Project and no kangaroo rat activity (scat, tail drags, etc.) was observed during the survey. The Project is isolated from any occupied territories with which it could be repopulated. The nearest CNDDB occurrence is approximately 9.5 miles southeast of the Project, which is a historical record collected in 1943 (EONDX 65437).
Eumops perotis californicus Western mastiff bat	-/- SSC	This species occurs in open, semi-arid to arid habitats throughout southeastern San Joaquin Valley and Coast Ranges from Monterey County southward. It can also occur in urban areas. It feeds on insects captured in flight and roosts in cliff faces, high buildings, trees, and tunnels. The maternity season begins in March with young typically volant by September. Nursery roosts most often occur in tight rock crevices or crevices in buildings.	No	This species may forage within the BSA but there is no suitable roosting habitat. The nearest CNDDB occurrence is approximately 3.6 miles north of the Project where an individual was detected in 2002 in oak riparian habitat along Packwood Creek (EONDX 61278).

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
Taxidea taxus American badger	-/- SSC	This species occurs mostly in open, drier stages of shrub, forest, and herbaceous habitats, with friable soils. It feeds mostly on fossorial rodents. It digs burrows for cover and reproduction and can dig a new den each night. Litters are typically born in March and April. This species can be somewhat tolerant of human activities but generally avoids cultivated agricultural habitats.	Yes	The annual grassland within the BSA is suitable for the species. Although The BSA is relatively isolated from other suitable habitat, the species has been known to traverse over agricultural land and could establish within the BSA or occur as a transient at any time. The nearest CNDDB occurrence is approximately 9.8 miles northeast of the Project in pasture and fallow field from 1994 (EONDX 56600).
Vulpes macrotis mutica San Joaquin kit fox	FE/ST	This fox species is endemic to the Central Valley and primarily occurs in arid to semi-arid grasslands, open shrublands, savannahs, and grazed lands with loose-textured soils within the San Joaquin Valley, Carrizo Plain, Salinas Valley, Cuyama Valley, and other small valleys in western foothills. Intensively maintained agricultural areas are typically avoided. It is highly adaptable and documented in urban developed areas. It uses burrows year-round for shelter, escape from predators, and rearing young and it will use man-made structures, such as pipes, for denning. Kit fox feed primarily on small mammals, but will also consume birds, reptiles, insects, and scavenge for human food. It is threatened by habitat loss and fragmentation, vehicle strikes, and disease such as the current mange outbreak in urban population in Bakersfield and in nearby natural areas.	Yes	There is suitable habitat within the BSA and the species is highly adaptable to urban environments. Individuals may establish dens or pass through the BSA as transients at any time. There are numerous CNDDB occurrences within 10 miles, the closest of which documents a San Joaquin kit fox population from 1992, approximately 1.5 miles south of the Project (EONDX 70631).

CRPR (California Rare Plant Rank):
- 1A Presumed Extinct in California
- 1B Rare, Threatened, or Endangered in California and elsewhere
- 2A Plants presumed extirpated in California, but more common elsewhere
- 2B Plants Rare, Threatened, or Endangered in California, but more common elsewhere

CRPR Threat Code Extension:
- .1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- .2 Fairly endangered in California (20-80% occurrences threatened)
- .3 Not very endangered in California (<20% of occurrences threatened)

FE	Federally Endangered
FT	Federally Threatened
FC	Federal Candidate Species
FS	Federally Sensitive
SE	State Endangered
ST	State Threatened
SC	State Candidate Endangered
SS	State Sensitive
SSC	State Species of Special Concern
SFP	State Fully Protected
SR	State Rare
WL	Watch List

APPENDIX E

U.S. FISH AND WILDLIFE SERVICE STANDARDIZED RECOMMENDATIONS FOR PROTECTION OF THE ENDANGERED SJKF PRIOR TO OR DURING GROUND DISTURBANCE

Appendix D – Cultural Resources

TECHNICAL MEMORANDUM

Date: July 28, 2021

Project: Cultural resources records search- Cordeniz Residential Project, Tulare County, CA

To: Jaymie Brauer, Principal Planner

From: Robert Parr, MS, RPA, Senior Archaeologist

Subject: Cultural Resources Records Search Results (RS#21-273)

Background

This cultural resources records search (RS #21-273) was conducted at the Southern San Joaquin Valley Information Center, CSU Bakersfield for the above referenced Project in the City of Tulare, Tulare County to determine whether any known cultural resources were located on or near the proposed project that might be impacted by project development and activities.

Location

The Project is located in the southeast ¼ of the southwest ¼ of Section 25, T.19S, R.24E (MDB&M) (Figures 1-4).

Project Description

The project proposes to develop 144-lot single family residential lots on 38 acres of undeveloped land on the north side of Cartmill Ave, west of De La Vina St. in Tulare, CA.

Results

The records search covered an area within one-half mile of the Project and included a review of the *National Register of Historic Places, California Points of Historical Interest, California Registry of Historic Resources, California Historical Landmarks, California State Historic Resources Inventory*, and a review of cultural resource reports on file.

The records search indicated that a 200-foot wide strip at the southern margin of the subject property, adjacent to and parallel with East Cartmill Avenue, had been surveyed as part of a larger cultural resources project with negative results (Hatoff et al. 1995). The remaining portion of the property has not been surveyed for cultural resources and it is not known if any exist on it.

Four additional cultural resource studies have been conducted within a half mile radius of the project (Dodd 1999; Haley 2011, 2011a; O'Brien 2011).

No cultural resources have been identified within a half mile of the proposed project.

A Sacred Lands File request was also submitted to the Native American Heritage Commission. A response dated July 28, 2021 indicates negative results (see Attachment B).

Conclusions

Based on the results of cultural records search findings and the lack of historical or archaeological resources previously identified within a half mile radius of the proposed Project, the potential to encounter subsurface cultural resources is minimal. Additionally, the Project construction would be conducted within the partially developed and previously disturbed parcel. The potential to uncover subsurface historical or archaeological deposits would be considered unlikely.

However, there is still a possibility that historical or archaeological materials may be exposed during construction. Grading and trenching, as well as other ground-disturbing actions have the potential to damage or destroy these previously unidentified and potentially significant cultural resources within the project area, including historical or archaeological resources. Disturbance of any deposits that have the potential to provide significant cultural data would be considered a significant impact. To reduce the potential impacts of the Project on cultural resources, the following measures are recommended to be included on the final site plans and all construction plans and specs. With implementation of CUL-1 and CUL-2, the Project would have a less than significant impact.

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

CUL-2: If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and

Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of discovery of human remains, at the direction of the county coroner.

Robert E. Parr, MS, RPA
Senior Archaeologist

Attachment A- Figures
Attachment B- Sacred Lands File Response by the Native American Heritage Commission

References

(all reports on file at the Southern San Joaquin Valley Information Center, California State University, Bakersfield)

Dodd, Douglas W.
1999 Historical Architectural Survey Report/Historic Resource Evaluation Report for Roadbed Rehabilitation and Intersection Upgrades on State Route 63 Between Tulare and Visalia, Tulare County. (TU-01085)

Haley, Kathryn
2011 Historical Resources Compliance Report for the Cartmill Avenue Interchange Project, City of Tulare, Tulare County, California. (TU-01677)

2011a Historical Resources Evaluation Report for the Cartmill Avenue Interchange Project, City of Tulare, Tulare County, California. (TU-01677B)

Hatoff, Brian, Barb Voss, Sharon Waechter, Stephen Wee, and Vance Benté
1995 Cultural Resources Inventory Report for the Proposed Mojave Northward Expansion Project. (TU-00102)

O'Brien, Traci
2011 Archaeological Survey Report for the Cartmill Avenue Interchange Project, City of Tulare, Tulare County, California. (TU-01677A).

ATTACHMENT A
PROJECT FIGURES

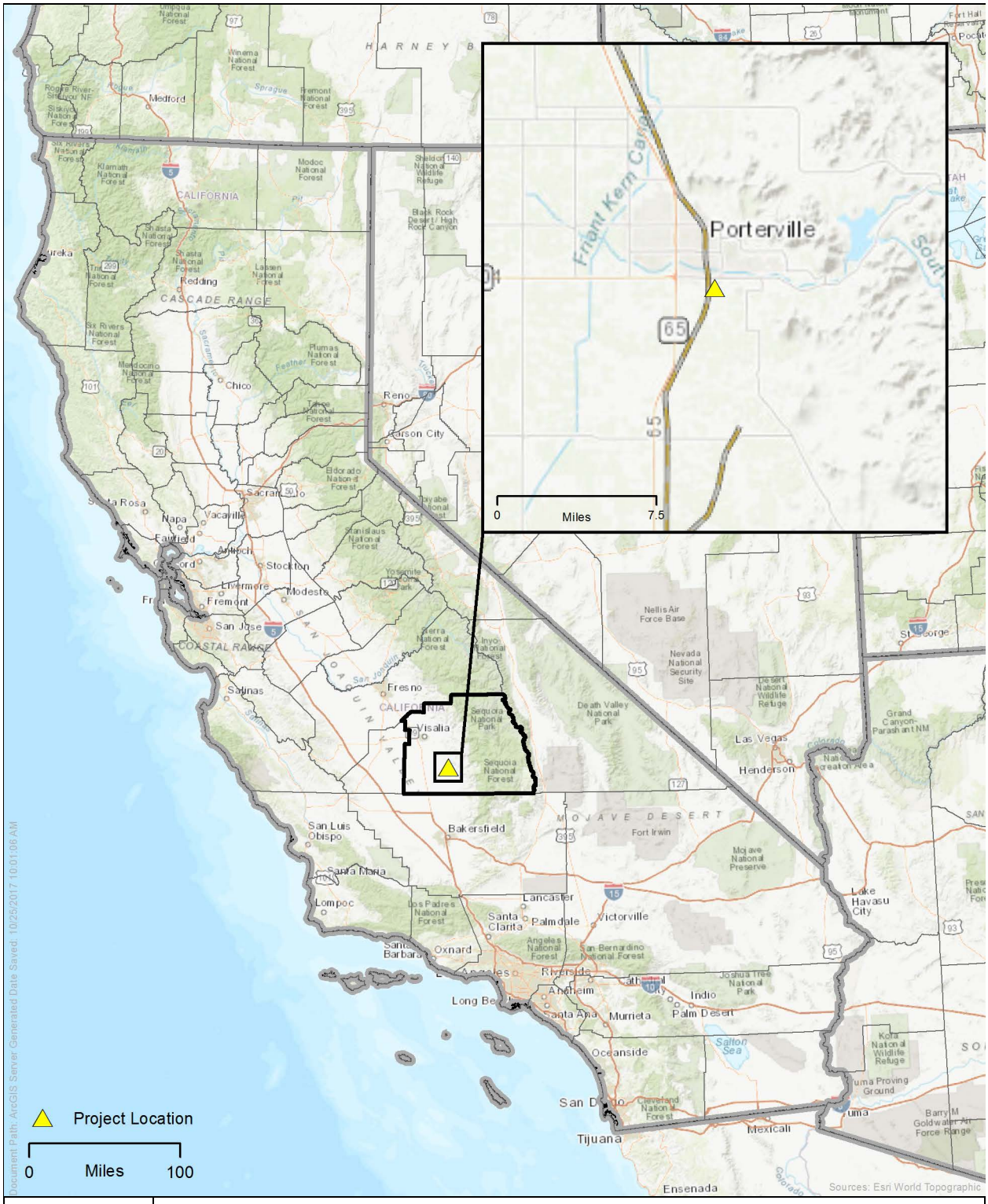

Figure - 1
Regional Location

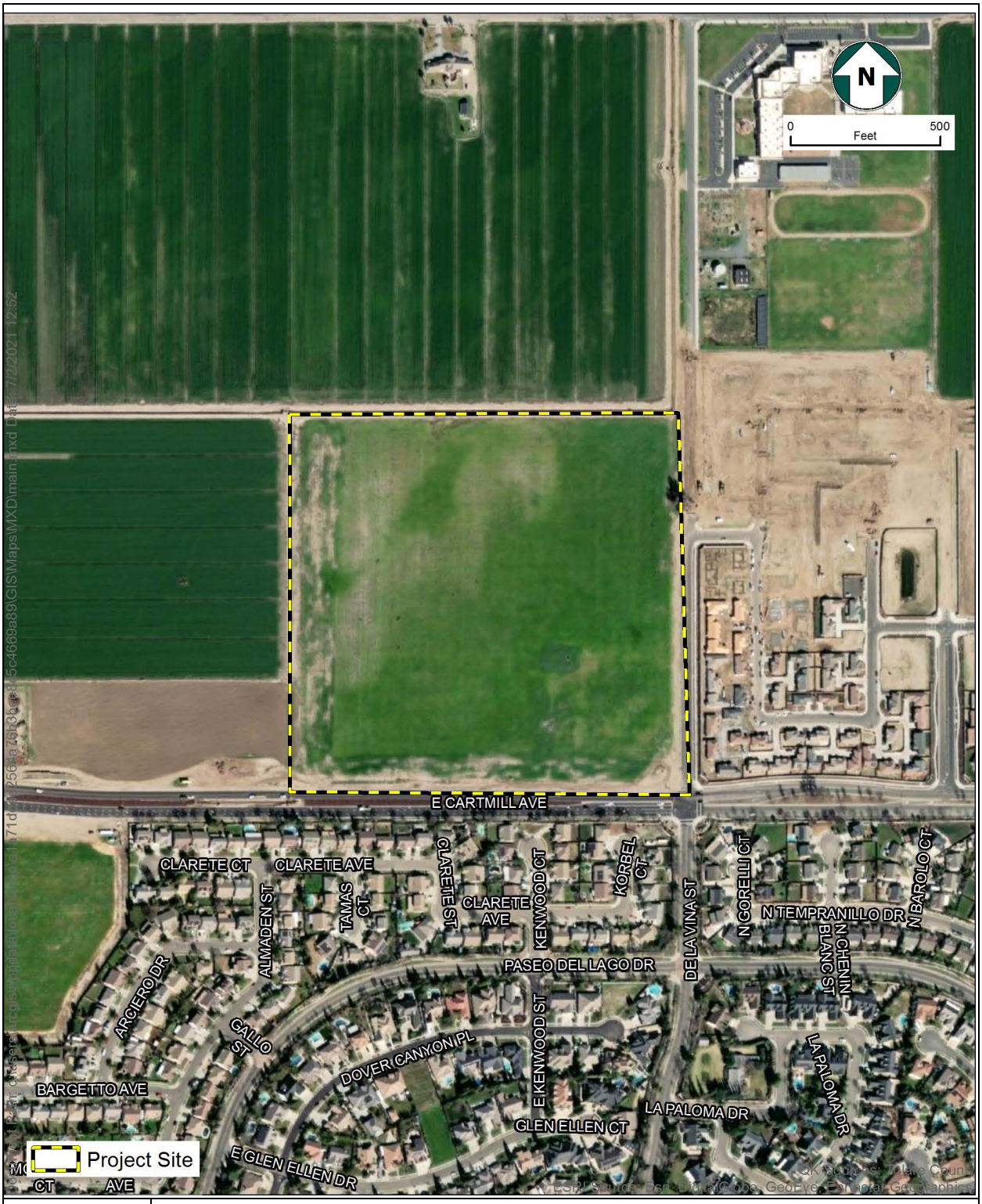

Figure - 2
Project Area

Cordeniz Property Project

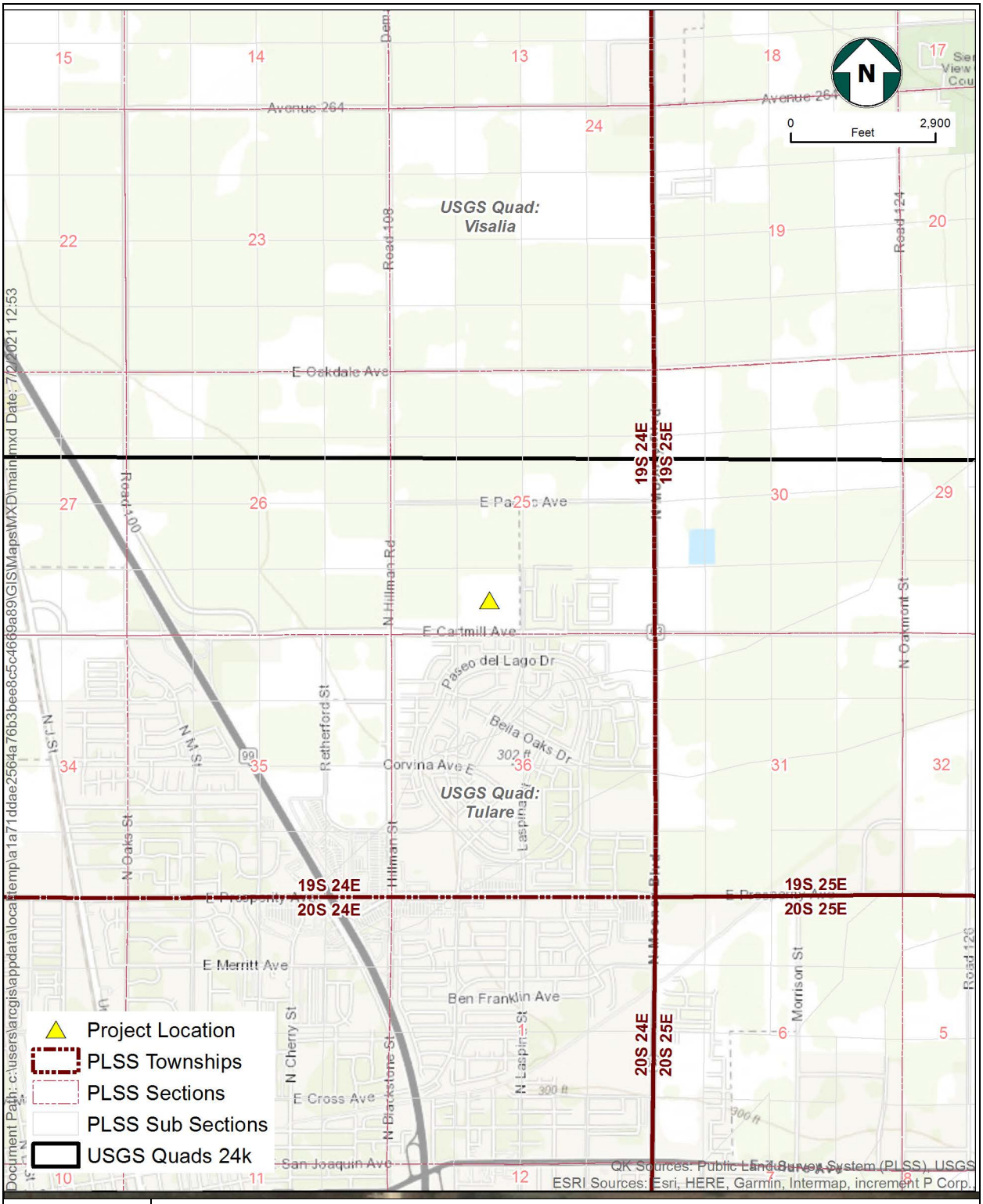

Figure - 3
PLSS/USGS Quad

Cordeniz Property Project

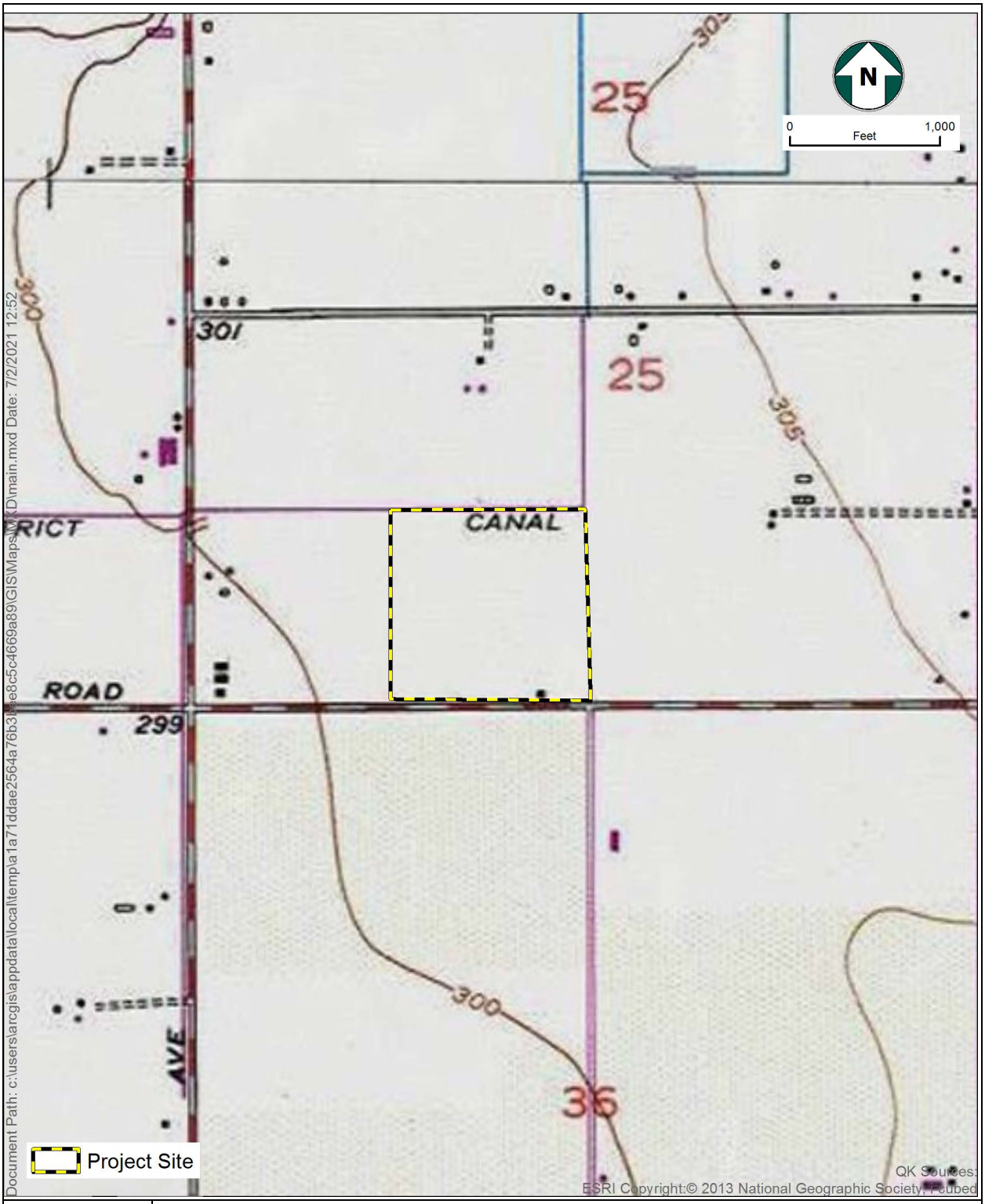

Figure - 4
Topo

TECHNICAL MEMORANDUM

Attachment B-
Sacred Lands File Response by the Native American Heritage Commission

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

July 28, 2021

Jaymie Brauer
Quad Knopf, Inc.

Via Email to: jaymie.brauer@qkinc.com

Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Cordeniz Unit 1 Property Project, Tulare County

Dear Ms. Brauer:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

    - Any report that may contain site forms, site significance, and suggested mitigation measures.

      All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Tribal Consultation List
Tulare County
7/28/2021

Big Sandy Rancheria of Western Mono Indians
Elizabeth Kipp, Chairperson
P.O. Box 337 — Western Mono
Auberry, CA, 93602
Phone: (559) 374 - 0066
Fax: (559) 374-0055
lkipp@bsrnation.com

Kern Valley Indian Community
Robert Robinson, Chairperson
P.O. Box 1010 — Kawaiisu
Lake Isabella, CA, 93283 — Tubatulabal
Phone: (760) 378 - 2915 — Koso
bbutterbredt@gmail.com

Santa Rosa Rancheria Tachi Yokut Tribe
Leo Sisco, Chairperson
P.O. Box 8 — Southern Valley
Lemoore, CA, 93245 — Yokut
Phone: (559) 924 - 1278
Fax: (559) 924-3583

Tule River Indian Tribe
Neil Peyron, Chairperson
P.O. Box 589 — Yokut
Porterville, CA, 93258
Phone: (559) 781 - 4271
Fax: (559) 781-4610
neil.peyron@tulerivertribe-nsn.gov

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct. — Foothill Yokut
Salinas, CA, 93906 — Mono
Phone: (831) 443 - 9702
kwood8934@aol.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and section 5097.98 of the Public Resources Code.

This list is only applicable for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Cordeniz Unit 1 Property Project, Tulare County.

Appendix E – Energy Memorandum

MEMO

Date: December 31, 2021 **Project No.:** 210079

To: Steven Sopp

From: Karla Topete and Jaymie Brauer

Subject: Cordeniz Residential Project – Energy Consumption Technical Memorandum

INTRODUCTION

This memorandum assesses possible construction and operational energy demand impacts by the development of the Cordeniz Residential Development Project (Project) in the context of Section 15126.2(b) of the California Environmental Quality Act (CEQA) Guidelines. The analysis in this memo relies in part on information and assumptions provided in the Air Quality Impact Analysis for the proposed Project (Trinity Consultants, 2021).

PROJECT DESCRIPTION

The Project proposes to construct a 144-lot subdivision on approximately 38 acres of undeveloped land (Project). The development would include single story homes of 3 to 4 bedrooms ranging in size 1,200 to 2,500 square feet with the associated road and utility improvements. The Project is located at the northwest corner of East Cartmill Avenue & De La Vina Street in unincorporated Tulare County, California on APN 149-060-005. Access to the proposed subdivision will be from Almaden Street and De La Vina Avenue. The Project will connect to the City's water and sewer system.

The construction of subdivision will take approximately 9 months and will be completed in 2 phases. It is anticipated that construction will include up to 15 crew members onsite. Equipment that may be used during construction includes:

- 12 CY and 20 CY scrapers,
- Motor graders,
- 500-gallon water truck,
- Small excavator/tractor,
- Rubber-tired compactor,
- 12 CY concrete trucks, and
- Concrete extrusion machine.

STATE ENERGY RESOURCES AND USE

California has a diverse portfolio of energy resources that produced 2,449 trillion British thermal units (BTUs) in 2019 (U.S. Energy Information Administration, 2019). Energy sources produced in the State include natural gas (220.8 trillion BTUs), crude oil (920.1

BTUs), nuclear (168.8 trillion BTUs), biofuels (31.4 trillion BTUs), wood and waste (139.3 trillion BTUs), and other, which includes consumption of noncombustible renewable energy, including hydroelectric power, as well as geothermal, solar, and wind energy (968.9 trillion BTUs) (U.S. Energy Information Administration, 2019).

According to the U.S. Energy Information Administration, California consumed approximately 7,802 trillion BTUs of energy in 2019. Per capita energy consumption (i.e., total energy consumption divided by the population) in California is among the lowest in the country–approximately 198 million BTUs in 2019. Natural gas accounted for the majority of energy consumption (2,217.2 BTUs); followed by motor gasoline (1,688.1 BTUs) (U.S. Energy Information Administration, 2019). The transportation sector consumed the highest quantity of energy (39.3 percent), followed by the industrial (23.2 percent), commercial (18.9 percent), and residential (18.7 percent) sectors (U.S. Energy Information Administration, 2019).

Per capita energy consumption, in general, is declining because of improvements in energy efficiency and design. However, despite this reduction in per capita energy use, the State's total overall energy consumption (i.e., non-per capita energy consumption) is expected to increase over the next several decades as a result of growth in population, jobs, and vehicle travel.

REGIONAL ENERGY RESOURCES AND USE

Gas and electricity are served to Tulare County customers by three primary utility providers: Pacific Gas and Electric Company (PG&E), Southern California Gas Company (The Gas Company), and Southern California Edison Company (SCE). Each is described further below.

Pacific Gas and Electric Company

PG&E is an investor-owned utility company that provides electricity and natural gas supplies to approximately 15 million people in Northern and Central California, with a 70,000 square mile service area and serve Dinuba and the northern area of Tulare County (PG&E, 2021). PG&E's electricity is approximately two-thirds cleaner than the industry average, as measured by PG&E's carbon dioxide emissions rate. The PG&E and State of California 2019 power mix is detailed in Table 1. Energy usage by sector is outlined in Table 2.

Table 1
PG&E and the State of California 2019 Power Mix

Energy Resource	PG&E Power Mix	California-Wide Power Mix
Eligible Renewable	29%	32%
Biomass & Biowaste	*3%*	*2%*
Geothermal	*2%*	*5%*
Small Hydroelectric	*2%*	*2%*

Solar	*12%*	*12%*
Wind	*9%*	*10%*
Coal	0%	3%
Large Hydroelectric	27%	15%
Natural Gas	0%	34%
Nuclear	44%	9%
Other	0%	0%
Unspecified [1]	0%	7%
Total	**100%**	**100%**

Source: (PG&E, 2020)
[1] Electricity from transactions that are not traceable to specific generation source

Table 2
Electricity Consumption in PG&E Service Area (2020)

Agricultural and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Total Streetlight	Usage
6,638	26,247	3,949	9,814	1,748	29,834	290	78,519

Source: (California Energy Commission, 2020)
Note: All usage expressed in millions of kWh (GWh).

PG&E provides natural gas transportation services to "core" and "non-core" customers (i.e., industrial, large commercial, and natural gas-fired electric generation facilities) that are connected to its gas system in its service territory. Core customers can purchase natural gas from either PG&E or non-utility third-party gas procurement service providers. PG&E offers backbone gas transmission, gas delivery (local transmission and distribution), and gas storage services as separate and distinct services to its non-core customers. Access to PG&E's backbone gas transmission system is available for all-natural gas marketers and shippers, as well as non-core customers. PG&E also delivers gas to some customers outside of PG&E's service territory and to third-party natural gas storage customers.

PG&E also maintains approximately 42,141 miles of gas distribution pipelines and 6,438 miles of gas transmission pipelines (PG&E, 2021). Table 3 below presents natural gas consumption by sector for PG&E in 2019.

Table 3
Natural Gas Consumption in PG&E Service Territory (2020)

Agricultural and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Total Usage
44	797	51	1,585	140	1,891	4,509

Source: (Southern California Edison, 2020)
Note: All usage expressed in Millions of Therms

Southern California Gas Company

The Southern California Gas Company is the principal distributor of natural gas in Southern California, providing retail and wholesale customers with transportation, exchange, and storage services, as well as procurement services to more retail core customers. It is a gas-only utility and, in addition to serving the residential, commercial, and industrial markets, provides gas for enhanced oil recovery and electric generation customers. The Gas Company projects total gas demand to decline at an annual rate of one percent from 2020–2035. The decline in throughput demand is due to modest economic growth, and CPUC-mandated energy efficiency (EE) standards and programs and SB 350 goals. Other factors that contribute to the downward trend are tighter standards created by revised Title 24 Codes and standards, renewable electricity goals, a decline in core commercial and industrial demand, and conservation savings linked to Advanced Metering Infrastructure (AMI). By comparison, the 2018 California Gas Report projected an annual decline in demand of 0.74 percent over the forecast horizon (SoCalGas, 2020). SCE's current power mix, including utility owned generation and purchased power, is detailed in Table 4. Table 5 shows the energy usage by sector.

Table 4
Southern California Edison and the State of California 2019 Power Mix

Energy Resource	SCE Power Mix	California-Wide Power Mix
Eligible Renewable	35%	32%
Biomass & Biowaste	*0%*	*2%*
Geothermal	*6%*	*5%*
Small Hydroelectric	*1%*	*3%*
Solar	*16%*	*12%*
Wind	*12%*	*10%*
Coal	0%	4%
Large Hydroelectric	8%	15%
Natural Gas	16%	34%
Nuclear	8%	9%
Other	0%	<1%
Unspecified [1]	33%	11%
Total	**100%**	**100%**

Source: (Southern California Edison, 2020)
[1] Electricity from transactions that are not traceable to specific generation source

Table 5
Electricity Consumption in Southern California Edison Service Area (2020)

Agricultural and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Streetlight	Total Usage

3,112	28,800	4,449	12,450	1,822	34,475	426	83,533

Source: (California Energy Commission, 2020)
Note: All usage expressed in Millions of Therms

REGULATORY FRAMEWORK

Federal

ENERGY POLICY AND CONSERVATION ACT

The Energy Policy and Conservation Act of 1975 established the first fuel economy standards for on-road motor vehicles in the U.S. Since 1990, the country's fuel economy for passenger cars and light-duty trucks has increased.

ENERGY POLICY ACT OF 2005

The Energy Policy Act of 2005 sought to reduce the reliance on non-renewable energy resources. The Energy Policy Act provides tax credits for electricity generated by qualified energy sources. Along with tax incentives, grants, and loan guarantees for the production of clean renewable energy.

PASSENGER CARS AND TRUCKS AND CORPORATE AVERAGE FUEL ECONOMY STANDARDS

In 2012, the U.S. Environmental Protection Agency (EPA) and National Highway Traffic Safety Administration (NHSTA) issued rules to improve corporate average fuel economy (CAFE) standards for light-duty vehicles. The program is expected to increase fuel economy to 54.5 miles per gallon (mpg) for cars and light-duty trucks by 2025.

State

SENATE BILL 350: CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015

The Clean Energy and Pollution Reduction Act of 2015 requires the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources to be increased to 50 percent by December 31, 2030.

SENATE BILL 1078: CALIFORNIA RENEWABLES PORTFOLIO STANDARD PROGRAM

The California Renewables Portfolio Standard (RPS) Program was established in 2002 by Senate Bill (SB) 1078 (Sher, 2002) with the initial requirement that 20 percent of electricity retail sales must be served by renewable resources by 2017. The program was accelerated in 2006 under SB 107, which required that the 20 percent mandate be met by 2010. In April 2011, SB 2 (1 X) (Simitian) was signed into law, which codified a 33 percent RPS requirement to be achieved by 2020. In 2015, SB 350 (de Leon, 2015) was signed into law, which

mandated a 50 percent RPS by December 31, 2030. SB 350 includes interim annual RPS targets with three-year compliance periods. In addition, SB 350 requires 65 percent of RPS procurement must be derived from long-term contracts of 10 or more years. In 2018, SB 100 (de Leon, 2018) was signed into law, which again increases the RPS to 60 percent by 2030 and requires all State's electricity to come from carbon-free resources by 2045. SB 100 went into effect on January 1, 2019.

CONSTRUCTION EQUIPMENT IDLING

California Air Resource Board (CARB) adopted a regulation (13 Cal. Code Regs. Section 2449 et seq.) that imposes idling limitations on off-road diesel vehicles. The regulation requires applicable off-road diesel vehicles to limit idling to a maximum of five minutes.

ASSEMBLY BILL 2076: REDUCING DEPENDENCE ON PETROLEUM

The CEC and CARB established the report in 2003 which recommends an increase in alternative fuels to 20 percent of on-road transportation fuel use by 2020 and 30 percent by 2030 which increases in the efficiency of motor vehicles.

WARREN-ALQUIST ACT

Warren-Alquist Act of 1975 established the California Energy Resources Conservation and Development Commission, known currently as the California Energy Commission (CEC). State policy was enacted to reduce wasteful, uneconomical, and unnecessary uses of energy. To enforce the policy, California Public Utilities Commission (CPUC) regulates privately-owned utilities in the energy, rail, telecommunications, and water fields

ENERGY ACTION PLAN

The first Energy Action Plan (EAP) was created in 2003. The State's three major energy policy agencies (CEC, CPUC, and the Consumer Power and Conservation Financing Authority) developed an approach to meeting California's electricity and natural gas needs and took into consideration the impacts on the environment.

CLIMATE CHANGE SCOPING PLAN/CALIFORNIA'S RENEWABLE PORTFOLIO STANDARD (RPS) PROGRAM

In December of 2008, CARB released a Scoping Plan outlining the State's strategy to achieve the 2020 GHG emissions limit–California's Renewable Portfolio Standard (RPS) Program. (In October 2015, Governor Brown signed into law Senate Bill 350, which establishes a new RPS for all electricity retailers in the State. Electricity retailers must adopt the new RPS goals of 50 percent of retail sales from renewables by the end of 2030).

SENATE BILL NO. 100

Senate Bill No. 100 was approved by the California Governor on September 10, 2018.

a. This act shall be known as the 100 Percent Clean Energy Act of 2018.
b. The legislature finds and declares that the Public Utilities Commission (PUC), State Energy Resources Conservation and Development Commission, and State Air Resources Board should plan for 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045.
c. It is the intent of the legislature in enacting this act and expand policies established pursuant to the California Renewables Portfolio Standard Program (Article 16 (commencing with Section 399.11) of Chapter 2.3 of Part 1 of Division 1 of the Public Utilities Code), and to codify the policies established pursuant to Section 454.53 of the Public Utilities Code, and that both be incorporated in long-term planning.

Local

CITY OF TULARE GENERAL PLAN

The goal of the Tulare General Plan is to create goals, policies, and implementation programs to guide future development in the city, encouraging infill development and providing guidance for the city's orderly expansion in a manner that is economically sustainable. The Conservation and Open Space Element of the General Plan states its purpose to expand outward with consideration of natural resources. Section B.6 of the Conservation and Open Space Element lists the goals, policies, and actions for Energy Conservation (City of Tulare, 2014).

Conservation and Open Space - Section B.6: Energy Conservation

Goal COS-6: To encourage energy conservation in new and existing developments throughout the city.

Policies

COS-P6.1 **Energy Conservation Measures.** The City shall require the use of energy conservation features in new construction and renovation of existing structures in accordance with state law. New features that may be applied to construction and renovation include:

- Green building techniques (such as use of recycled, renewable, and reused materials; efficient lighting/power sources; design orientation; building techniques; etc.);
- Cool roofs;

- Enhanced insulation;
- Application of solar technologies (e.g. photovoltaic, water heating, etc.); and
- Energy Star compliance programs.

COS-P6.2 **Landscape Improvements for Energy Conservation.** The City shall encourage the planting of shade trees along all city streets and as part of new development to reduce radiation heating.

COS-P6.3 **Promote Energy Conservation Awareness.** The City shall coordinate with local utility providers to provide public education energy conservation programs.

COS-P6.4 **Local and State Programs.** The City shall participate to the extent feasible in local, regional and state programs that strive to reduce the consumption of natural or man-made energy sources.

COS-P6.5 **Promote Renewable Energy Industry Clusters**. The City shall promote development of and capital investment in renewable energy.

COS-P6.6 **Promote Renewable Energy Industry Clusters**. The City shall promote development of and capital investment in renewable energy.

CITY OF TULARE CLIMATE ACTION PLAN

The City's Climate Action Plan demonstrates the City of Tulare's commitment to reducing greenhouse gas (GHG) emissions consistent with state legislation and in support of the City's General Plan. As such, the Plan contains measures for energy efficiency and conservation and renewable energy.

Goal 1: Increase energy efficiency and conservation.

Goal 2: Promote and support renewable energy generation and use.

Goal 3: Shift single occupancy vehicle trips to alternative modes.

Goal 4: Reduce emissions from vehicles.

ENERGY RESOURCES STANDARDS OF SIGNIFICANCE

The 2021 CEQA Guidelines Appendix G includes Section VI- *Energy*, which is an analysis of potential impacts of a project related to the consumption of energy resources. The thresholds as written in the Guidelines are:

- Criteria 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?
- Criteria 2: Would the Project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

While no quantitative thresholds related to energy are included, the Guidelines states as follows:

The goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include:

1. Decreasing overall per capita energy consumption,
2. Decreasing reliance on natural gas and oil, and
3. Increasing reliance on renewable energy resources.

ENERGY IMPACTS

Approach to the Analysis and Methodology

Section 15126.2(b) of the State CEQA Guidelines, which was recently added as part of the 2018 comprehensive update, provides the following guidance for energy impacts.

Energy Impacts. If analysis of the project's energy use reveals that the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary consumption use of energy, or wasteful use of energy resources, mitigation will need to be implemented. This analysis should include the project's energy use for all project phases and components, including transportation-related energy, during construction and operation. In addition to building code compliance, other relevant considerations may include, among others, the project's size, location, orientation, equipment use and any renewable energy features that could be incorporated into the project. This analysis is subject to the rule of reason and shall focus on energy use that is caused by the project. This analysis may be included in related analyses of air quality, greenhouse gas emissions, transportation or utilities in the discretion of the lead agency.

The CEQA Guidelines includes impact category “Energy” within Appendix G. The potential impacts analysis is based on an evaluation of whether construction and operational energy use estimates for the proposed Project would be considered excessive, wasteful, or inefficient, taking into account that the proposed Project would provide a new source of renewable energy. The energy analysis for the proposed Project evaluates the following sources of energy consumption:

- Short-term construction

  - Gasoline and diesel fuel consumed by on-road vehicles and off-road construction equipment
- Long-term operations
  - Electricity and natural gas consumed by the residents
  - Energy consumption related to water usage and solid waste disposal
  - Fuel consumption (gasoline and diesel) by vehicles associated with the project through the generation of new vehicle trips

ENERGY RESOURCES IMPACT ANALYSIS

Methodology

Trinity Consultants, Inc. estimated energy consumption for both construction and operation of the Project using California Emission Estimator Model version 2016.3.1 (CalEEMod). CalEEMod is a statewide program designed to calculate pollutant emissions for development projects in California using land use data. Project construction and operational activities would also generate greenhouse gas (GHG) emissions. Criteria and GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 (California Air Pollution Control Officers Association (CAPCOA) 2016), the California EPA's EMFAC2017 web database (California Air Resources Board (CARB) 2018) and the California Climate Action Registry General Reporting Protocol (Climate Action Registry 2009) (Trinity Consultants, 2021).

Energy emissions details supporting the proposed Project estimates presented in this memo are included in Attachment 1 as well as the *Air Quality Impact Analysis* (Trinity Consultants, 2021). In summary, the energy use associated with fuel consumption during both project construction and operations was calculated by converting GHG emissions (i.e., CO_2 emissions) estimated for the project in the *Air Quality Impact Analysis*. The water-related emissions during both project construction and operations were calculated using water usage assumptions provided by the project applicant in combination with CalEEMod defaults for electricity intensity factors associated with water conveyance, treatment, and distribution. The proposed Project would use energy resources for the operation of Project buildings (electricity and natural gas), for on-road vehicle trips (e.g. gasoline and diesel fuel) generated by the proposed Project, and from off-road construction activities associated with the proposed Project (e.g. diesel fuel). The estimated energy use for the Project is shown in Table 6.

SIGNIFICANCE CRITERIA

Based on guidance provided in of the State CEQA Guidelines, a project would result in significant impacts related to energy if it would:

1. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation.
2. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

IMPACT ANALYSIS

Criteria 1: Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

Construction Phase

Energy demand during the construction phase would result from the transportation of materials, construction equipment, and employee vehicle trips. Construction would occur over a 9-month in two phases starting in 2022. It is anticipated that construction will include up to 15 staff onsite. The average trip length for construction personnel traveling to and from the site was determined to be approximately 11 miles.

Construction of the proposed project would result in fuel consumption from the use of construction tools and equipment, haul truck trips, and vehicle trips generated from construction workers traveling to and from the site.

Construction equipment (Table 6 below and Appendix B of Air Quality Impact Analysis), horsepower ratings, hours of use, and load factors were used to calculate construction-related fuel use, provided by the Project applicant and default assumptions from California Emissions Estimator Model (CalEEMod), version 2016.3.1.

Table 6
Site Construction and Installation Energy Resource Estimate

Phase Name	Offroad Equipment Type	total hours	Amount	Usage Hours	Horse Power	Load Factor	HP-Hour	Fuel Consumption (gal)	Total per phase per day	days	total gallons per phase
Site Preparation	Rubber Tired Dozers	24	3	8.00	247	0.40	4.11666667	0.210773333			
Site Preparation	Tractors/Loaders/Backhoes	32	4	8.00	97	0.37	1.1215625	0.057424			
									0.26819733	6	1.609184
Grading	Excavators	16	2	8.00	158	0.38	3.7525	0.192128			
Grading	Graders	8	1	8.00	187	0.41	9.58375	0.490688			
Grading	Rubber Tired Dozers	8	1	8.00	247	0.40	12.35	0.63232			
Grading	Scrapers	16	2	8.00	367	0.48	11.01	0.563712			

Grading	Tractors/Loaders/Backhoes	16	2	8.00	97	0.37	2.243125	0.114848			
									1.993696	16	31.899136
Building Construction	Cranes	7	1	7.00	231	0.29	9.57	0.489984			
Building Construction	Forklifts	24	3	8.00	89	0.20	0.74166667	0.037973333			
Building Construction	Generator Sets	8	1	8.00	84	0.74	7.77	0.397824			
Building Construction	Tractors/Loaders/Backhoes	21	3	7.00	97	0.37	1.70904762	0.087503238			
Building Construction	Welders	8	1	8.00	46	0.45	2.5875	0.13248			
									1.14576457	151	173.01045
Paving	Pavers	16	2	8.00	130	0.42	3.4125	0.17472			
Paving	Paving Equipment	16	2	8.00	132	0.36	2.97	0.152064			
Paving	Rollers	16	2	8.00	80	0.38	1.9	0.09728			
									0.424064	11	4.664704
Architectural Coating	Welders	6.54	2	3.27	78	0.45	5.36697248	0.274788991	0.27478899	11	3.0226789
									4.1065109	195	800.769625
HP-Hour = Load Factor x Total Hours x Horsepower							Fuel Consumption = HP-Hour x .0512		**Total**		**801**

Table 7
Construction Gasoline Usage Estimate

Worker Trip Number	Miles per Trip	Miles per Gallon	Total Gallons Gasoline
115	10.8	24.5	50.7

Table 8
Energy Use- Construction

	Energy Unit		Unit Conversion
Source	**Gallons**	**kWh[1]**	**BTU**
Diesel	801[2]	32,252	110,042,181
Gasoline	50.7[3]	51	6,134,586

[1] BTUs were converted to KWh using 3,412 BTU/hour per kWh
[2] 1 gallon = 137,381 Btu
[3] 1 gallon = 120,286 Btu

Total	**32,303**

Source: (US Energy Information Administration, 2021)

The electricity produced by the Project will be measured in kWh, therefore, the BTU have been converted to kWh to accurately compare the impacts from construction and operation. Construction of the proposed Project would result in fuel consumption from the use of construction tools and equipment, haul truck trips, and vehicle trips generated from construction workers traveling to and from the site. Project construction is expected to consume a total of approximately 801 gallons of diesel fuel (110 million BTUs) and approximately 51 gallons of gasoline (6 million BTUs), equaling approximately 32,303 kWh.

Construction activities and corresponding fuel energy consumption would be temporary and localized, as the use of diesel fuel and heavy-duty equipment would not be a typical condition of the project. In addition, there are no unusual project characteristics that would cause the use of construction equipment that would be less energy efficient compared with other similar construction sites in other parts of the State. All construction activities would adhere to the requirements of the appropriate governing authorities and in accordance with all applicable federal, State, and County regulations. Therefore, construction-related fuel consumption as a result of implementation of the proposed project is not anticipated to result in inefficient, wasteful, or unnecessary energy use compared with other similar types of construction sites in the region.

Operational Phase

Electricity and natural gas will be used during the operation of the Project. The expected energy demand is shown in Table 9.

Table 9
Energy Demand

Source	
Natural Gas **BTU/year**	3,485,440,000
Electricity **kWh/year**	1,156,220

Source: (Trinity Consultants, 2021)

CONCLUSION

The construction phase of the Project would result in the consumption of approximately 801 gallons of diesel fuel (110 million BTUs) and approximately 51 gallons of gasoline (6 million BTUs), equaling approximately 32,303 kWh.

During construction, fossil fuels, electricity, and natural gas would be used by construction vehicles and equipment. The energy consumed during construction would be temporary in nature and would be typical of other similar construction activities in the City. Federal and State regulations in place require fuel-efficient equipment and vehicles and prohibit wasteful activities, such as diesel idling; therefore, potential impacts associated with construction energy use would be less than significant.

The energy demand during operation, as shown in Table 10 below, within the residential sector of County of Tulare, the total gas consumption was 53.3 million therms in 2020 (California Energy Commission, 2020) and the total consumption of SCE electrical services was 1,480 GWh (California Energy Commission, 2020). The operation of the Project is expected to result in the demand for approximately 34,863 therms per year[4] and 1.15622 GWh[5].

Table 10
Tulare County and Proposed Project Energy Demand

	2020 Population	**Total 2020 Energy Demand**		**2020 Energy Demand Per Capita**	
		Electricity (GWh)	Natural Gas (therms)	Electricity (GWh)	Natural Gas (therms)
Tulare County	473,117	1,480	53,273,440	0.003	112.6
	Population[6]	**Energy Consumption**		**Energy Consumption per Capita**	
		Electricity (GWh)	Natural Gas (therms)	Electricity (GWh)	Natural Gas (therms)
Proposed Project	475	1.15622	34,863	0.002	73.4

2020 County Population source: (United States Census Bureau, 2020)

The proposed projects expected electricity and natural gas consumption per capita would be lower than the Tulare County demands per capita. Based on this comparison, the Project would not affect regional energy supply or demand. Energy efficiency and conservation measures will be implemented in conjunction with Project design and operation, including measures resulting from federal, State, and local mandates, as well as voluntary measures

[4] Using conversion of 1kBTU = 0.010002388 th
[5] Using conversion of 1 GWh=1,000,000 KWh
[6] Calculated using average household size of 3.30 (United States Census Bureau, 2020). 144 homes x 3.30 = 475.2

proposed by the project applicant. Compliance with the California Building Standards Code and CalGreen are considered demonstrable evidence of efficient use of energy. The Project would therefore not result in potentially significant impacts due to wasteful, inefficient or unnecessary consumption of energy resources.

Criteria 2: Would the Project conflict with or obstruct a State or local plan for renewable energy or energy efficiency

The construction and the operation of the Project would comply with State and local plans and regulations. The proposed Project would be in compliance with all applicable Federal, State, and local regulations regulating energy usage. The Project will comply with Title 24 Energy Efficiency Standards and CalGreen Code requirements for solar ready roofs, electric vehicle charging, and water conservation. Energy would also be indirectly conserved through water efficient landscaping requirements consistent with the Tulare County Water Efficient Landscaping Ordinance. Stringent solid waste recycling requirements applicable to both project construction and operation would reduce energy consumed in solid waste disposal. In summary, the Project will implement all mandatory federal, State, local conservation measures, project design features, and voluntary energy conservation measures will further reduce energy demands. Therefore, the Project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Project-related impacts are less than significant.

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Appendix F – Geotechnical Report

GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED CORDENIZ RESIDENTIAL DEVELOPMENT
CARTMILL AVENUE AND HILLMAN STREET
TULARE, CALIFORNIA

PROJECT NO. 012-21030
JULY 28, 2021

Prepared for:

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GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

July 28, 2021

KA No. 012-21030

Mr. Jim Robinson
San Joaquin Valley Homes
5607 Avenida de los Robles
Visalia, California 93291

RE: Geotechnical Engineering Investigation
Proposed Cordeniz Residential Development
Cartmill Avenue and Hillman Street
Visalia, California

Dear Mr. Robinson:

In accordance with your request, we have completed a Geotechnical Engineering Investigation for the above-referenced site. The results of our investigation are presented in the attached report.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (559) 348-2200.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

David R. Jarosz, II
Managing Engineer
RGE No. 2698/RCE No. 60185

DRJ:ht

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GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED CORDENIZ RESIDENTIAL DEVELOPMENT
CARTMILL AVENUE AND HILLMAN STREET
TULARE, CALIFORNIA

INTRODUCTION

This report presents the results of our Geotechnical Engineering Investigation for the proposed Cordeniz Residential Development to be located at Cartmill Avenue near Hillman Street in Tulare, California. Discussions regarding site conditions are presented herein, together with conclusions and recommendations pertaining to site preparation, Engineered Fill, utility trench backfill, drainage and landscaping, foundations, concrete floor slabs and exterior flatwork, retaining walls, pavement design and soil cement reactivity.

A site plan showing the approximate boring locations is presented following the text of this report. A description of the field investigation, boring logs and the boring log legend are presented in Appendix A. Appendix A contains a description of laboratory testing phase of this study; along with laboratory test results. Appendices B and C contain guides to earthwork and pavement specifications. When conflicts in the text of the report occur with the general specifications in the appendices, the recommendations in the text of the report have precedence.

PURPOSE AND SCOPE

This investigation was conducted to evaluate the soil and groundwater conditions at the site, to make geotechnical engineering recommendations for use in design of specific construction elements and to provide criteria for site preparation and Engineered Fill construction.

Our scope of services was outlined in our proposal dated February 3, 2021 (KA Proposal No. P123-21) and included the following:

- A site reconnaissance by a member of our engineering staff to evaluate the surface conditions at the project site.
- A field investigation consisting of drilling 10 borings to depths ranging from approximately 10 to 20 feet for evaluation of the subsurface conditions at the project site.
- Performing laboratory tests on representative soil samples obtained from the borings to evaluate the physical and index properties of the subsurface soils.

- Evaluation of the data obtained from the investigation and an engineering analysis to provide recommendations for use in the project design and preparation of construction specifications.

- Preparation of this report summarizing the results, conclusions, recommendations, and findings of our investigation.

PROPOSED CONSTRUCTION

We understand that design of the proposed development is currently underway; structural load information and other final details pertaining to the structures are unavailable. On a preliminary basis, it is understood that development will consist of single-family residential lots. It is understood the buildings will be single- or two-story wood-framed structures utilizing concrete slab-on-grade construction. Footing loads are anticipated to be light to moderate. On-site landscaping and roadways will be associated with the project.

In the event these structural or grading details are inconsistent with the final design criteria, the Soils Engineer should be notified so that we may update this writing as applicable.

SITE LOCATION, SITE HISTORY AND SITE DESCRIPTION

The site is rectangular in shape and encompasses approximately 37.24 acres. The site is located approximately 1,300 feet east of Hillman Street, just north of Cartmill Avenue in Tulare, California. Single-family residential developments are located south of the site. The remainder of the site is predominately surrounded by agricultural land.

Site history was obtained by reviewing historical aerial photographs taken in 1994, 2003, 2012, 2014 and 2021. Review of the 1994 aerial photograph indicates that the project site was utilized as agricultural land consisting of row crops. Access roads trended along the edges of the site and through the southeast portion of the site. A tree was located along the northeast edge of the site.

Review of the 2003 aerial photographs indicate that the project site conditions appeared relatively similar to that noted in the 1994 aerial photograph.

Review of the 2012 aerial photograph indicates that the project site predominately consisted of fallow agricultural land.

Review of the 2014 aerial photograph indicates that two excavations for agricultural ponds were located in the southeastern portion of the site.

Review of the 2021 aerial photograph indicates that the project site conditions appeared relatively similar to that noted in the 2014 aerial photograph, with the southernmost excavation backfilled.

Presently, the site predominately consists of fallow agricultural land. Remnants of the previous excavations/basins are still present at the site. Dirt access roads trend along the edges of the site. A water well is located in the southeast portion of the site. An existing sign is located in the southeast

corner of the site. Fire hydrants are located along Cartmill Avenue. A water well is located northwest of the site. The site is covered by a sparse to moderate weed growth and the surface soils have a loose consistency. With the exception of the excavations/basins, the site is relatively level with no major changes in grade.

GEOLOGIC SETTING

The San Joaquin Valley, which includes the Tulare area, is a topographic and structural basin that is bounded on the east by the Sierra Nevada and on the west by the Coast Ranges. The Sierra Nevada, a fault block dipping gently southwestward, is made up of igneous and metamorphic rocks of pre-Tertiary age that comprise the basement complex beneath the Valley. The Coast Ranges contain folded and faulted sedimentary rocks of Mesozoic and Cenozoic age, which are similar to those rocks that underlie the Valley at depth and nonconformably overlie the basement complex; gently dipping to nearly horizontal sedimentary rocks of Tertiary and Quaternary age overlie the older rocks. These younger rocks are mostly of continental origin and in the Tulare area, they were derived from the Sierra Nevada.

The Coast Ranges evolved as a result of folding, faulting and accretion of diverse geologic terrains. They are composed chiefly of sedimentary and metamorphic rocks that are sharply deformed into complex structures. They are broken by numerous faults, the San Andreas Fault being the most notable structural feature.

Both the Sierra Nevada and Coast Range are geologically young mountain ranges and possess active and potentially active fault zones. Major active faults and fault zones occur at some distance to the east, west and south of the Tulare area. The Owens Valley Fault Zone bounds the eastern edge of the Sierra Nevada block and contains both active and potentially active faults.

Portions of the Ortigalita, Calaveras, Hayward and Rinconada Faults, which are to the west, are considered potentially active. The San Andreas Fault is possibly the best-known fault and is located approximately 60 to 70 miles to the west.

There are no active fault traces in the project vicinity. Accordingly, the project area is not within an Earth Quake Fault Zone (Special Studies Zone) and will not require a special site investigation by an Engineering Geologist.

Tulare residents could feel the effects of a large seismic event on one of the nearby active or potentially active fault zones. Tulare has experienced groundshaking from earthquakes in the historical past. According to the Five County Seismic Safety Element, groundshaking of VII intensity (Modified Mercali Scale) was felt in Tulare from the 1872 Owens Valley Earthquake. This is the largest known earthquake event affecting the Tulare area.

Secondary hazards from earthquakes include rupture, seiche, landslides, liquefaction and subsidence. Since there are no known faults within the immediate area, ground rupture from surface faulting should not be a potential problem. Seiche and landslides are not hazards in the area either. Liquefaction potential (sudden loss of shear strength in a saturated cohesionless soil) should be low since groundwater

occurs below 60 feet. Lastly, deep subsidence problems may be low to moderate according to the conclusions of the Five County Seismic Safety Element. However, there are no known occurrences of structural or architectural damage due to deep subsidence in the Tulare area.

FIELD AND LABORATORY INVESTIGATIONS

Subsurface soil conditions were explored by drilling 10 borings to depths ranging from approximately 10 to 20 feet below existing site grade, using a truck-mounted drill rig. In addition, 4 bulk subgrade samples were obtained from the site for laboratory R-value testing. The approximate boring and bulk sample locations are shown on the site plan. During drilling operations, penetration tests were performed at regular intervals to evaluate the soil consistency, obtain information regarding the engineering properties of the subsoils and to retain soil samples for laboratory testing. The soils encountered were continuously examined and visually classified in accordance with the Unified Soil Classification System. A more detailed description of the field investigation is presented in Appendix A.

Laboratory tests were performed on selected soil samples to evaluate their physical characteristics and engineering properties. The laboratory-testing program was formulated with emphasis on the evaluation of natural moisture, density, gradation, shear strength, consolidation potential, R-value and moisture-density relationships of the materials encountered. In addition, chemical tests were performed to evaluate the soil-cement reactivity. Details of the laboratory test program and the results of laboratory test are summarized in Appendix A. This information, along with the field observations, was used to prepare the final boring logs in Appendix A.

SOIL PROFILE AND SUBSURFACE CONDITIONS

Based on our findings, the subsurface conditions encountered appear typical of those found in the geologic region of the site. The upper soils are identified as by the Soil Conservation Service as belonging to the Nord Series. The soils within this Series generally consist of sands and silts.

More specifically, the surface soils consisted of approximately 6 to 12 inches of very loose silty sand or silty sand/sand. These soils are disturbed, have low strength characteristics, and are highly compressible when saturated.

Below the loose surface soils, approximately 2 to 3 feet of loose to medium dense silty sand or silty sand/sand was encountered. Field and laboratory tests suggest that these soils are moderately strong and slightly compressible. Penetration resistance ranged from 14 to 38 blows per foot. Dry densities ranged from 96 to 112 pcf. Representative soil samples consolidated approximately 2½ and 3 percent under a 2 ksf load when saturated. A representative soil sample had an angle of internal friction of 33 degrees.

Below 3 to 4 feet, layers of predominately loose to medium dense silty sand, silty sand/sandy silt, silty sand/sand or sand were encountered. Field and laboratory tests suggest that these soils had slightly stronger strength characteristics than the upper soils. Penetration resistance ranged from 8 to 34 blows per foot. Dry densities ranged from 94 to 119 pcf. These soils extended to the termination depth of our borings.

For additional information about the soils encountered, please refer to the logs of borings in Appendix A.

GROUNDWATER

Test boring locations were checked for the presence of groundwater during and immediately following the drilling operations. Free groundwater was not encountered.

It should be recognized that water table elevations may fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use and climatic conditions as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of our field and laboratory investigations, along with previous geotechnical experience in the project area, the following is a summary of our evaluations, conclusions, and recommendations.

Administrative Summary

In brief, the subject site and soil conditions, with the exception of the loose surface soils and previous development, appear to be conducive to the development of the project. The surface soils have a loose consistency. These soils are disturbed, have low strength characteristics and are highly compressible when saturated. Accordingly, it is recommended that the surface soils be recompacted. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation.

Fill was not encountered in our borings. Loose fill is associated with the partially backfilled basins/excavations. In addition, fill material may be present between and beyond our borings. Verification of the extent of fill should be determined during site grading. It is recommended that any fill soils encountered which are not properly compacted and certified be excavated and stockpiled so that the native soils can be prepared properly. These soils will be suitable for re-use as Engineered Fill, provided they are cleansed of excessive organics, debris, and fragments greater than 4 inches in diameter. Prior to backfilling, Krazan & Associates, Inc. should inspect the bottom of the excavation to verify no additional removal will be required.

The site is presently utilized as agricultural. In addition, commercial and residential developments are located within the project site vicinity. Associated with these developments are buried structures, such as utility lines, irrigation lines, drainage lines, possible septic systems and water wells. Demolition activities should include proper removal any buried structures. Water wells should be abandoned in accordance with county standards. The resulting excavations should be backfilled with Engineered Fill. It is suspected that demolition activities of the existing structures will disturb the upper soils. Following demolition activities, it is recommended that the disturbed soils be removed and/or recompacted. Any

buried structures or loosely backfilled excavations encountered during construction should be properly removed and the resulting excavations backfilled with Engineered Fill. Disturbed areas caused by demolition activities should be recompacted.

Two drainage/agricultural basins are located in the southeast portion of the site. All deleterious materials and loose soils should be removed from the basins and the resulting excavations should be cleaned to firm native soil, and backfilled with Engineered Fill compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

Relatively clean sands were encountered at various locations throughout the site. The possibility exists that site grading operations could expose these soils in areas of proposed buildings, pavements, and/or retaining walls. The Contractor should note that these soils lack the cohesion necessary to stand vertically, even in shallow excavations such as footing trenches. If these conditions are encountered, it will be necessary to over-excavate the affected area(s) to a minimum of 12 inches below the proposed bearing surface. These areas may be backfilled using a mix of the silty sand and sand soils that contains at least 20 percent fines and meeting the requirements for Engineered Fill. This material may be obtained from elsewhere at the site, imported to the site from an approved off-site source, or manufactured through blending of the excavated clean sand with other suitable material containing a higher percentage of fines to result in material meeting the requirements for Engineered Fill.

Sandy soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavations. Shoring or sloping back trench sidewalls may be required within these sandy soils.

After completion of the recommended site preparation, the site should be suitable for shallow footing support. The proposed structure footings may be designed utilizing an allowable bearing pressure of 2,000 psf for dead-plus-live loads. Footings should have a minimum embedment of 12 inches.

Groundwater Influence on Structures/Construction

Although groundwater was not encountered during our field investigation or anticipated to rise within the zone of structural influence within the project area, it is common for surface runoff water to infiltrate the upper sandy soils and perch above the underlying lower permeable hardpan for extended periods during the winter and spring months. This condition, if encountered, could seriously impede grading by causing an unstable subgrade condition. Typical remedial measures include discing and aerating the soils during soil during dry weather, mixing the soil with dryer materials, removing and replacing the soil with an approved fill material, or mixing the soil with an approved lime or cement product. Our firm should be consulted prior to implementing remedial measures to observe the unstable subgrade conditions and provide appropriate recommendations.

Site Preparation

General site clearing should include removal of vegetation; existing utilities; concrete structures including foundations; basement walls and floors; existing stockpiled soil; trees and associated root systems; rubble; rubbish; and any loose and/or saturated materials. Site stripping should extend to a

minimum depth of 2 to 4 inches, or until all organics in excess of 3 percent by volume are removed. Deeper stripping may be required in localized areas. These materials will not be suitable for use as Engineered Fill. However, stripped topsoil may be stockpiled and reused in landscape or non-structural areas.

Fill was not encountered in our borings. Loose fill is associated with the partially backfilled basins/excavations. In addition, fill material may be present between and beyond our borings. Verification of the extent of fill should be determined during site grading. It is recommended that any fill soils encountered which are not properly compacted and certified be excavated and stockpiled so that the native soils can be prepared properly. These soils will be suitable for re-use as Engineered Fill, provided they are cleansed of excessive organics, debris, and fragments greater than 4 inches in diameter. Prior to backfilling, Krazan & Associates, Inc. should inspect the bottom of the excavation to verify no additional removal will be required.

The site is presently utilized as agricultural land. In addition, commercial and residential developments are located within the project site vicinity. Associated with these developments are buried structures, such as utility lines, irrigation lines, septic systems, and a water well. Demolition activities should include proper removal of any buried structures. Any buried structures, including loosely backfilled excavations, encountered during construction should be properly removed and the resulting excavations backfilled. Excavations, depressions, or soft and pliant areas extending below planned finish subgrade level should be cleaned to firm undisturbed soil, and backfilled with Engineered Fill. In general, any septic tanks, debris pits, cesspools, or similar structures should be entirely removed. Concrete footings should be removed to an equivalent depth of at least 3 feet below proposed footing elevations or as recommended by the Soils Engineer. Water wells should be abandoned in accordance with county standards. Any other buried structures should be removed in accordance with the recommendations of the Soils Engineer. Resulting excavations should be backfilled with Engineered Fill.

Two drainage/agricultural basins are located in the southeast portion of the site. All deleterious materials and loose soils should be removed from the basins and the resulting excavations should be cleaned to firm native soil, and backfilled with Engineered Fill compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

A tree is located along the northeast edge of the site. Tree removal operations should include roots greater than 1 inch in diameter. The resulting excavations should be backfilled with Engineered Fill compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

Following stripping, fill removal, tree removal and demolition activities, the exposed subgrade within proposed building, exterior flatwork, and pavement areas should be excavated to a depth of at least 12 inches, worked until uniform and free from large clods, moisture-conditioned as necessary, and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. Limits of recompaction should extend 5 feet beyond structural elements and 2 feet beyond flatwork and pavements. Prior to backfilling, the bottom of the excavation should be proofrolled and observed by Krazan & Associates, Inc. Soft or pliant areas should be excavated to firm native ground.

The upper soils, during wet winter months, become very moist due to the absorptive characteristics of the soil. Earthwork operations performed during winter months may encounter very moist unstable soils, which may require removal to grade a stable building foundation. Project site winterization consisting of placement of aggregate base and protecting exposed soils during the construction phase should be performed.

A representative of our firm should be present during all site clearing and grading operations to test and observe earthwork construction. This testing and observation is an integral part of our service as acceptance of earthwork construction is dependent upon compaction of the material and the stability of the material. The Soils Engineer may reject any material that does not meet compaction and stability requirements. Further recommendations of this report are predicated upon the assumption that earthwork construction will conform to recommendations set forth in this section and the Engineered Fill section.

Engineered Fill

The on-site, upper soils are predominately silty sands, sandy silts and sands. The on-site soils will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics and debris.

The preferred materials specified for Engineered Fill are suitable for most applications with the exception of exposure to erosion. Project site winterization and protection of exposed soils during the construction phase should be the sole responsibility of the Contractor, since he has complete control of the project site at that time.

Imported Fill should consist of a well-graded, slightly cohesive, fine silty sand or sandy silt, with relatively impervious characteristics when compacted. This material should be approved by the Soils Engineer prior to use and should typically possess the following characteristics:

Percent Passing No. 200 Sieve	20 to 50
Plasticity Index	10 maximum
UBC Standard 29-2 Expansion Index	20 maximum

Fill soils should be placed in lifts approximately 6 inches thick, moisture-conditioned as necessary, and compacted to achieve at least 90 percent of maximum density based on ASTM D1557. Additional lifts should not be placed if the previous lift did not meet the required dry density or if soil conditions are not stable.

Drainage and Landscaping

The ground surface should slope away from building pad and pavement areas toward appropriate drop inlets or other surface drainage devices. In accordance with Section 1804 of the 2019 California Building Code, it is recommended that the ground surface adjacent to foundations be sloped a minimum of 5 percent for a minimum distance of 10 feet away from structures, or to an approved alternative

means of drainage conveyance. Swales used for conveyance of drainage and located within 10 feet of foundations should be sloped a minimum of 2 percent. Impervious surfaces, such as pavement and exterior concrete flatwork, within 10 feet of building foundations should be sloped a minimum of 1 percent away from the structure. Drainage gradients should be maintained to carry all surface water to collection facilities and off-site. These grades should be maintained for the life of the project.

Utility Trench Backfill

Utility trenches should be excavated according to accepted engineering practice following OSHA (Occupational Safety and Health Administration) standards by a Contractor experienced in such work. The responsibility for the safety of open trenches should be borne by the Contractor. Traffic and vibration adjacent to trench walls should be reduced and cyclic wetting and drying of excavation side slopes should be avoided. Depending upon the location and depth of some utility trenches, groundwater flow into open excavations could be experienced, especially during or shortly following periods of precipitation.

Sandy soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavations. Shoring or sloping back trench sidewalls may be required within these sandy soils.

Utility trench backfill placed in or adjacent to buildings and exterior slabs should be compacted to at least 90 percent of maximum density based on ASTM Test Method D1557. The utility trench backfill placed in pavement areas should be compacted to at least 90 percent of maximum density based on ASTM Test Method D1557. Pipe bedding should be in accordance with pipe manufacturer's recommendations.

The Contractor is responsible for removing all water sensitive soils from the trench regardless of the backfill location and compaction requirements. The Contractor should use appropriate equipment and methods to avoid damage to the utilities and/or structures during fill placement and compaction.

Foundations

The proposed structures may be supported on a shallow foundation system bearing on undisturbed native soil or on Engineered Fill. Spread and continuous footings can be designed for the following maximum allowable soil bearing pressures:

Load	Allowable Loading
Dead Load Only	1,500 psf
Dead-Plus-Live Load	2,000 psf
Total Load, including wind or seismic loads	2,650 psf

The footings should have a minimum depth of 12 inches below pad subgrade (soil grade) or adjacent exterior grade, whichever is lower. Footings should have a minimum width of 12 inches, regardless of load.

The total movement is not expected to exceed 1 inch. Differential movement should be less than 1 inch. Most of the settlement is expected to occur during construction as the loads are applied. However, additional post-construction settlement may occur if the foundation soils are flooded or saturated.

Resistance to lateral footing displacement can be computed using an allowable friction factor of 0.4 acting between the base of foundations and the supporting subgrade. Lateral resistance for footings can alternatively be developed using an allowable equivalent fluid passive pressure of 350 pounds per cubic foot acting against the appropriate vertical footing faces. The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance. A ⅓ increase in the above value may be used for short duration, wind, or seismic loads.

Floor Slabs and Exterior Flatwork

In areas that will utilize moisture-sensitive floor coverings, concrete slab-on-grade floors should be underlain by a water vapor retarder. The water vapor retarder should be installed in accordance with accepted engineering practice.

The exterior floors should be poured separately in order to act independently of the walls and foundation system. All fills required to bring the building pads to grade should be Engineered Fills.

Moisture within the structure may be derived from water vapors, which were transformed from the moisture within the soils. This moisture vapor can travel through the vapor membrane and penetrate the slab-on-grade. This moisture vapor penetration can affect floor coverings and produce mold and mildew in the structure. To reduce moisture vapor intrusion, it is recommended that a vapor retarder be installed. It is recommended that the utility trenches within the structure be compacted, as specified in our report, to reduce the transmission of moisture through the utility trench backfill. Special attention to the immediate drainage and irrigation around the building is recommended. Positive drainage should be established away from the structure and should be maintained throughout the life of the structure. Ponding of water should not be allowed adjacent to the structure. Over-irrigation within landscaped areas adjacent to the structure should not be performed. In addition, ventilation of the structure (i.e. ventilation fans) is recommended to reduce the accumulation of interior moisture.

Lateral Earth Pressures and Retaining Walls

Walls retaining horizontal backfill and capable of deflecting a minimum of 0.1 percent of its height at the top may be designed using an equivalent fluid active pressure of 35 pounds per square foot per foot of depth. Walls incapable of this deflection or are fully constrained walls against deflection may be designed for an equivalent fluid at-rest pressure of 55 pounds per square foot per foot of depth. Expansive soils should not be used for backfill against walls. The wedge of non-expansive backfill material should extend from the bottom of each retaining wall outward and upward at a slope of 2:1

(horizontal to vertical) or flatter. The stated lateral earth pressures do not include the effects of hydrostatic water pressures generated by infiltrating surface water that may accumulate behind the retaining walls; or loads imposed by construction equipment, foundations, or roadways.

Retaining and/or below grade walls should be drained with either perforated pipe encased in free-draining gravel or a prefabricated drainage system. The gravel zone should have a minimum width of 12 inches wide and should extend upward to within 12 inches of the top of the wall. The upper 12 inches of backfill should consist of native soils, concrete, asphaltic concrete, or other suitable backfill to reduce surface drainage into the wall drain system. The aggregate should conform to Class 2 permeable materials graded in accordance with CalTrans Standard Specifications (2018). Prefabricated drainage systems, such as Miradrain®, Enkadrain®, or an equivalent substitute, are acceptable alternatives in lieu of gravel provided they are installed in accordance with the manufacturer's recommendations. If a prefabricated drainage system is proposed, our firm should review the system for final acceptance prior to installation.

Drainage pipes should be placed with perforations down and should discharge in a non-erosive manner away from foundations and other improvements. The pipes should be placed no higher than 6 inches above the heel of the wall, in the center line of the drainage blanket and should have a minimum diameter of four inches. Collector pipes may be either slotted or perforated. Slots should be no wider than ⅛ inch in diameter, while perforations should be no more than ¼ inch in diameter. If retaining walls are less than 6 feet in height, the perforated pipe may be omitted in lieu of weep holes on 4 feet maximum spacing. The weep holes should consist of 4-inch diameter holes (concrete walls) or unmortared head joints (masonry walls) and not be higher than 18 inches above the lowest adjacent grade. Two 8-inch square overlapping patches of geotextile fabric (conforming to CalTrans Standard Specifications for "edge drains") should be affixed to the rear wall opening of each weep hole to retard soil piping.

During grading and backfilling operations adjacent to any walls, heavy equipment should not be allowed to operate within a lateral distance of 5 feet from the wall, or within a lateral distance equal to the wall height, whichever is greater, to avoid developing excessive lateral pressures. Within this zone, only hand-operated equipment ("whackers," vibratory plates, or pneumatic compactors) should be used to compact the backfill soils.

R-Value Test Results and Pavement Design

Four subgrade soil samples were obtained from the project site for R-value testing at the locations shown on the attached site plan. The samples were tested in accordance with the State of California Materials Manual Test Designation 301. Results of the tests are as follows:

Sample	Depth	Description	R-Value at Equilibrium
1	12-24"	Silty Sand (SM)	59
2	12-24"	Silty Sand (SM)	58
3	12-24"	Silty Sand (SM)	59
4	12-24"	Silty Sand (SM)	60

The test results are moderate and indicate good subgrade support characteristics under dynamic traffic loads. The following table shows the recommended pavement sections for various traffic indices.

Traffic Index	Asphaltic Concrete	Class II Aggregate Base*	Compacted Subgrade**
4.0	2.0"	4.0"	12.0"
4.5	2.5"	4.0"	12.0"
5.0	2.5"	4.0"	12.0"
5.5	3.0"	4.0"	12.0"
6.0	3.0"	4.0"	12.0"
6.5	3.5"	4.0"	12.0"
7.0	4.0"	4.0"	12.0"
7.5	4.0"	4.0"	12.0"

** 95% compaction based on ASTM Test Method D1557 or CAL 216*
*** 90% compaction based on ASTM Test Method D1557 or CAL 216*

If traffic indices are not available, an estimated (typical value) index of 4.5 may be used for light automobile traffic, and an index of 7.0 may be used for light truck traffic.

The following recommendations are for light-duty and heavy-duty Portland Cement Concrete Pavement Sections based on the design procedures developed by the Portland Cement Association.

PORTLAND CEMENT PAVEMENT
LIGHT DUTY

Traffic Index	Portland Cement Concrete***	Class II Aggregate Base*	Compacted Subgrade**
4.5	5.0"	--	12.0"

HEAVY DUTY

Traffic Index	Portland Cement Concrete***	Class II Aggregate Base*	Compacted Subgrade**
7.0	6.5"	--	12.0"

** 95% compaction based on ASTM Test Method D1557 or CAL 216*
*** 90% compaction based on ASTM Test Method D1557 or CAL 216*
****Minimum compressive strength of 3000 psi*

It is recommended that any uncertified fill material encountered within pavement areas be removed and/or recompacted. The fill material should be moisture-conditioned to near optimum moisture and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. As an alternative, the Owner may elect not to recompact the existing fill within paved areas. However, the Owner should be aware that the paved areas may settle, which may require annual maintenance. At a minimum, it is recommended that the upper 12 inches of subgrade soil be moisture-conditioned as necessary and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

Seismic Parameters – 2019 California Building Code

The Site Class per Section 1613 of the 2019 California Building Code (2019 CBC) and ASCE 7-16, Chapter 20 is based upon the site soil conditions. It is our opinion that a Site Class D is most consistent with the subject site soil conditions. For seismic design of the structures based on the seismic provisions of the 2019 CBC, we recommend the following parameters:

Seismic Item	Value	CBC Reference
Site Class	D	Section 1613.2.2
Site Coefficient F_a	1.333	Table 1613.2.3 (1)
S_s	0.584	Section 1613.2.1
S_{MS}	0.778	Section 1613.2.3
S_{DS}	0.519	Section 1613.2.4
Site Coefficient F_v	2.144	Table 1613.2.3 (2)
S_1	0.228	Section 1613.2.1
S_{M1}	0.489	Section 1613.2.3
S_{D1}	0.326	Section 1613.2.4
T_S	0.628	Section 1613.2

* Based on Equivalent Lateral Force (ELF) Design Procedure being used.

Soil Cement Reactivity

Excessive sulfate in either the soil or native water may result in an adverse reaction between the cement in concrete (or stucco) and the soil. HUD/FHA and UBC have developed criteria for evaluation of sulfate levels and how they relate to cement reactivity with soil and/or water.

Soil samples were obtained from the site and tested in accordance with State of California Materials Manual Test Designation 417. The sulfate concentrations detected in these soil samples were less than 0.02 percent and are below the maximum allowable values established by HUD/FHA and UBC. Therefore, no special design requirements are necessary to compensate for sulfate reactivity with the cement.

Compacted Material Acceptance

Compaction specifications are not the only criteria for acceptance of the site grading or other such activities. However, the compaction test is the most universally recognized test method for assessing the performance of the Grading Contractor. The numerical test results from the compaction test cannot be used to predict the engineering performance of the compacted material. Therefore, the acceptance of compacted materials will also be dependent on the stability of that material. The Soils Engineer has the option of rejecting any compacted material regardless of the degree of compaction if that material is considered to be unstable or if future instability is suspected. A specific example of rejection of fill

material passing the required percent compaction is a fill which has been compacted with an in-situ moisture content significantly less than optimum moisture. This type of dry fill (brittle fill) is susceptible to future settlement if it becomes saturated or flooded.

Testing and Inspection

A representative of Krazan & Associates, Inc. should be present at the site during the earthwork activities to confirm that actual subsurface conditions are consistent with the exploratory fieldwork. This activity is an integral part of our service, as acceptance of earthwork construction is dependent upon compaction testing and stability of the material. This representative can also verify that the intent of these recommendations is incorporated into the project design and construction. Krazan & Associates, Inc. will not be responsible for grades or staking, since this is the responsibility of the Prime Contractor.

LIMITATIONS

Soils Engineering is one of the newest divisions of Civil Engineering. This branch of Civil Engineering is constantly improving as new technologies and understanding of earth sciences advance. Although your site was analyzed using the most appropriate and most current techniques and methods, undoubtedly there will be substantial future improvements in this branch of engineering. In addition to advancements in the field of Soils Engineering, physical changes in the site, either due to excavation or fill placement, new agency regulations, or possible changes in the proposed structure after the soils report is completed may require the soils report to be professionally reviewed. In light of this, the Owner should be aware that there is a practical limit to the usefulness of this report without critical review. Although the time limit for this review is strictly arbitrary, it is suggested that 2 years be considered a reasonable time for the usefulness of this report.

Foundation and earthwork construction is characterized by the presence of a calculated risk that soil and groundwater conditions have been fully revealed by the original foundation investigation. This risk is derived from the practical necessity of basing interpretations and design conclusions on limited sampling of the earth. The recommendations made in this report are based on the assumption that soil conditions do not vary significantly from those disclosed during our field investigation. If any variations or undesirable conditions are encountered during construction, the Soils Engineer should be notified so that supplemental recommendations may be made.

The conclusions of this report are based on the information provided regarding the proposed construction. If the proposed construction is relocated or redesigned, the conclusions in this report may not be valid. The Soils Engineer should be notified of any changes so the recommendations may be reviewed and re-evaluated.

This report is a Geotechnical Engineering Investigation with the purpose of evaluating the soil conditions in terms of foundation design. The scope of our services did not include any Environmental Site Assessment for the presence or absence of hazardous and/or toxic materials in the soil, groundwater, or atmosphere; or the presence of wetlands. Any statements, or absence of statements, in this report or

on any boring log regarding odors, unusual or suspicious items, or conditions observed, are strictly for descriptive purposes and are not intended to convey engineering judgment regarding potential hazardous and/or toxic assessment.

The geotechnical engineering information presented herein is based upon professional interpretation utilizing standard engineering practices and a degree of conservatism deemed proper for this project. It is not warranted that such information and interpretation cannot be superseded by future geotechnical engineering developments. We emphasize that this report is valid for the project outlined above and should not be used for any other sites.

If you have any questions or if we may be of further assistance, please do not hesitate to contact our office at (559) 348-2200.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

Steve Nelson
Project Engineer

REGISTERED PROFESSIONAL ENGINEER
DAVID R. JAROSZ II
2698
GEOTECHNICAL
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David R. Jarosz, II
Managing Engineer
RGE No. 2698/RCE No. 60185

SN/DRJ:ht

APPROXIMATE BORING LOCATION

APPROXIMATE R-VALUE LOCATION

SITE MAP	**Scale:** NTS	**Date:** July 2021
Cordeniz Residential Development **Cartmill Avenue and Hillman Street** **Tulare, California**	**Drawn by:** HT	**Approved by:** DJ
	Project No. 012-21030	**Figure No.** 1

Krazan
GEOTECHNICAL ENGINEERING

APPENDIX A

FIELD AND LABORATORY INVESTIGATIONS

Field Investigation

The field investigation consisted of a surface reconnaissance and a subsurface exploratory program. Ten 4½-inch exploratory borings were advanced. The boring locations are shown on the site plan.

The soils encountered were logged in the field during the exploration and, with supplementary laboratory test data, are described in accordance with the Unified Soil Classification System.

Modified standard penetration tests were performed at selected depths. This test represents the resistance to driving a 2½-inch diameter core barrel sampler. The driving energy was provided by a hammer weighing 140 pounds, falling 30 inches. Relatively undisturbed soil samples were obtained while performing this test. Bag samples of the disturbed soil were obtained from the auger cuttings. All samples were returned to our Clovis laboratory for evaluation.

Laboratory Investigation

The laboratory investigation was programmed to determine the physical and mechanical properties of the foundation soil underlying the site. Test results were used as criteria for determining the engineering suitability of the surface and subsurface materials encountered.

In situ moisture content, dry density, consolidation, direct shear, and sieve analysis tests were determined for the undisturbed samples representative of the subsurface material. R-value tests were completed for select bag samples obtained from the auger cuttings. These tests, supplemented by visual observation, comprised the basis for our evaluation of the site material.

The logs of the exploratory borings and laboratory determinations are presented in this Appendix.

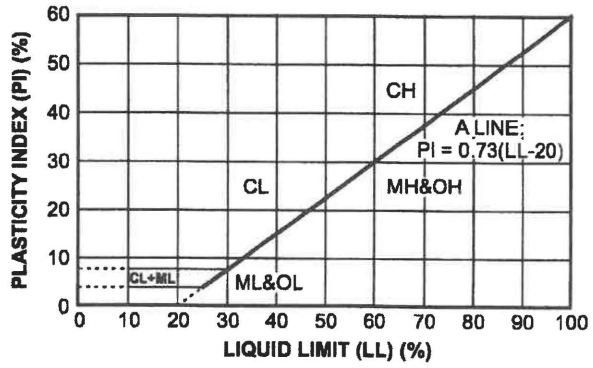
UNIFIED SOIL CLASSIFICATION SYSTEM

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART			
COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)			
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	Clean Gravels (Less than 5% fines)		
		GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)		
		GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	Clean Sands (Less than 5% fines)		
		SW	Well-graded sands, gravelly sands, little or no fines
		SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)		
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)			
SILTS AND CLAYS Liquid limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils

CONSISTENCY CLASSIFICATION	
Description	**Blows per Foot**
Granular Soils	
Very Loose	< 5
Loose	5 – 15
Medium Dense	16 – 40
Dense	41 – 65
Very Dense	> 65
Cohesive Soils	
Very Soft	< 3
Soft	3 – 5
Firm	6 – 10
Stiff	11 – 20
Very Stiff	21 – 40
Hard	> 40

GRAIN SIZE CLASSIFICATION		
Grain Type	*Standard Sieve Size*	*Grain Size in Millimeters*
Boulders	Above 12 inches	Above 305
Cobbles	12 to 13 inches	305 to 76.2
Gravel	3 inches to No. 4	76.2 to 4.76
Coarse-grained	3 to ¾ inches	76.2 to 19.1
Fine-grained	¾ inches to No. 4	19.1 to 4.76
Sand	No. 4 to No. 200	4.76 to 0.074
Coarse-grained	No. 4 to No. 10	4.76 to 2.00
Medium-grained	No. 10 to No. 40	2.00 to 0.042
Fine-grained	No. 40 to No. 200	0.042 to 0.074
Silt and Clay	Below No. 200	Below 0.074

PLASTICITY CHART



Log of Boring B1

Project: Cordeniz Residential Development

Project No: 012-21030

Client: San Joaquin Valley Homes

Figure No.: A-1

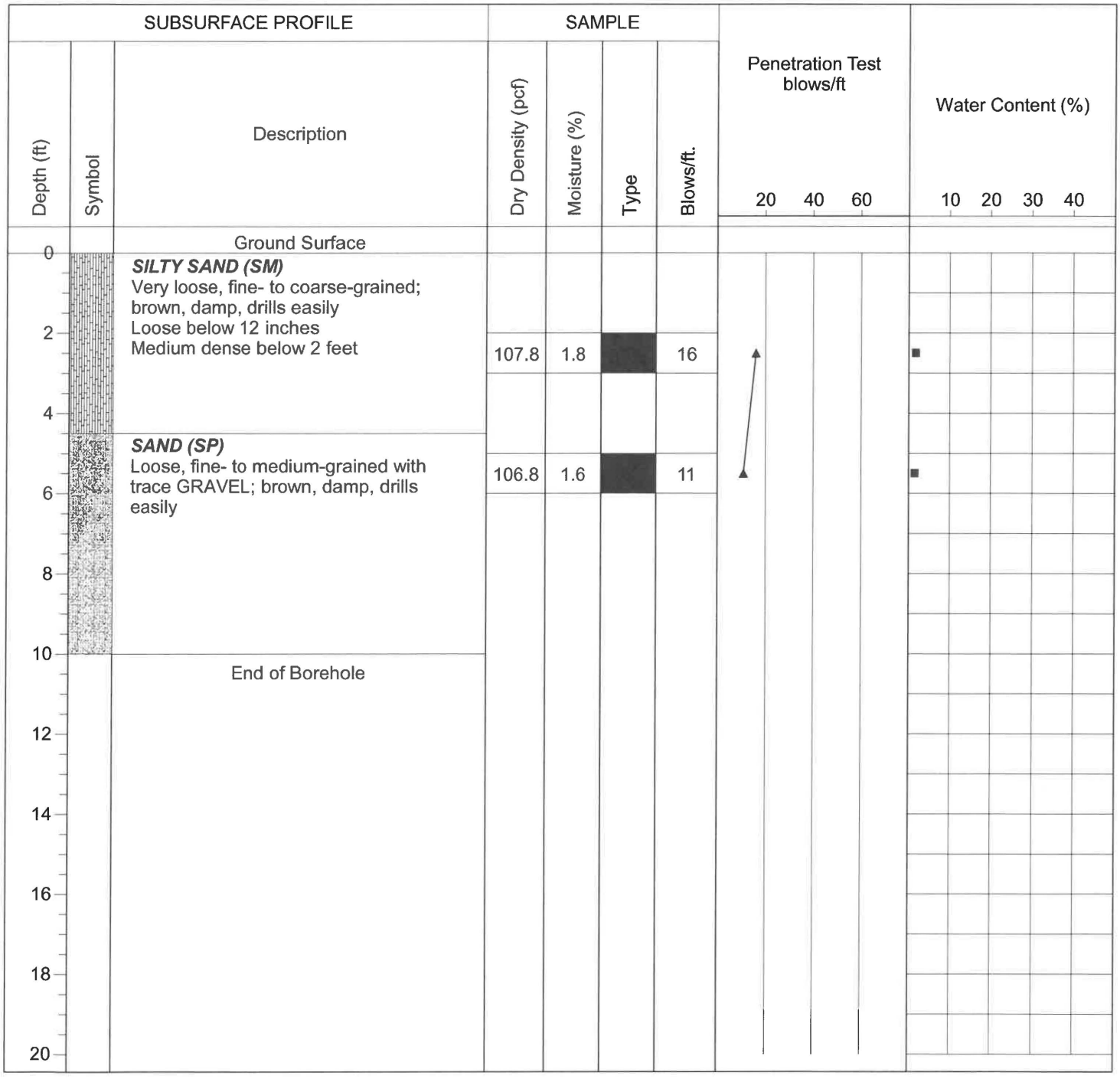
Location: Cartmill Avenue and Hillman Street, Tulare, California

Logged By: Erick Escobar

Depth to Water>

Initial: None

At Completion: None



Drill Method: Solid Flight

Drill Date: 3-17-21

Drill Rig: CME 45C

Krazan and Associates

Hole Size: 4½ Inches

Driller: Eddie Tapia

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B2

Project: Cordeniz Residential Development

Project No: 012-21030

Client: San Joaquin Valley Homes

Figure No.: A-2

Location: Cartmill Avenue and Hillman Street, Tulare, California

Logged By: Erick Escobar

Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	Penetration Test blows/ft (20 40 60)	Water Content (%) (10 20 30 40)
0		Ground Surface						
0–4		***SILTY SAND/SAND (SM/SP)*** Very loose, fine- to coarse-grained; brown, damp, drills easily Loose below 12 inches	111.2	2.9		14		
4–8		***SAND (SP)*** Loose, fine- to medium-grained; brown, damp, drills easily	102.3	1.8		13		
8–14		***SILTY SAND (SM)*** Loose, fine- to coarse-grained; brown, damp, drills easily	102.4	3.0		12		
14		End of Borehole						

Drill Method: Solid Flight

Drill Date: 3-17-21

Drill Rig: CME 45C

Krazan and Associates

Hole Size: 4½ Inches

Driller: Eddie Tapia

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B3

Project: Cordeniz Residential Development

Project No: 012-21030

Client: San Joaquin Valley Homes

Figure No.: A-3

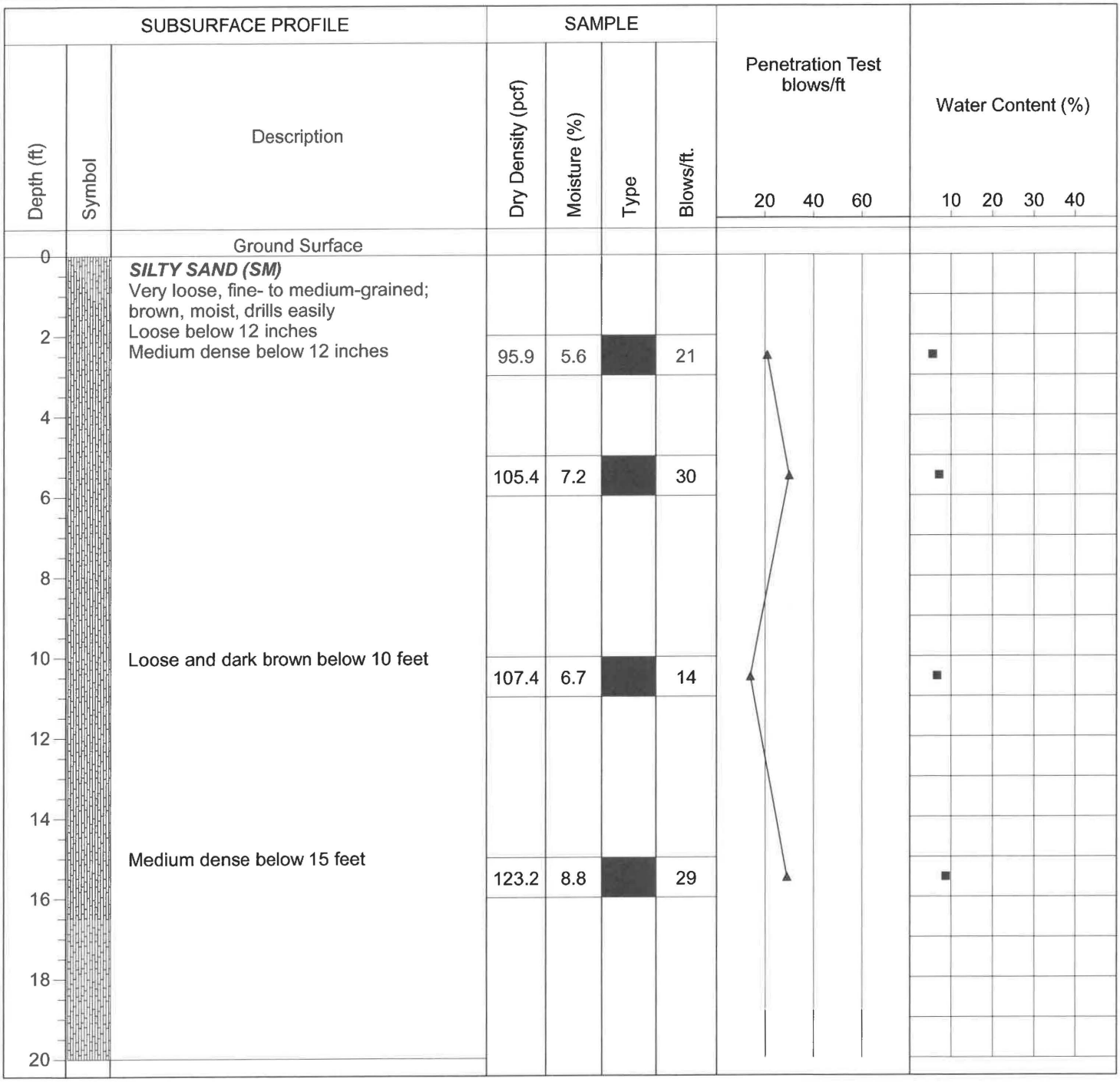
Location: Cartmill Avenue and Hillman Street, Tulare, California

Logged By: Erick Escobar

Depth to Water>

Initial: None

At Completion: None



Drill Method: Solid Flight

Drill Date: 3-17-21

Drill Rig: CME 45C

Krazan and Associates

Hole Size: 4½ Inches

Driller: Eddie Tapia

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B4

Project: Cordeniz Residential Development

Project No: 012-21030

Client: San Joaquin Valley Homes

Figure No.: A-4

Location: Cartmill Avenue and Hillman Street, Tulare, California

Logged By: Erick Escobar

Depth to Water>

Initial: None

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20 40 60	10 20 30 40
0		Ground Surface						
		SILTY SAND (SM) Very loose, fine- to medium-grained; brown, damp, drills easily						
2		Loose below 12 inches	103.6	4.0		34		■
		Medium dense below 2 feet						
4								
			111.3	3.9		29		■
6								
8								
10		End of Borehole						
12								
14								
16								
18								
20								

Drill Method: Solid Flight

Drill Rig: CME 45C

Driller: Eddie Tapia

Krazan and Associates

Drill Date: 3-17-21

Hole Size: 4½ Inches

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B5

Project: Cordeniz Residential Development

Project No: 012-21030

Client: San Joaquin Valley Homes

Figure No.: A-5

Location: Cartmill Avenue and Hillman Street, Tulare, California

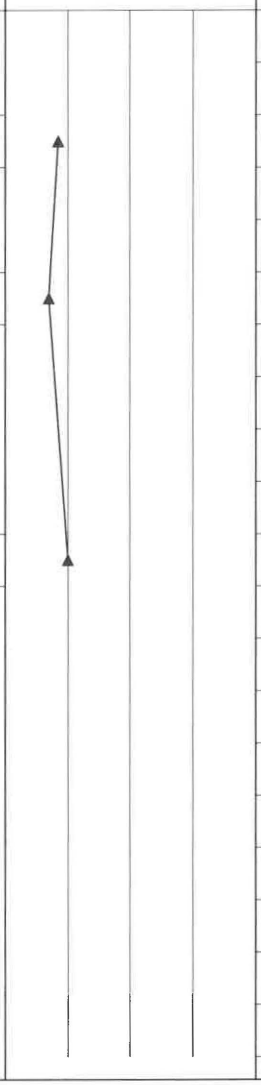
Logged By: Erick Escobar

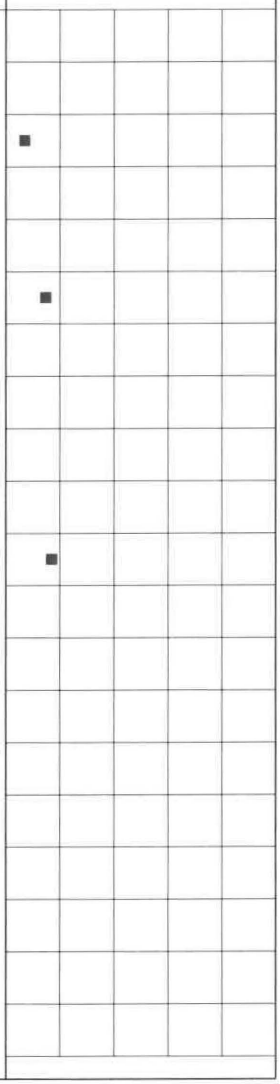
Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to coarse-grained; brown, damp, drills easily				
2		Loose below 12 inches Medium dense below 2 feet	105.2	3.6		17
4						
6		Loose, fine- to medium-grained and moist below 5 feet	103.7	7.5		14
8						
10		Medium dense and fine- to coarse-grained below 10 feet	106.9	8.6		20
12						
14						
16		End of Borehole				
18						
20						





Drill Method: Solid Flight

Drill Rig: CME 45C

Driller: Eddie Tapia

Krazan and Associates

Drill Date: 3-17-21

Hole Size: 4½ Inches

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B6

Project: Cordeniz Residential Development

Project No: 012-21030

Client: San Joaquin Valley Homes

Figure No.: A-6

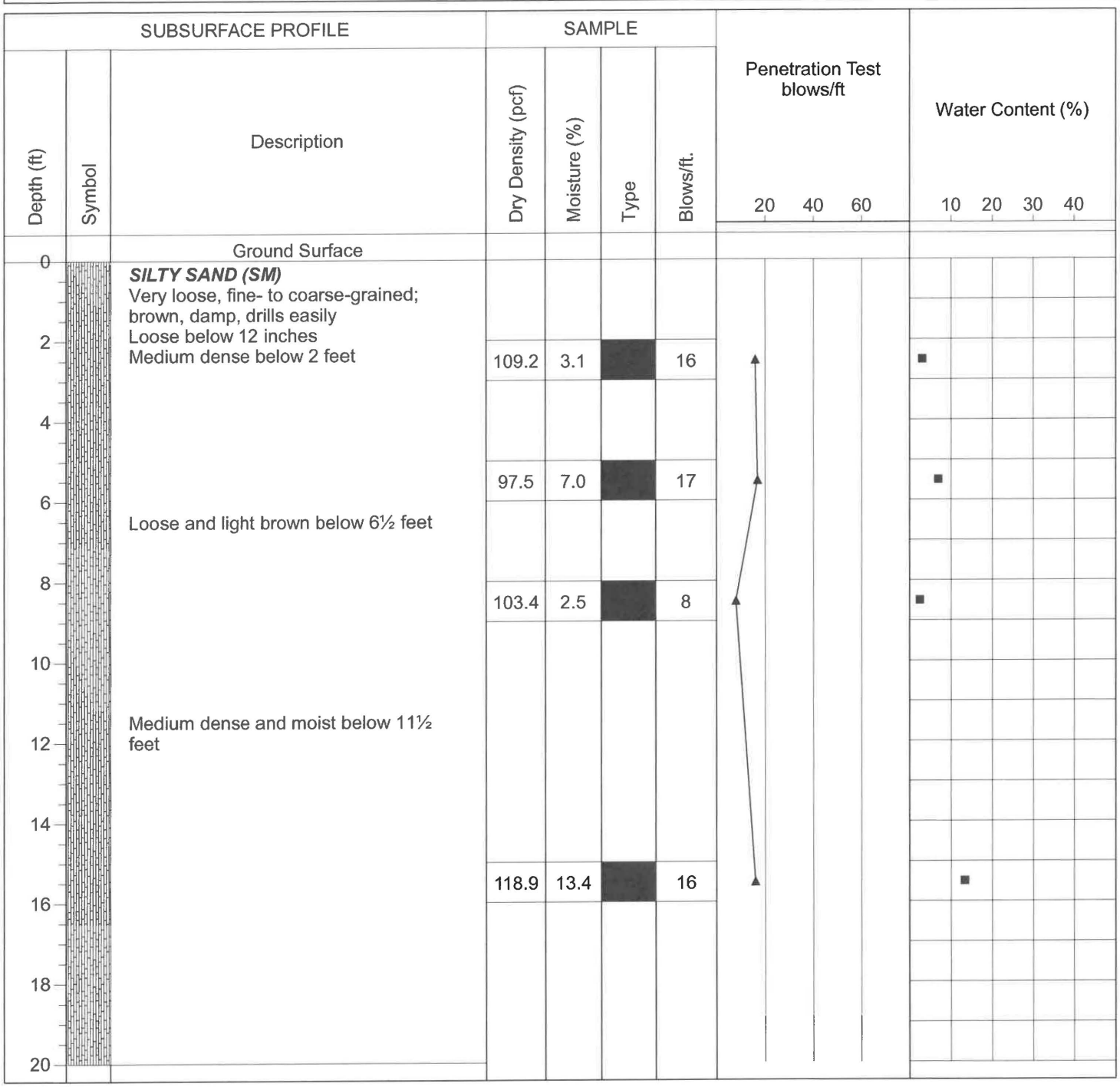
Location: Cartmill Avenue and Hillman Street, Tulare, California

Logged By: Erick Escobar

Depth to Water>

Initial: None

At Completion: None



Drill Method: Solid Flight

Drill Rig: CME 45C

Driller: Eddie Tapia

Krazan and Associates

Drill Date: 3-17-21

Hole Size: 4½ Inches

Elevation: 20 Feet

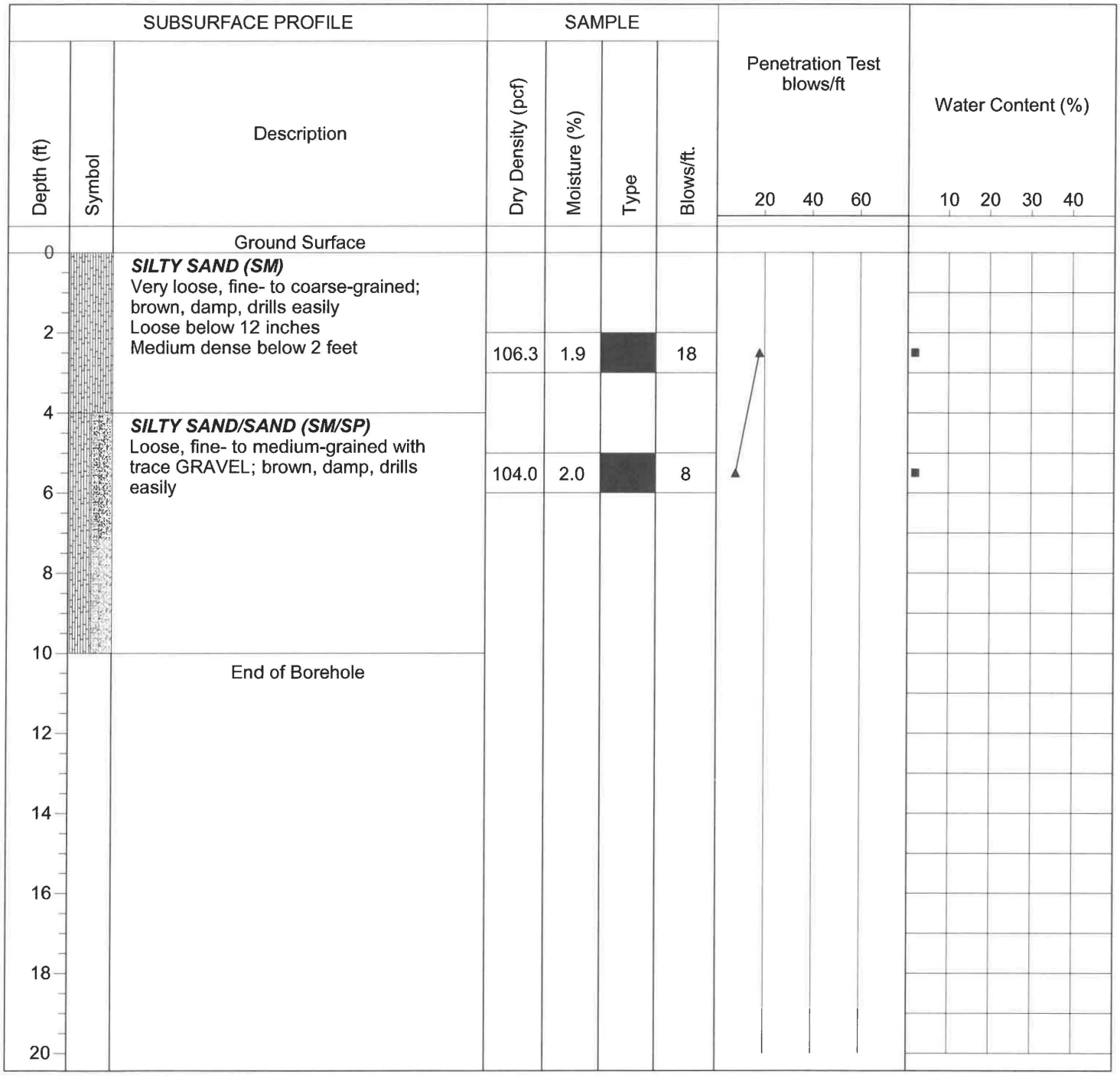
Log of Boring B7

Project: Cordeniz Residential Development | **Project No:** 012-21030

Client: San Joaquin Valley Homes | **Figure No.:** A-7

Location: Cartmill Avenue and Hillman Street, Tulare, California | **Logged By:** Erick Escobar

Depth to Water> | **Initial:** None | **At Completion:** None



Drill Method: Solid Flight | **Drill Date:** 3-17-21

Drill Rig: CME 45C | **Hole Size:** 4½ Inches

Driller: Eddie Tapia | **Elevation:** 10 Feet

Krazan and Associates

Log of Boring B8

Project: Cordeniz Residential Development

Project No: 012-21030

Client: San Joaquin Valley Homes

Figure No.: A-8

Location: Cartmill Avenue and Hillman Street, Tulare, California

Logged By: Erick Escobar

Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily				
2		Loose below 12 inches Medium dense below 2 feet	111.6	4.2		28
4						
6			106.5	4.1		23
8		Fine- to coarse-grained below 7½ feet				
10			97.7	5.2		21
12						
14						
16		End of Borehole				
18						
20						

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Solid Flight

Drill Rig: CME 45C

Driller: Eddie Tapia

Krazan and Associates

Drill Date: 3-17-21

Hole Size: 4½ Inches

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B9

Project: Cordeniz Residential Development

Project No: 012-21030

Client: San Joaquin Valley Homes

Figure No.: A-9

Location: Cartmill Avenue and Hillman Street, Tulare, California

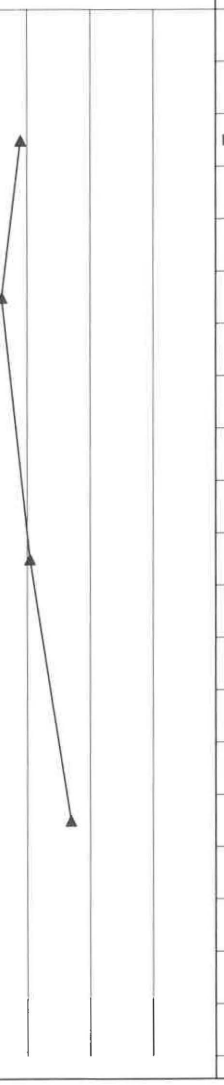
Logged By: Erick Escobar

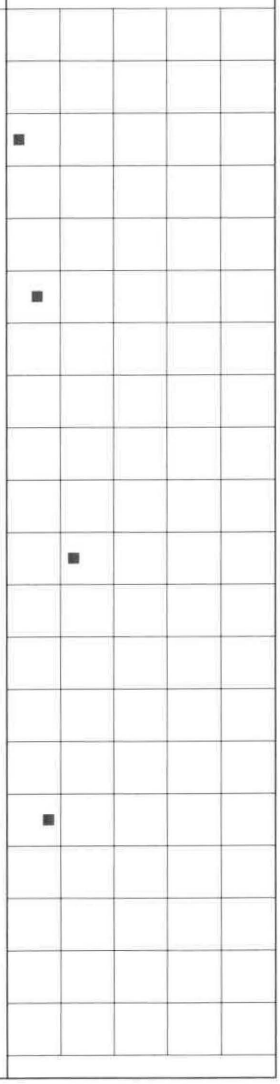
Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily				
2		Loose below 12 inches Medium dense below 2 feet	107.3	2.4		18
4		Loose and fine- to coarse-grained below 5 feet	109.6	5.8		12
6						
8						
10		Medium dense and fine- to medium-grained below 10 feet	94.2	12.5		21
12						
14						
16		Fine- to coarse-grained below 15 feet	115.2	7.8		34
18						
20						





Drill Method: Solid Flight

Drill Rig: CME 45C

Driller: Eddie Tapia

Krazan and Associates

Drill Date: 3-17-21

Hole Size: 4½ Inches

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B10

Project: Cordeniz Residential Development

Project No: 012-21030

Client: San Joaquin Valley Homes

Figure No.: A-10

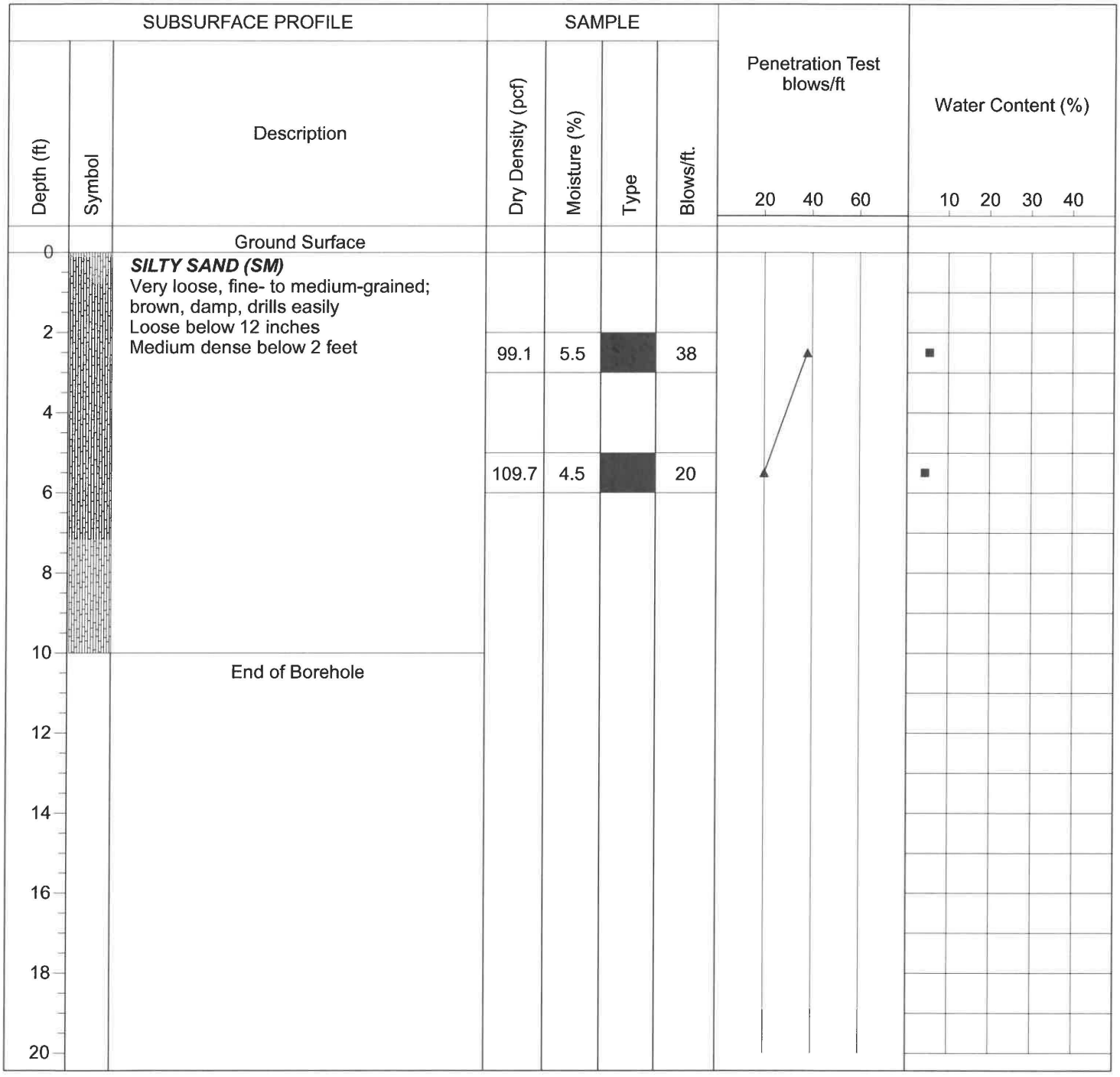
Location: Cartmill Avenue and Hillman Street, Tulare, California

Logged By: Erick Escobar

Depth to Water>

Initial: None

At Completion: None



Drill Method: Solid Flight

Drill Date: 3-17-21

Drill Rig: CME 45C

Krazan and Associates

Hole Size: 4½ Inches

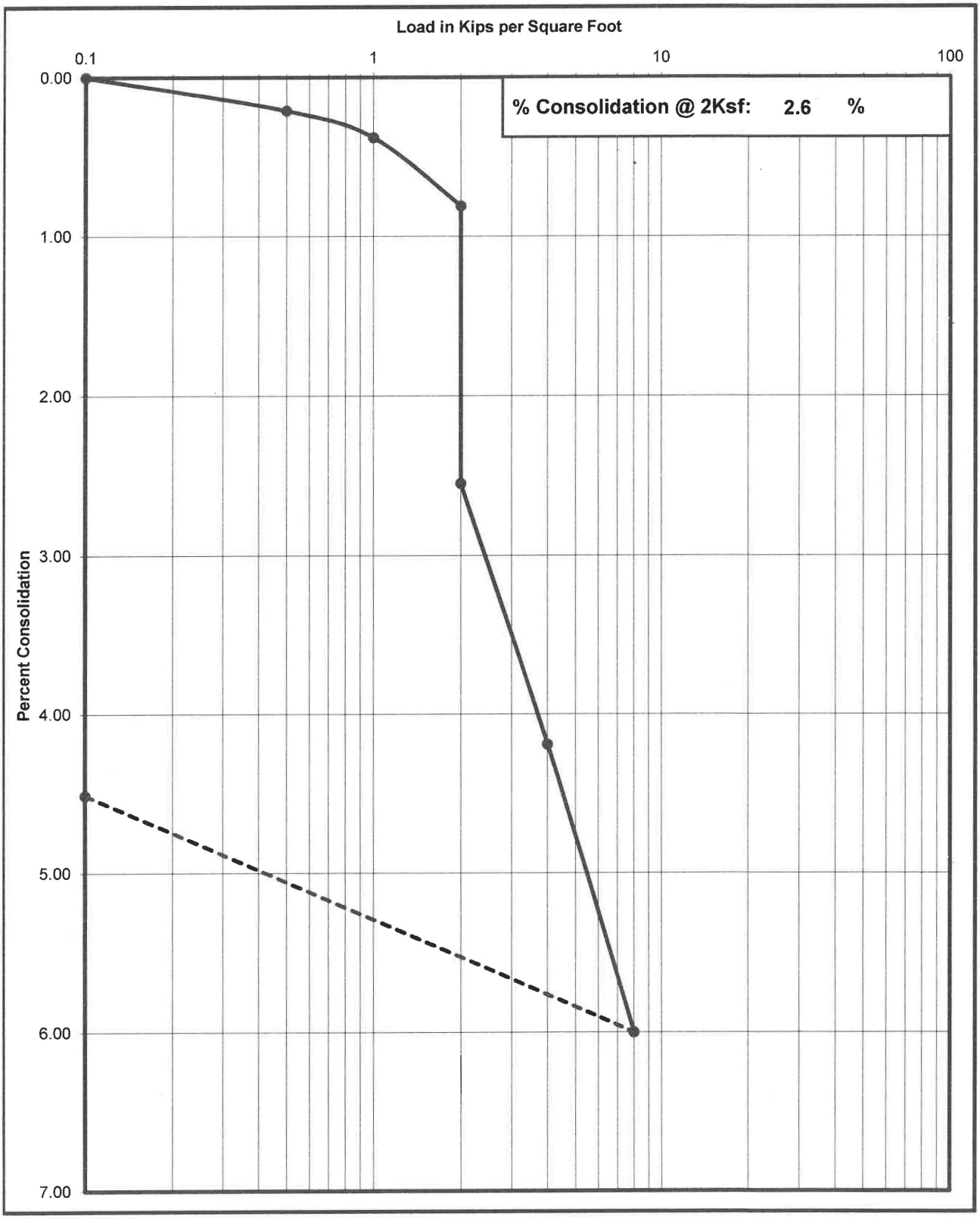
Driller: Eddie Tapia

Elevation: 10 Feet

Sheet: 1 of 1

Consolidation Test

Project No	Boring No. & Depth	Date	Soil Classification
012-21030	B2 @ 2-3'	3/26/2021	SM-SP



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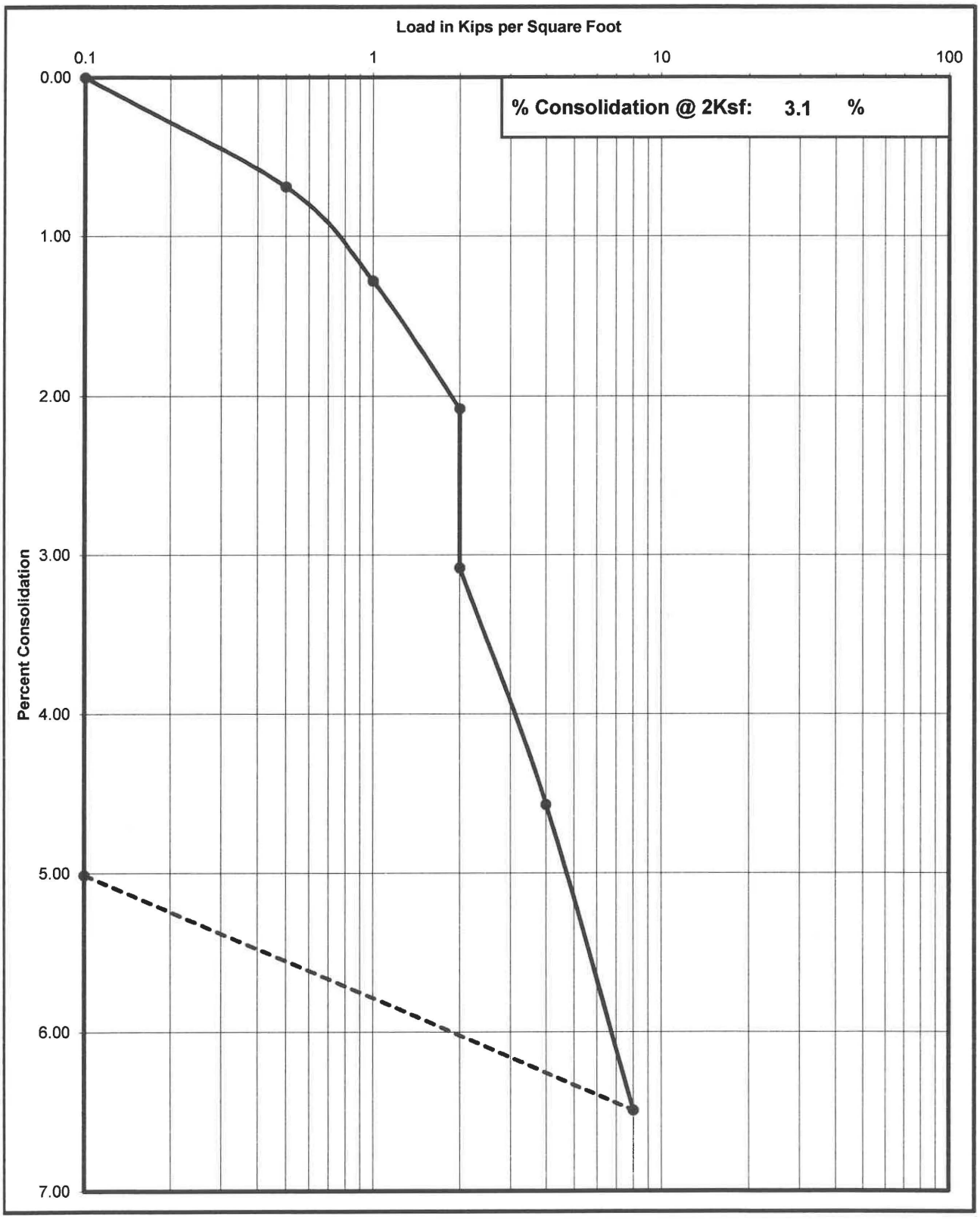
Consolidation Test

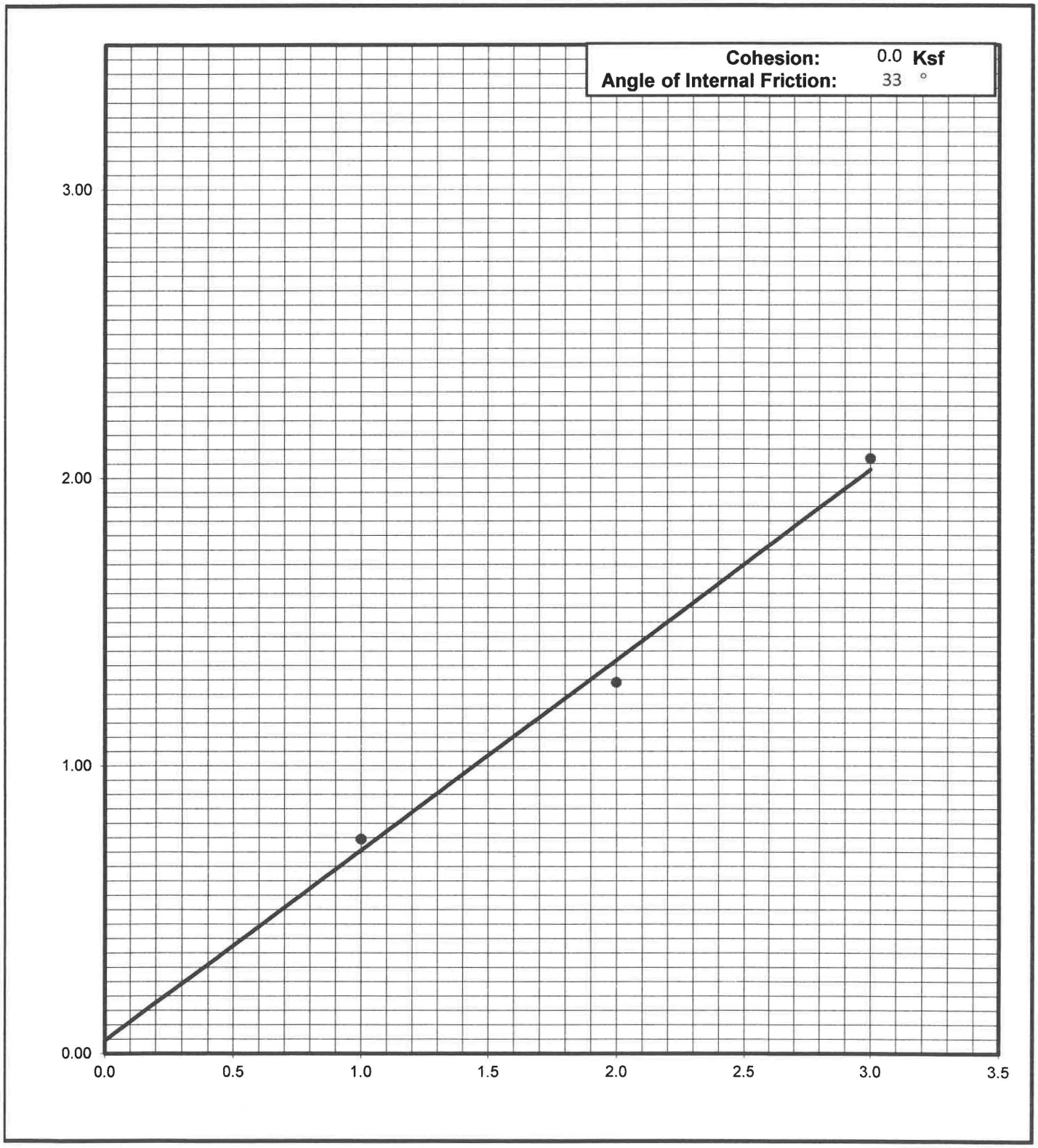
Project No	Boring No. & Depth	Date	Soil Classification
012-21030	B6 @ 2-3'	3/26/2021	SM



Krazan Testing Laboratory

Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

Project Number	Boring No. & Depth	Soil Type	Date
012-21030	B5 @ 2-3'	SM	3/26/2021



Krazan Testing Laboratory

Grain Size Analysis

Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Cordeniz Residential Development
Project Number	012-21030
Soil Classification	SP-SM
Sample Number	B2 @ 2-3'

Krazan Testing Laboratory

Grain Size Analysis

Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Cordeniz Residential Development
Project Number	012-21030
Soil Classification	SM
Sample Number	B6 @ 2-3'

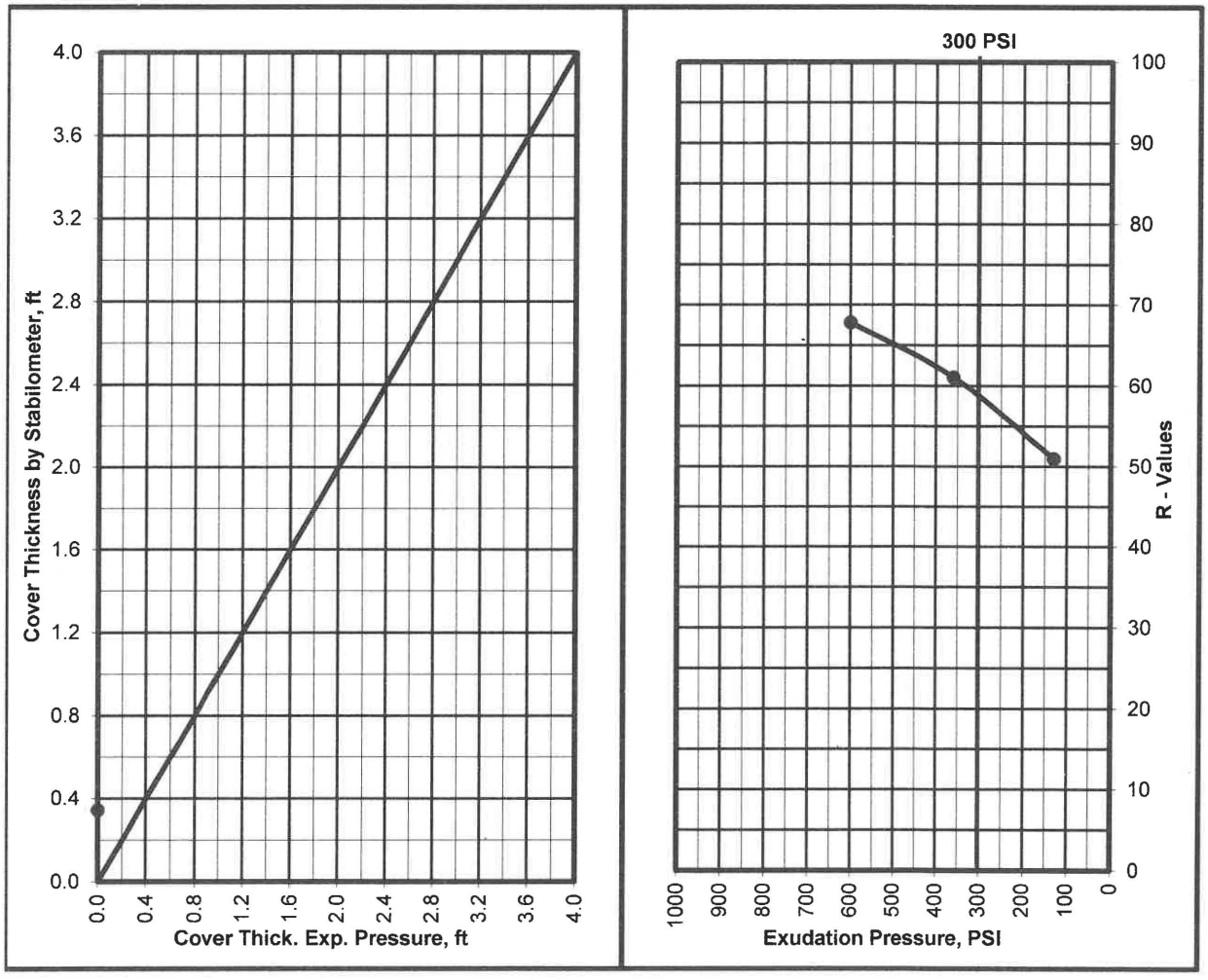
Krazan Testing Laboratory

R - VALUE TEST
ASTM D - 2844 / CAL 301

Project Number	:	012-21030
Project Name	:	Cordeniz Residential Development
Date	:	4/7/2021
Sample Location/Curve Number	:	RV#1
Soil Classification	:	SM

TEST	A	B	C
Percent Moisture @ Compaction, %	9.7	10.6	10.1
Dry Density, lbm/cu.ft.	122.8	123.2	123.2
Exudation Pressure, psi	600	130	360
Expansion Pressure, (Dial Reading)	0	0	0
Expansion Pressure, psf	0	0	0
Resistance Value R	68	51	61

R Value at 300 PSI Exudation Pressure	**59**
R Value by Expansion Pressure (TI =): 5	**Expansion Pressure nil**



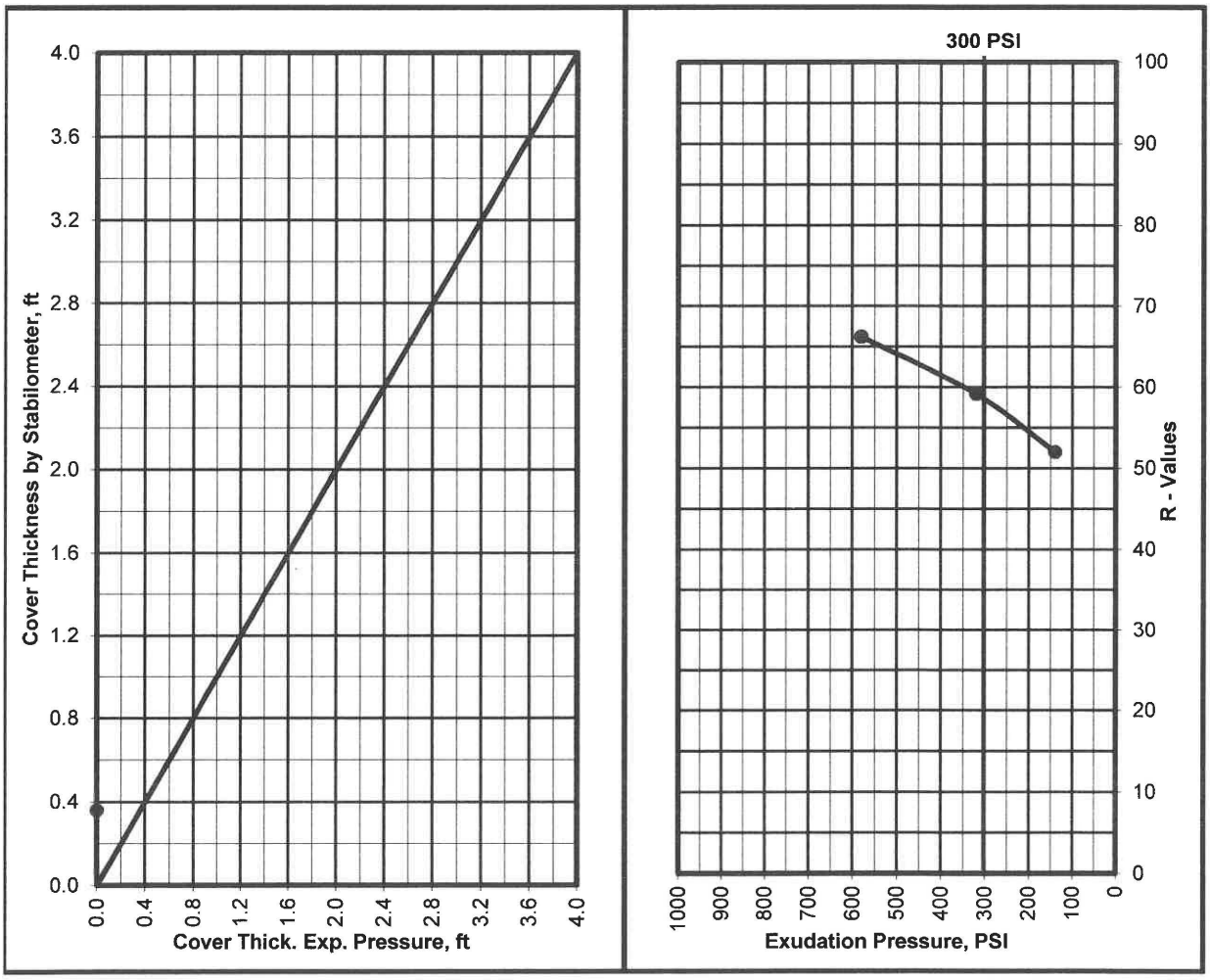
Krazan Testing Laboratory

R - VALUE TEST
ASTM D - 2844 / CAL 301

Project Number	:	012-21030
Project Name	:	Cordeniz Residential Development
Date	:	4/7/2021
Sample Location/Curve Number	:	RV#2
Soil Classification	:	SM

TEST	A	B	C
Percent Moisture @ Compaction, %	11.2	12.1	11.7
Dry Density, lbm/cu.ft.	123.8	121.0	123.0
Exudation Pressure, psi	580	140	320
Expansion Pressure, (Dial Reading)	0	0	0
Expansion Pressure, psf	0	0	0
Resistance Value R	66	52	59

R Value at 300 PSI Exudation Pressure	**58**
R Value by Expansion Pressure (TI =): 5	**Expansion Pressure nil**



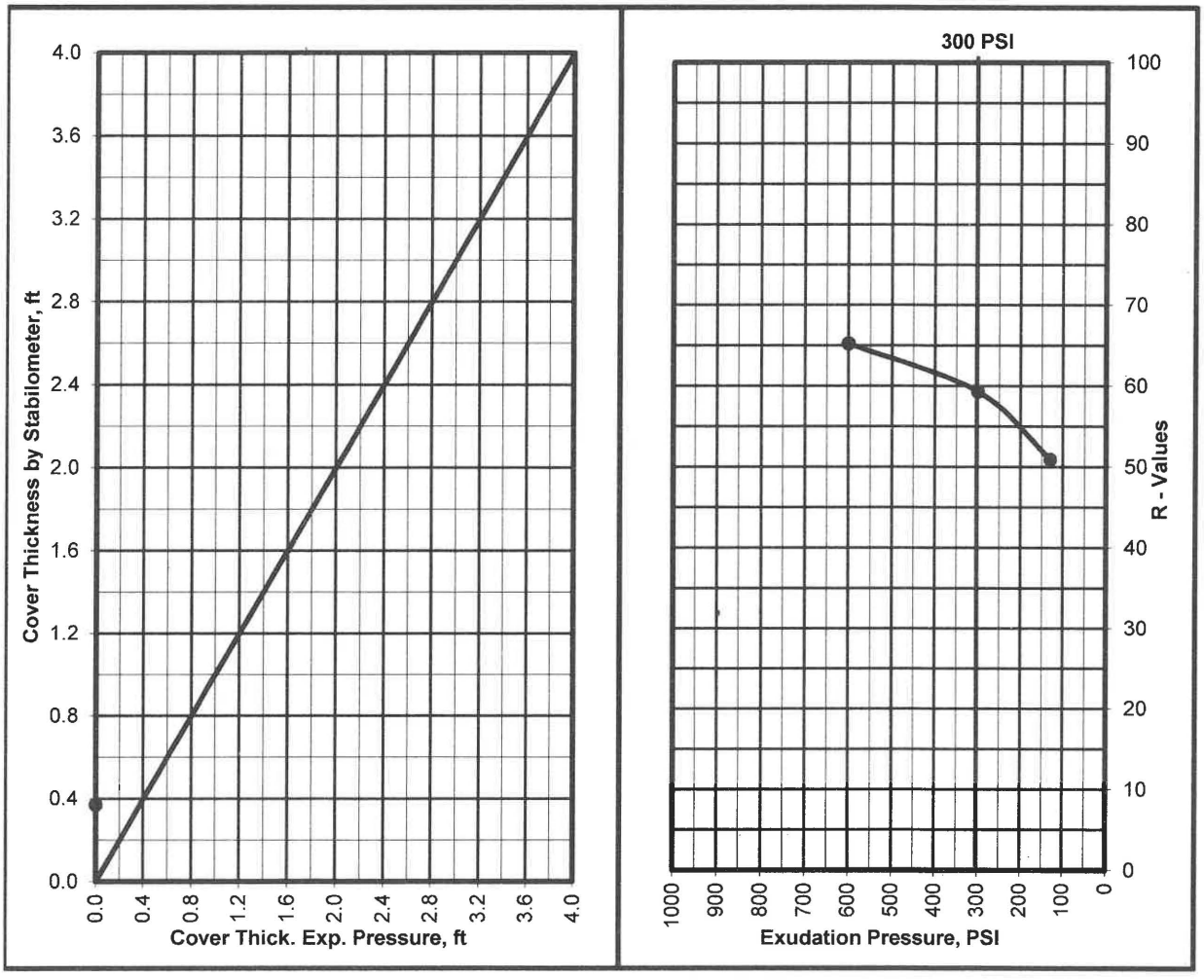
Krazan Testing Laboratory

R - VALUE TEST
ASTM D - 2844 / CAL 301

Project Number	:	012-21030
Project Name	:	Cordeniz Residential Development
Date	:	4/7/2021
Sample Location/Curve Number	:	RV#3
Soil Classification	:	SM

TEST	A	B	C
Percent Moisture @ Compaction, %	9.9	10.8	10.4
Dry Density, lbm/cu.ft.	125.5	124.6	125.0
Exudation Pressure, psi	600	130	300
Expansion Pressure, (Dial Reading)	0	0	0
Expansion Pressure, psf	0	0	0
Resistance Value R	65	51	59

R Value at 300 PSI Exudation Pressure	**59**
R Value by Expansion Pressure (TI =): 5	**Expansion Pressure nil**



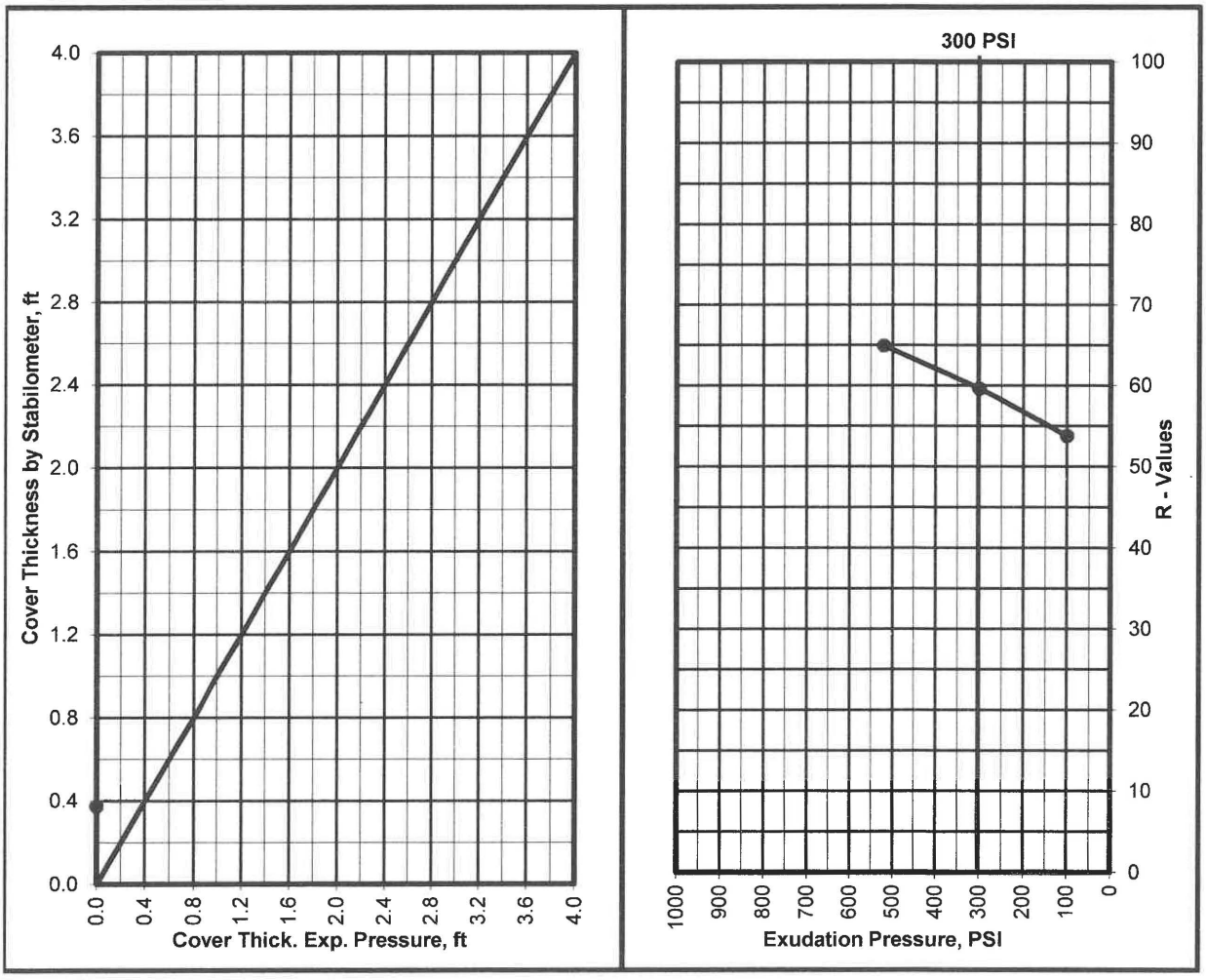
Krazan Testing Laboratory

R - VALUE TEST
ASTM D - 2844 / CAL 301

Project Number	:	012-21030
Project Name	:	Cordeniz Residential Development
Date	:	4/7/2021
Sample Location/Curve Number	:	RV#4
Soil Classification	:	SM

TEST	A	B	C
Percent Moisture @ Compaction, %	10.6	11.6	11.1
Dry Density, lbm/cu.ft.	122.8	121.3	122.2
Exudation Pressure, psi	520	100	300
Expansion Pressure, (Dial Reading)	0	0	0
Expansion Pressure, psf	0	0	0
Resistance Value R	65	54	60

R Value at 300 PSI Exudation Pressure	**60**
R Value by Expansion Pressure (TI =): 5	**Expansion Pressure nil**



Krazan Testing Laboratory

APPENDIX B

EARTHWORK SPECIFICATIONS

GENERAL

When the text of the report conflicts with the general specifications in this appendix, the recommendations in the report have precedence.

SCOPE OF WORK: These specifications and applicable plans pertain to and include all earthwork associated with the site rough grading, including but not limited to the furnishing of all labor, tools, and equipment necessary for site clearing and grubbing, stripping, preparation of foundation materials for receiving fill, excavation, processing, placement and compaction of fill and backfill materials to the lines and grades shown on the project grading plans, and disposal of excess materials.

PERFORMANCE: The Contractor shall be responsible for the satisfactory completion of all earthwork in accordance with the project plans and specifications. This work shall be inspected and tested by a representative of Krazan and Associates, Inc., hereinafter known as the Soils Engineer and/or Testing Agency. Attainment of design grades when achieved shall be certified to by the project Civil Engineer. Both the Soils Engineer and the Civil Engineer are the Owner's representatives. If the Contractor should fail to meet the technical or design requirements embodied in this document and on the applicable plans, he shall make the necessary readjustments until all work is deemed satisfactory as determined by both the Soils Engineer and the Civil Engineer. No deviation from these specifications shall be made except upon written approval of the Soils Engineer, Civil Engineer or project Architect.

No earthwork shall be performed without the physical presence or approval of the Soils Engineer. The Contractor shall notify the Soils Engineer at least 2 working days prior to the commencement of any aspect of the site earthwork.

The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the Contractor shall defend, indemnify and hold the Owner and the Engineers harmless from any and all liability, real or alleged, in connection with the performance of work on this project, except for liability arising from the soil negligence of the Owner or the Engineers.

TECHNICAL REQUIREMENTS: All compacted materials shall be densified to a density not less that 90 percent relative compaction based on ASTM Test Method D1557-78, UBC or CAL-216, as specified in the technical portion of the Soil Engineer's report. The location and frequency of field density tests shall be as determined by the Soils Engineer. The results of these tests and compliance with these specifications shall be the basis upon which satisfactory completion of work will be judged by the Soils Engineer.

SOILS AND FOUNDATION CONDITIONS: The Contractor is presumed to have visited the site and to have familiarized himself with existing site conditions and the contents of the data presented in the soil report.

The Contractor shall make his own interpretation of the data contained in said report, and the Contractor shall not be relieved of liability under the Contractor for any loss sustained as a result of any variance between conditions indicated by or deduced from said report and the actual conditions encountered during the progress of the work.

DUST CONTROL: The work includes dust control as required for the alleviation or prevention of any dust nuisance on or about the site or the borrow area, or off-site if caused by the Contractor's operation either during the performance of the earthwork or resulting from the conditions in which the Contractor leaves the site. The Contractor shall assume all liability, including court costs of codefendants, for all claims related to dust or windblown materials attributable to his work.

SITE PREPARATION

Site preparation shall consist of site clearing and grubbing and the preparations of foundation materials for receiving fill.

CLEARING AND GRUBBING: The Contractor shall accept the site in this present condition and shall demolish and/or remove from the area of designated project, earthwork all structures, both surface and subsurface, trees, brush, roots, debris, organic matter, and all other matter determined by the Soils Engineer to be deleterious. Such materials shall become the property of the Contractor and shall be removed from the site.

Tree root systems in proposed building areas should be removed to a minimum depth of 3 feet and to such an extent which would permit removal of all roots larger than 1 inch. Tree root removed in parking areas may be limited to the upper 1½ feet of the ground surface. Backfill or tree root excavation should not be permitted until all exposed surfaces have been inspected and the Soils Engineer is present for the proper control of backfill placement and compaction. Burning in areas which are to receive fill materials shall not be permitted.

SUBGRADE PREPARATION: Surfaces to receive Engineered Fill, building or slab loads shall be prepared as outlined above, scarified to a depth of 6 inches, moisture-conditioned as necessary, and compacted to 90 percent relative compaction.

Loose soil areas, areas of uncertified fill, and/or areas of disturbed soils shall be moisture-conditioned as necessary and recompacted to 90 percent relative compaction. All ruts, hummocks, or other uneven surface features shall be removed by surface grading prior to placement of any fill materials. All areas, which are to receive fill materials, shall be approved by the Soils Engineer prior to the placement of any of the fill material.

EXCAVATION: All excavation shall be accomplished to the tolerance normally defined by the Civil Engineer as shown on the project grading plans. All over excavation below the grades specified shall be backfilled at the Contractor's expense and shall be compacted in accordance with the applicable technical requirements.

FILL AND BACKFILL MATERIAL: No material shall be moved or compacted without the presence of the Soils Engineer. Material from the required site excavation may be utilized for construction site fills provided prior approval is given by the Soils Engineer. All materials utilized for constructing site fills shall be free from vegetation or other deleterious matter as determined by the Soils Engineer.

PLACEMENT, SPREADING AND COMPACTION: The placement and spreading of approved fill materials and the processing and compaction of approved fill and native materials shall be the responsibility of the Contractor. However, compaction of fill materials by flooding, ponding, or jetting shall not be permitted unless specifically approved by local code, as well as the Soils Engineer.

Both cut and fill shall be surface compacted to the satisfaction of the Soils Engineer prior to final acceptance.

SEASONAL LIMITS: No fill material shall be placed, spread, or rolled while it is frozen or thawing or during unfavorable wet weather conditions. When the work is interrupted by heavy rains, fill operations shall not be resumed until the Soils Engineer indicates that the moisture content and density of previously placed fill are as specified.

APPENDIX C

PAVEMENT SPECIFICATIONS

1. DEFINITIONS - The term "pavement" shall include asphaltic concrete surfacing, untreated aggregate base, and aggregate subbase. The term "subgrade" is that portion of the area on which surfacing, base, or subbase is to be placed.

The term "Standard Specifications": hereinafter referred to is the 2018 Standard Specifications of the State of California, Department of Transportation, and the "Materials Manual" is the Materials Manual of Testing and Control Procedures, State of California, Department of Public Works, Division of Highways. The term "relative compaction" refers to the field density expressed as a percentage of the maximum laboratory density as defined in the applicable tests outlined in the Materials Manual.

2. SCOPE OF WORK - This portion of the work shall include all labor, materials, tools, and equipment necessary for, and reasonably incidental to the completion of the pavement shown on the plans and as herein specified, except work specifically notes as "Work Not Included."

3. PREPARATION OF THE SUBGRADE - The Contractor shall prepare the surface of the various subgrades receiving subsequent pavement courses to the lines, grades, and dimensions given on the plans. The upper 12 inches of the soil subgrade beneath the pavement section shall be compacted to a minimum relative compaction of 90 percent. The finished subgrades shall be tested and approved by the Soils Engineer prior to the placement of additional pavement courses.

4. UNTREATED AGGREGATE BASE - The aggregate base material shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate base material shall conform to the requirements of Section 26 of the Standard Specifications for Class 2 material, 1½ inches maximum size. The aggregate base material shall be compacted to a minimum relative compaction of 95 percent. The aggregate base material shall be spread and compacted in accordance with Section 26 of the Standard Specifications. The aggregate base material shall be spread in layers not exceeding 6 inches and each layer of aggregate material course shall be tested and approved by the Soils Engineer prior to the placement of successive layers.

5. AGGREGATE SUBBASE - The aggregate subbase shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate subbase material shall conform to the requirements of Section 25 of the Standard Specifications for Class 2 material. The aggregate subbase material shall be compacted to a minimum relative compaction of 95 percent, and it shall be spread and compacted in accordance with Section 25 of the Standard Specifications. Each layer of aggregate subbase shall be tested and approved by the Soils Engineer prior to the placement of successive layers.

6. ASPHALTIC CONCRETE SURFACING - Asphaltic concrete surfacing shall consist of a mixture of mineral aggregate and paving grade asphalt, mixed at a central mixing plant and spread and compacted on a prepared base in conformity with the lines, grades and dimensions shown on the plans. The viscosity grade of the asphalt shall be PG 64-10. The mineral aggregate shall be Type B, ½ inch maximum size, medium grading and shall conform to the requirements set forth in Section 39. The drying, proportioning and mixing of the materials shall conform to Section 39.

The prime coat, spreading and compacting equipment and spreading and compacting mixture shall conform to the applicable chapters of Section 39, with the exception that no surface course shall be placed when the atmospheric temperature is below 50° F. The surfacing shall be rolled with a combination of steel wheel and pneumatic rollers, as described in Section 39-6. The surface course shall be placed with an approved self-propelled mechanical spreading and finishing machine.

7. FOG SEAL COAT - The fog seal (mixing type asphaltic emulsion) shall conform to and be applied in accordance with the requirements of Section 37.

Appendix G – Phase I and Phase II

March 18, 2021 Project No. 014-21031

Mr. Jim Robinson
San Joaquin Valley Homes
5607 Avenida de Los Robles
Visalia, California 93291
jrobinson@sjvhomes.com

RE: Phase I Environmental Site Assessment
Cordeniz 37 Property
Northwest of Cartmill Avenue and De La Vina Street
Tulare, California 93274

Dear Mr. Robinson:

Krazan & Associates, Inc., (Krazan) completed a Phase I Environmental Site Assessment at the referenced site summarized in a report dated March 18, 2021. We appreciate the opportunity to serve your environmental due diligence needs. During the course of this assessment, Krazan identified no evidence of recognized environmental conditions (RECs), controlled RECs (CRECs) or historical RECs (HRECs) in conjunction with the subject site as defined by ASTM E 1527-13. However, the following Potential Area of Concern (PAOC) and Site Development Issue are presented:

PAOC

- Based on review of historical aerial photographs, a rural residential dwelling occupied the southeastern portion of the subject site from at least 1937 to at least 1952. Additionally, several farm structures, in association with the former rural residential dwelling, occupied the subject site from at least 1937 to at least 1969. During Krazan's research of the subject site, no records of underground storage tanks (USTs) for the subject site were identified on file with the local regulatory agencies. USTs on rural or agricultural properties historically have been exempt from requirements for registration with regulatory agencies. Krazan's experience with such properties has shown that it was not uncommon for property owners to install USTs for their convenience, especially in the vicinity of structures in an agricultural setting, which are undocumented and whose presence would remain unknown in spite of the standard data research conducted in the course of this Phase I ESA. It is therefore possible that subsurface features such as unregistered USTs may exist on the subject site and remain unknown based upon the absence of any regulatory, municipality, interview data or evidence indicating their presence or location at a time potentially prior to the current property owner's familiarity with the property. Consequently, despite an absence of data suggesting their presence, the presence or absence of USTs associated with the structures formerly located within the southeastern portion of the subject site in a historical agricultural setting is unknown.

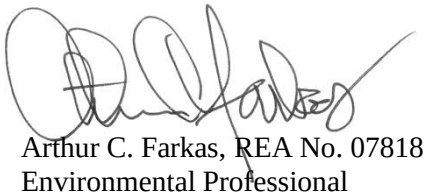
For a higher level of due diligence, Krazan recommends conducting a Phase II limited subsurface survey to assess the presence or absence of subsurface features indicative of USTs potentially associated with the former structures located within the southeastern portion of the subject site.

Site Development Issue

- An inactive agricultural water well was observed on the subject site. No information regarding analytical testing or construction of the on-site well was found during the course of this investigation. If the on-site inactive agricultural water well is not to be used during any future development of the subject site, it should be properly abandoned/destroyed in accordance with state and local guidelines.

If you have any questions regarding the information presented in this report, please call me at (559) 348-2200.

Respectfully Submitted,
KRAZAN & ASSOCIATES, INC.



Arthur C. Farkas, REA No. 07818
Environmental Professional

ACF/mlt

PHASE I ENVIRONMENTAL SITE ASSESSMENT CORDENIZ 37 PROPERTY NORTHWEST OF CARTMILL AVENUE AND DE LA VINA STREET TULARE, CALIFORNIA 93274

Pursuant to ASTM E 1527-13

Project No. 014-21031
March 18, 2021

Prepared for:
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Krazan & ASSOCIATES, INC.
SITE DEVELOPMENT ENGINEERS

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CORDENIZ 37 PROPERTY
NORTHWEST OF CARTMILLAVENUE AND DE LA VINA STREET
TULARE, CALIFORNIA 93274

1.0 EXECUTIVE SUMMARY

Krazan & Associates, Inc. (Krazan) has conducted a Phase I Environmental Site Assessment (ESA) of the Cordeniz 37 Property located Northwest of Cartmill Avenue and De La Vina Street near Tulare, California 93274 (subject site). It is incumbent upon the user to read this Phase I ESA report in its entirety. If not otherwise defined within the text of this report, please refer to the Glossary of Terms Section following the References Section for definitions of terms and acronyms utilized within this Phase I ESA report. Krazan conducted the Phase I ESA of the subject site in conformance with the American Society for Testing and Materials (ASTM) E 1527-13 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.* This Phase I ESA constitutes all appropriate inquiry (AAI) designed to identify recognized environmental conditions (RECs) in connection with the previous ownership and uses of the subject site as defined by ASTM E 1527-13.

ASTM E 1527-13 Section 1.1.1 *Recognized Environmental Conditions* – In defining a standard of good commercial and customary practice for conducting an environmental site assessment of a parcel of property, the goal of the processes established by this practice is to identify recognized environmental conditions. The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions.

During the course of this assessment, Krazan identified no evidence of recognized environmental conditions (RECs), controlled RECs (CRECs) or historical RECs (HRECs) in conjunction with the subject site as defined by ASTM E 1527-13. However, a potential area of concern (PAOC) and site development issue were identified and are discussed in Section 8.0 of this report.

2.0 PURPOSE AND SCOPE OF ASSESSMENT

2.1 Purpose

According to ASTM E 1527-13, the purpose of this practice is to define good commercial and customary practice in the United States of America for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601) and petroleum products. As such, this practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitation on CERCLA liability (hereinafter, the "landowner liability protections," or "LLPs"): that is, the practice that constitutes "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice" as defined at 42 U.S.C. §9601(35)(B).

2.2 Scope of Work

The Phase I ESA includes the following scope of work: a) a site reconnaissance of existing on-site conditions and observations of adjacent property uses, b) a review of user-provided documents, c) a review of historical aerial photographs, a review of pertinent building permit records, city directories, historical fire insurance maps (HFIMs), and interview(s) with person(s) knowledgeable of the previous and current ownership and uses of the subject site, d) a review of applicable regulatory agency records and, e) a review of local, State, and Federal regulatory agency lists compiled by Environmental Data Resources, Inc. (EDR). The scope of work for this Phase I ESA conforms to ASTM E 1527-13. Krazan was provided written authorization via email to conduct the Phase I ESA by Mr. Jim Robinson with San Joaquin Valley Homes, on February 8, 2021, in Krazan's February 8, 2021 Proposal/Cost Estimate No. P21-055.

3.0 SITE DESCRIPTION

The subject site is located northwest of Cartmill Avenue and De La Vina Street in Tulare County, California. The subject site consists of one parcel measuring 39.17 acres with the associated Tulare County Assessor's Parcel Number (APN) 149-060-005. The subject site is vacant land.

General property information and property use are summarized in Table I. Refer to Figures No. 1 – 4 following the Reference Section.

TABLE I
Subject Site Information Summary

Current Owner:	Donald Cordeniz, Trustee
Assessor's Parcel Number:	149-060-005
Address:	No Current Address
Historical Address:	None
General Location:	Northwest of Cartmill Avenue and De La Vina Street
Acreage:	39.17 acres
Existing Use:	Vacant Land
Number of Buildings:	N/A
Original Construction Date:	N/A
Proposed Use:	Residential
Topographic Map:	U.S. Geological Survey, 7.5 minute Tulare, California topographic quadrangle map, dated 1950, photorevised 1969
Topographic Map Location:	SW quarter of Section 25, Township 19 South, Range 24 East, Mount Diablo Baseline and Meridian
Latitude/Longitude:	36.242274° / –119.324319°
Topography:	Relatively flat, approximately 300 feet above mean sea level
Approximate Depth to Groundwater:	160 feet below ground surface (bgs), State of California Department of Water Resources (DWR)*
Regional Groundwater Flow Direction:	Southwest, DWR

* State of California, Department of Water Resources, *Sustainable Groundwater Management Act (SGMA) Data Viewer, Spring 2018*.

3.1 Geology and Hydrogeology

The subject site is located within the San Joaquin Valley, a broad structural trough bound by the Sierra Nevada and Coast Ranges of California. The San Joaquin Valley, which comprises the southern portion of the Great Valley of California, has been filled with several thousand feet of sedimentary deposits. Sediments in the eastern valley, derived from the erosion of the Sierra Nevada, have been deposited by major to minor west-flowing drainages and their tributaries. Near-surface sediments are dominated by sands and silty sands with lesser silts, minor clays, and gravel. The sedimentary deposits in the region form large coalescing alluvial fans with gentle slopes. The groundwater in the area is reported to be first encountered at a depth of approximately 160 feet bgs. The groundwater flow direction in the area of the subject site is generally towards the southwest.

4.0 SITE RECONNAISSANCE

A site reconnaissance, which included a visual observation of the subject site and surrounding properties, was conducted by Ken Sani, Krazan's Environmental Assessor, on March 2, 2021. Krazan's Environmental Assessor was unaccompanied during the site reconnaissance. The objective of the site reconnaissance is to obtain information indicating the likelihood of identifying recognized environmental conditions, including hazardous substances and petroleum products, in connection with the property (including soils, surface waters, and groundwater).

4.1 Observations

The following Table II summarizes conditions encountered during our site reconnaissance. A discussion of visual observations follows the table below. Refer to the Site Map (Figure No. 3) and color photographs following the text for the locations of items discussed in this section of the report.

TABLE II
Summary of Site Reconnaissance

Feature	Observed	Not Observed
Structures (existing)		X
Evidence of Past Uses (foundations, debris)		X
Hazardous Substances and/or Petroleum Products (including containers)		X
Aboveground Storage Tanks (ASTs)		X
Underground Storage Tanks (USTs) or Evidence of USTs		X
Evidence of Underground Pipelines		X
Strong, Pungent, or Noxious Odors		X
Pools of Liquid Likely to be Hazardous Materials or Petroleum Products		X
Drums (Cooking Grease)		X
Unidentified Substance Containers		X
Potential Polychlorinated Biphenyl (PCB)-Containing Equipment		X
Subsurface Hydraulic Equipment		X
Heating/Ventilation/Air conditioning (HVAC)		X
Stains or Corrosion on Floors, Walls, or Ceilings		X
Floor Drains		X
Storm Drains		X
Pits, Ponds, or Lagoons		X
Stained Soil and/or Pavement		X
Soil Piles		X
Stressed Vegetation		X
Waste or Wastewater (including stormwater) Discharges to Surface/ Surface Waters		X
Wells (irrigation, domestic, dry, injection, abandoned, monitoring wells)	X	
Septic Systems		X

The subject site comprises approximately 39.17 acres of vacant land with the associated Tulare County Assessor's Parcel Number 149-060-005.Refer to Figure No. 3, Site Map, for locations of the following referenced on-site features:

- The subject site was observed to be vacant land with vegetative weed growth. No evidence of hazardous materials storage/waste was observed at the subject site.
- An inactive agricultural water well and associated electric pump were observed in the central-southern portion of the subject site. No information regarding analytical testing or construction specifications of the on-site well was found during the course of this assessment. No evidence of staining was observed on or adjacent to the on-site inactive agricultural water well.
- A large tree was observed along De La Vina Street in the northeastern portion of the subject site.
- During the visual observations of the subject site, exposed surface soils did not exhibit obvious signs of discoloration. No obvious evidence (vent pipes, fill pipes, dispensers, etc.) of USTs was noted within the areas observed. No standing water or major depressions were observed on the

subject site. No indications of former structures, such as foundations, were observed on the subject site.

- No high-voltage, tower-mounted electrical transmission lines were observed on or in the vicinity of the subject site.

Additionally, an irrigation canal, absent of standing water, was observed adjacent to the north of the subject site.

4.2 Utilities

Based on Krazan's research, the following Table III summarizes companies/municipalities that will provide utility services to the subject site upon development and annexation to the City of Tulare:

TABLE III
Municipal Service / Utility Providers

Service / Utility	Provider
Electricity	Southern California Edison
Natural Gas	Southern California Gas
Potable Water	City of Tulare
Sanitary Sewer	City of Tulare

4.3 Adjacent Streets and Property Usage

The following Table IV summarizes the current adjacent roads and adjacent property uses observed during the site reconnaissance:

TABLE IV
Adjacent Streets and Property Use

Direction	Adjacent Street	Adjacent Property Use
North	None	Agricultural
West	None	Agricultural, Vacant land
East	De La Vina Street	Residential
South	Cartmill Avenue	Residential

Based on the observed uses of the properties located immediately adjacent to the subject site, it is unlikely that significant quantities of hazardous materials are stored at the adjacent properties.

4.4 ASTM Non-Scope Considerations Asbestos-Containing Materials

Asbestos is a group of naturally occurring mineral fibers that have been used commonly in a variety of building construction materials for insulation and as a fire-retardant. Because of its fiber strength and heat resistant properties, asbestos has been used for a wide range of manufactured goods, mostly in building materials, vehicle brakes, and heat-resistant fabrics, packaging, gaskets, and coatings. When asbestos-containing materials (ACMs) are damaged or disturbed by repair, remodeling, or demolition activities, microscopic asbestos fibers may become airborne and can be inhaled into the lungs, where they can cause

significant health problems. No structures are located on the subject site. Therefore, ACMs are not considered an on-site environmental concern at this time.

Lead-Based Paint

Although lead-based paint (LBP) was banned in 1978, many building constructed prior to 1978 have paint that contains lead. Lead from paint, chips, and dust can pose serious health hazards if not addressed properly. No structures are located on the subject site. Therefore, LBP is not considered an on-site environmental concern at this time.

Mold and Moisture Intrusion

A class of fungi, molds have been found to cause a variety of health problems in humans, including allergic, toxicological, and infectious responses. Molds are decomposers of organic materials, and thrive in humid environments, and produce spores to reproduce, just as plants produce seeds. When mold spores land on a damp spot indoors, they may begin growing and digesting whatever they are growing on in order to survive. When excessive moisture or water accumulates indoors, mold growth will often occur, particularly if the moisture problem remains undiscovered or unaddressed. As such, interior areas of buildings characterized by poor ventilation and high humidity are the most common locations of mold growth. Building materials including drywall, wallpaper, baseboards, wood framing, insulation and carpeting often play host to such growth. Moisture control is the key to mold control. Molds need both food and water to survive; since molds can digest most things, water is the factor that limits mold growth. The EPA recommends the following action to prevent the amplification of mold growth in buildings:

- Fix leaky plumbing and leaks in the building envelope as soon as possible.
- Watch for condensation and wet spots. Fix source(s) of moisture problem(s) as soon as possible.
- Prevent moisture due to condensation by increasing surface temperature or reducing the moisture level in air (humidity). To increase surface temperature, insulate or increase air circulation. To reduce the moisture level in air, repair leaks, increase ventilation (if outside air is cold and dry), or dehumidify (if outdoor air is warm and humid).
- Keep heating, ventilation, and air conditioning (HVAC) drip pans clean, flowing properly, and unobstructed.
- Vent moisture-generating appliances, such as dryers, to the outside where possible.
- Maintain low indoor humidity, below 60% relative humidity (RH), ideally 30-50%, if possible.
- Perform regular building/HVAC inspections and maintenance as scheduled.
- Clean and dry wet or damp spots within 48 hours.
- Do not let foundations stay wet. Provide drainage and slope the ground away from the foundation.

No structures are currently located on the subject site. Therefore, microbial growth and moisture intrusion are not considered an on-site environmental concern at this time.

Radon

Radon is a radioactive gas that is found in certain geologic environments and is formed by the natural breakdown of radium, which is found in the earth's crust. A radon survey was not included within the scope of this investigation; however, the State of California Department of Health Services (CDHS) maintains a statewide database of radon results in designated geographic areas. Radon detection devices are placed in homes throughout the study region to determine geographic regions with elevated radon concentrations. The U.S. EPA has set the safety standard for radon gas in homes to be 4.0 pico Curies per liter (pCi/L).

The US EPA has prepared a map to assist National, State and local organizations to target their resources and to implement radon-resistant building codes. The map divides the country into three Radon Zones, Zone 1 being those areas with the average predicted indoor radon concentration in residential dwellings exceeding the EPA Action Limit of 4.0 pCi/L. It is important to note that the EPA has found homes with elevated levels of radon in all three zones, and the EPA recommends site-specific testing in order to determine radon levels at a specific location. However, the map does give a valuable indication of the propensity of radon gas accumulation in structures. Review of the EPA Map of Radon Zones places the Property in Zone 2, where average predicted radon levels are between 2.0 and 4.0 pCi/L. Therefore, the available data suggests that the potential for radon to adversely impact the subject site appears to be low.

Wetlands

As defined by the U.S. EPA and the Department of Army, Corps of Engineers, wetlands are "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Jurisdictional wetlands are regulated under Section 404 of the Clean Water Act (1972, 1977, and 1987, and also the 1985 and 1990 Farm Bills), and are important for protection of aquatic waterfowl and species, water purification, and flood control. According to current Corps of Engineers information, three basic criteria are currently used to define wetlands:

- Wetland hydrology - areas exhibiting surface or near-surface saturation or inundation at some point in time (greater than 12.5 percent of growing season defined on basis of frost-free days) during an average rainfall year.
- Hydrophilic vegetation - frequency of occurrence of wetland indicator plants (plant life growing in water, soil, or substrate that is periodically deficient in oxygen as a result of excessive water content).

- Hydric soil - landscape patterns identified by saturation, flooding, or ponding long enough during the growing season (generally seven days) which develop characteristic color changes in the upper part of the soil as a result of anaerobic conditions.

Based on Krazan's reconnaissance of the subject site, evidence was not apparent to suggest that the site contained a wetland. Furthermore, according to the U. S. Fish & Wildlife Service (USFWS) National Wetlands Inventory available via the USFWS Internet website, the subject site does not contain a designated wetland. Therefore, at this time, regulations pertaining to wetlands do not appear to impact the subject site.

Environmental Non-Compliance Issues

No obvious material non-compliance issues were identified in connection with the subject site in the process of preparing this report.

Activity and Use Limitations

No activity and use limitations were identified in connection with the subject site in the process of preparing this report.

5.0 USER-PROVIDED INFORMATION

A review of user-provided information was conducted in order to help identify pertinent information regarding potential environmental impacts associated with the subject site.

5.1 Environmental Liens/Activity and Use Limitations Report

On March 17, 2021 an Environmental Lien/Activity and Use Limitations (EL/AUL) Report was prepared by AFX Corp. Inc. (AFX), for the subject site parcel. The AFX EL/AUL Report provides results from a search of available land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls. The subject site EL/AUL Report was reviewed to identify potential environmental liens, institutional controls (ICs), land use controls (LUCs), activity and use limitations (AULs), or declaration of environmental use restrictions (DEULs) which may have been filed against the subject site or exist in connection with the subject site as indicated by the subject site EL/AUL Report. Krazan's review of the EL/AUL Report indicated no liens, judgments, ICs, LUCs, AULs, or DEULs were found for the subject site according to the scope of work and limitations. Please refer to Appendix E for a copy of the AFX EL/AUL Reports.

5.2 Phase I Environmental Site Assessment User Questionnaire

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *Brownfields Amendments*), the *user* must provide the following information (if available) to the *environmental professional*. Failure to provide this information could result in a determination that *all appropriate inquiry* is not complete. The user is asked to provide information or knowledge of the following:

1. Environmental cleanup liens that are filed or recorded against the site.
2. Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry.
3. Specialized knowledge or experience of the person seeking to qualify for the LLPs.
4. Relationship of the purchase price to the fair market value of the *property* if it were not contaminated.
5. Commonly known or *reasonably ascertainable* information about the *property*.
6. The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation.

A completed Phase I ESA user questionnaire was received from Mr. Jim Robinson with San Joaquin Valley Homes, the Phase I ESA user. Please refer to Appendix A for a copy of the completed Phase I ESA User Questionnaire.

According to the questionnaire responses, Mr. Robinson, to the best of his knowledge as the user of this Phase I ESA, was not aware of any environmental cleanup liens and activity or land use limitations which have been filed or recorded against the subject site; and Mr. Robinson has no specialized knowledge or experience of the prior nature of the business or chemical utilization on the subject site. Mr. Robinson stated that the subject site was historically agricultural property. Mr. Robinson indicated that he did not have knowledge of the past or current presence of specific chemicals or hazardous materials, unauthorized spills or chemical releases in connection with the subject site. Mr. Robinson indicated that the reason for preparation of this Phase I ESA is related to a property purchase for future development.

6.0 SITE USAGE SURVEY

The property usage survey included assessing property history, conducting interview(s) with person(s) knowledgeable of the previous and current ownership and uses of the subject site, and reviewing local, state, and federal regulatory agency records.

6.1 Site History

A review of historical aerial photographs, a USGS topographic quadrangle map, contact with the Tulare County Resource Management Agency, Building Division (TCBD), reasonably ascertainable city directories, and a search for Sanborn fire insurance maps (SFIMs) were utilized to assess the history of the subject site.

Aerial Photograph Interpretation

Historical aerial photographs dated 1937, 1952, 1969, 1977, 1984, 1994, 2006, and 2020 were reviewed to assess the history of the subject site. These photographs were obtained from Environmental Data Resources Inc. (EDR) and Google Earth™. Aerial photograph coverage for the years between 1952 and 1969 was not reasonably ascertainable. The aerial photograph summary is provided in the following Table V. Please refer to Appendix B for a copy of the Historical Aerial Photograph.

TABLE V
Summary of Aerial Photograph Review

Year/Scale	Site Use	Site and Adjacent Property Observation
1937 1" = 500'	Agricultural/ Rural Residential Dwelling/ Out-structures/ Tree/ Water Well	The subject site appears to be predominantly utilized for agricultural purposes. Additionally, a rural residential dwelling and associated out-structures appear to be located in the southeastern portion of the subject site. Furthermore, what appears to be a water well is located adjacent to the northwest of the on-site residential dwelling and associated out-structures; and a large tree appears to be located in the northeastern portion. Cartmill Avenue appears to bound the subject site to the south. The adjacent properties appear to be utilized for agricultural purposes.
1952 1" = 500'	Agricultural/ Rural Residential Dwelling/ Out-structures/ Tree/ Water Well	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1937 aerial photograph. Additionally, an irrigation canal appears to bound the subject site to the north.
1969 1" = 500'	Agricultural/ Out-structures/ Tree/ Water Well	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1952 aerial photograph except that the rural residential dwelling formerly located on the subject site appears to have been removed.

TABLE V (continued)
Summary of Aerial Photograph Review

Year/Scale	Site Use	Site and Adjacent Property Observation
1977 1'= 500'	Agricultural/ Tree/ Water Well	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1969 aerial photograph except that the out-structures formerly located on the subject site appear to have been removed.
1984 1" = 500'	Agricultural/ Tree/ Water Well	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1977 aerial photograph.
1994 1" = 500'	Agricultural/ Tree/ Water Well	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1984 aerial photograph.
2006 1" = 500'	Agricultural Vacant Land/ Tree/ Water Well	The subject site appears to be in different stages of agricultural production and vacant land with a large tree located in the northeastern portion. Additionally, a water well appears to be located in the central portion of the southern portion of the eastern portion of the subject site. The adjacent property to the north appears to be utilized for agricultural purposes; and the adjacent property to the east appears to be vacant land. The adjacent property to the west appears to be utilized for agricultural purposes in the northern portion and vacant land in the southern portion. The adjacent property to the south, beyond Cartmill Avenue, appears to be occupied by a residential development.
2020 1" = 500'	Vacant Land Tree Water Well	Conditions on the subject site and adjacent properties appear relatively similar to those noted in the 2006 aerial photograph except that the subject site appears to be vacant land.

USGS Topographic Quadrangle Map

Krazan's review of the USGS, 7.5 minute, Tulare, California topographic quadrangle map dated 1950, photorevised 1969, indicates that a structure was located in the southern portion of the eastern area of the subject site. Additionally, an irrigation canal is depicted adjacent to the north of the subject site. The subject site is situated at an elevation of 300 feet above MSL. No evidence of ravines, fill areas, or landfills are depicted on the subject site or the adjacent properties. Refer to Figure No. 4, Topographic Map, for reference.

Tulare County Resource Management Agency, Building Division

The TCBD was contacted regarding building permit records for the existing subject site APN 149-060-005, According to a representative of the TCBD, no building permit records are on file with the TCBD for the subject site APN. Therefore, no permits for items such as underground storage tanks or sewer systems are on file with the TCBD for the subject site.

City Directories

City directories were not searched due to the current absence of structures and addresses associated with the subject site.

Sanborn Fire Insurance Maps

Krazan reviews SFIMs to evaluate prior land use of the subject site and the adjacent properties. SFIMs typically exist for cities with populations of 2,000 or more, the coverage dependent on the location of the subject site within the city limits. Krazan contracted with EDR to provide copies of available SFIMs for the subject site and the adjacent properties as far back as 1867. EDR's search of SFIMs revealed no coverage for the subject site and the adjacent properties. Please refer to Appendix C for a copy of the EDR, SFIM *Unmapped Property* Report.

6.2 Interviews

Krazan seeks to conduct interviews with the owner of the subject site, a key site manager, subject site occupants, and/or the previous owner/occupants of the subject site. The interviews are designed to provide pertinent information regarding potential environmental impacts associated with the subject site.

Subject Site Owner

On March 3, 2021, Krazan conducted a Phase I ESA interview with Mr. Donald Cordeniz, Trustee, a representative of the owner of the subject site. During the interview, Mr. Cordeniz stated that he has been familiar with the subject site for the past 70 years, and that the subject site was historically utilized for agricultural purposes. Additionally, Mr. Cordeniz stated that there are no domestic water wells and/or septic systems located on the subject site, although one inactive agricultural well is located on-site. Mr. Cordeniz also indicated that the purpose for the Phase I ESA is for a property sale and the purchase price reasonably reflects fair market value.

According to Mr. Cordeniz, to the best of his knowledge, no disposal of hazardous materials; no existing or former ASTs or USTs; no hazardous materials spills, no environmental cleanups, no on-site treatment and/or discharge of waste; no environmental liens, AULs, engineering or institutional controls, no on-site leach fields, dry wells, sumps, no buried materials; no monitoring wells; or any items of environmental concern are associated with the subject site.

Previous Subject Site Owner

An interview with a previous owner/occupant of the subject site was not reasonably ascertainable.

6.3 Agricultural Chemicals

Review of historical aerial photographs indicates that the subject site was utilized for various stages of agricultural purposes from at least 1937 to at least 2006. No material evidence of the use of environmentally persistent pesticides/herbicides was obtained during the course of this assessment. Although the potential

exists that environmentally persistent pesticides/herbicides were historically applied to the crops grown on the subject site, 1) no material evidence of the use of environmentally persistent pesticides/herbicides was obtained during the course of this assessment, and 2) it is anticipated that any environmentally persistent pesticides/herbicides potentially located on site will be dislocated/diluted as a result of the rough grading and trenching operations on the subject site in preparation of future development. Consequently, given the above-referenced factors and Krazan's experience in the subject site vicinity which generally indicates that the potential is low for elevated concentrations of environmentally persistent pesticides/herbicides related to agricultural cultivation to exist in the near-surface soils of common agricultural ground at concentrations which would require regulatory action, despite the absence of specific data, the potential for elevated concentrations of environmentally persistent pesticides/herbicides to currently exist in the near-surface soils of the subject site at concentrations which would require regulatory action appears to be low.

6.4 Regulatory Agency Interface

A review of regulatory agency records was conducted to help determine if hazardous materials have been handled, stored, or generated on the subject site and/or the adjacent properties and businesses. Regulatory records are reviewed based on the following criteria: 1) properties with known soils and/or groundwater releases considered to represent the potential for impact to the subject site that are located within 1,760 feet of the subject site for constituents of concern impacts or 528 feet of the subject site for petroleum hydrocarbon impacts; 2) properties that are adjacent or in proximity to the subject site included within the EDR regulatory database report or noted during the site reconnaissance to possibly handle, store, or generate hazardous materials. Applicable property records are discussed below.

Tulare County Health and Human Service Agency, Environmental Health Division

The Tulare County Health and Human Services Agency, Environmental Health Division (TCEHD) is the lead regulatory agency or Certified Unified Program Agency (CUPA) for hazardous materials handling facilities in Tulare County. The TCEHD was contacted via facsimile regarding potential hazardous materials records including USTs, leaking underground storage tanks (LUSTs), hazardous materials business plans (HMBPs), hazardous material releases, and/or environmental cleanup records for the subject site. According to representatives of the TCEHD, no records of hazardous materials storage/waste, ASTs, USTs, LUSTs, or environmental cleanups are on file with the TCEHD for the subject site and adjacent properties.

County of Tulare Fire Department

The County of Tulare Fire Department (CTFD) has jurisdiction for the fire protection for the subject site and the immediate vicinity. The CTFD was contacted via facsimile regarding potential records of hazardous materials storage, aboveground storage tanks, and hazardous material incidents/spills for the

subject site. According to representatives of the CTFD, no hazardous materials storage and/or incident spills or fire inspection records are on file with the CTFD for the subject site parcel.

State of California Regional Water Quality Control Board - Geotracker

Krazan's review of the State of California Regional Water Quality Control Board (RWQCB) Geotracker database available via the RWQCB Internet Website indicated that no LUST sites, cleanup program sites, land disposal sites, military sites, or permitted UST sites are listed for the subject site or adjacent properties.

State of California Department of Toxic Substances Control - Envirostor

Krazan's review of the State of California Department of Toxic Substances Control (DTSC) Envirostor database available via the DTSC's Internet Website indicated that no records of cleanup sites including State response sites, voluntary cleanup sites, school cleanup sites, or military sites are listed for the subject site, the adjacent properties, or properties located within 500 feet of the subject site. Additionally, no Federal Superfund – National Priorities List (NPL) sites were determined to be located within a one-mile radius of the subject site. However, one school evaluation site was listed in proximity to the subject site and is discussed below:

Liberty Elementary Pacific Avenue Site approximately 240 feet to the northeast
Pacific Avenue and De La vina Street

According to records on file with the DTSC, this school site facility was part of a larger agricultural parcel that was in agricultural production from at least the early 1950s. A Preliminary Endangerment Assessment (PEA) was conducted in May 2009 for investigation of agricultural related impacts that included organic pesticides (OCPs) and arsenic and lead in shallow soils. A draft PEA report in November 2009 showed a single elevated concentration of lead and a single elevated concentration of OCPs. Results for four step-out samples were below California Human Health Screening Levels (CHHSLs). OCP and arsenic results were non-detect and below screening levels. The DTSC approved the PEA report with a no further action determination on March 30, 2010. Based on its regulatory "no further action" status, the fact that no OCPs, lead and arsenic were found in shallow soils, and the depth to groundwater in the vicinity of the subject site, there is no material evidence to suggest that this facility represents an environmental concern in connection with the subject site.

State of California Geologic Energy Management Division - GalGEM

Krazan's review of the State of California Geologic Energy Management Division Online Mapping System (CalGEM) indicated that no plugged and abandoned or producing oil wells are located on or adjacent to the subject site.

Local Area Tribal Records

No Indian reservations, USTs on Indian land, or LUSTs on Indian land were reported on the subject site, adjacent properties, or vicinity properties in the EDR-provided government database report.

6.5 Regulatory Agency Lists Review

Several agencies have published documents that list businesses or properties which have handled hazardous materials or waste or may have experienced site contamination. The lists consulted in the course of our assessment were compiled by EDR and Krazan and represent reasonably ascertainable current listings. Krazan did not verify the locations and distances of every property listed by EDR. Krazan verified the location and distances of the properties Krazan deemed as having the potential to adversely impact the subject site. The actual location of the listed properties may differ from the EDR listing. Please refer to the following Table VI of the Map Findings Summary, within the EDR Radius Map Report, and shown below, for a summary of the listed properties located within the specified ASTM Search Radii. The actual distances of the listed properties (which are summarized below) are based on observations during Krazan's site reconnaissance. No EDR-listed unmapped (non geocoded) sites were determined to be located on or adjacent to the subject site. Please refer to Appendix D for a copy of the EDR Radius Map report.

TABLE VI
Summary of Findings

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	1	3	NR	4
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

TABLE VI (continued)
Summary of Findings

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0

TABLE VI (continued)
Summary of Findings

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	1	NR	NR	NR	1

TABLE VI (continued)
Summary of Findings

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
WDR	TP		NR	NR	NR	NR	NR	0
CIWQS	TP		NR	NR	NR	NR	NR	0
CERS	TP		NR	NR	NR	NR	NR	0
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	TP		NR	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
MINES MRDS	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		0	0	1	1	3	0	5

There were no EDR listings for the subject site or adjacent properties.

The following facility was listed in the vicinity of the subject site:

> Liberty Elementary Pacific Avenue Site approximately 240 feet to the northeast
> Pacific Avenue and De La vina Street
> According to EDR, this facility is listed as an ENVIROSTOR and SCHOOL site located within 1,839 feet of the subject site. During Krazan's vicinity property investigation, this facility was observed to be located approximately 240 feet to the northeast of the subject site. PEA records regarding OCPs, arsenic and lead at this facility are on file with the DTSC. Based on Krazan's review of DTSC records, there is no evidence to suggest that this facility represents an environmental concern in connection with the subject site. DTSC records for this facility were previously discussed in Section 6.4 of this report.

The remaining properties within the specified search radius of the subject site which appeared on local, state, or federally published lists of sites that use or have had releases of hazardous materials or petroleum products are of sufficient distance and/or situated hydraulically cross- or downgradient from the subject site such that impact to the subject site via groundwater migration is unlikely. In general, potentially hazardous materials released from facilities located approximately hydraulically upgradient within subject site vicinity, or in a hydraulically cross-gradient direction in proximity to the site, may have a reasonable potential of migrating to the subject site via groundwater flow. This opinion is based on the assumption that non-vaporous hazardous materials generally do not migrate large distances laterally within the soil, but rather tend to migrate with groundwater in the general direction of groundwater flow. However, the potential for migration of volatile hazardous materials may include movement within soils, groundwater flow or potentially omni-directionally if present in a vaporous state.

Hazardous Materials Migration in Vapor

Hazardous materials or petroleum product vapors which may have the potential to migrate into the subsurface of the subject site may be caused by the release of vapors from contaminated soil or groundwater either on or in the vicinity of the subject site from current or historical uses of the subject site and/or adjacent or vicinity properties. Current or past land uses such as gasoline stations (using petroleum hydrocarbons), dry cleaning establishments (using chlorinated volatile organic compounds), former manufactured gas plant sites (using volatile and semi-volatile organic compounds), and former industrial sites such as those that had vapor degreasing or other parts-cleaning operations (using chlorinated volatile organic compounds) are of particular concern. Constituent of concern vapors are capable of migrating great distances omni-directionally along subsurface conduits such as pipelines, utility lines, sewer and stormwater lines, and building foundations.

Based on Krazan's observations and review of State and local regulatory agency records and the EDR regulatory database report, no listings of concern related to potential vapor migration were determined to be associated with the subject site, or adjacent properties.

Review of the remaining vicinity properties listed by EDR as release sites within the applicable search radii suggests that these properties do not represent a significant potential for vapor migration in conjunction with the subject site. The rationale supporting this opinion includes the following:

- None of the reported sites were in close proximity to the subject site.
- Relevant sites had undergone investigation and remediation sufficient to receive regulatory agency closure.
- Sites with reported releases of minor quantities of COCs or COCs of limited volatility (diesel) impacting soil only were considered of minimal concern.
- Sites with reported releases of COCs including volatile organic compounds (VOCs) were either of sufficient distance or hydraulically down- or cross-gradient from the subject site such that they do not appear to represent a significant potential for vapor migration on the subject site.

No engineering control sites, sites with institutional controls, or sites with deed restrictions were listed for the subject site, adjacent sites or vicinity properties in the EDR Report.

7.0 DISCUSSION OF FINDINGS

TABLE VII
Summary of Conclusions

Apparent Evidence of RECs/PAOCs From	Not Noted	Noted
Historical Uses		X
Current Uses	X	
Adjacent or Vicinity Property Uses	X	

Historical Uses

Based on Krazan's review of historical aerial photographs, a site reconnaissance, and contacts with the local regulatory agencies and the owner of the subject site, there is no evidence that RECs exist in connection with the historical uses of the subject site. However, a PAOC was identified in regards to potential USTs that may be located in the vicinity of historical farm structures formerly located on the subject site.

Current Uses

Based on Krazan's site reconnaissance, contacts with State and local regulatory agencies, and an interview with the subject site owner, there is no evidence that RECs exist in connection with the current uses of the subject site.

Adjacent or Vicinity Property Uses

Based on Krazan's review of historical research of the subject site, a site reconnaissance, contacts with the State and local regulatory agencies, review of the EDR regulatory database report, and an interview with the subject site owner, there is no evidence that RECs exist in connection with the subject site from adjacent or vicinity property uses.

7.1 Evaluation of Data Gaps/Data Failure

In accordance with ASTM E 1527-13 guidance, data gaps represent a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice. Data failure represents the failure to achieve the historical research objectives of this practice even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap. No data gaps were identified during the course of this investigation.

8.0 CONCLUSIONS/OPINIONS

We have conducted a Phase I ESA of the subject site in conformance with the scope and limitations of the ASTM E 1527-13 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* guidance documents. Any deviations from this practice were previously described in this report. During the course of this assessment, Krazan identified no evidence of recognized environmental conditions (RECs), controlled RECs (CRECs) or historical RECs (HRECs) in conjunction with the subject site as defined by ASTM E 1527-13. However, the following Potential Area of Concern (PAOC) and Site Development Issue are presented:

PAOC

- Based on review of historical aerial photographs, a rural residential dwelling occupied the southeastern portion of the subject site from at least 1937 to at least 1952. Additionally, several farm structures, in association with the former rural residential dwelling, occupied the subject site from at least 1937 to at least 1969. During Krazan's research of the subject site, no records of underground storage tanks (USTs) for the subject site were identified on file with the local regulatory agencies. USTs on rural or agricultural properties historically have been exempt from requirements for registration with regulatory agencies. Krazan's experience with such properties

has shown that it was not uncommon for property owners to install USTs for their convenience, especially in the vicinity of structures in an agricultural setting, which are undocumented and whose presence would remain unknown in spite of the standard data research conducted in the course of this Phase I ESA. It is therefore possible that subsurface features such as unregistered USTs may exist on the subject site and remain unknown based upon the absence of any regulatory, municipality, interview data or evidence indicating their presence or location at a time potentially prior to the current property owner's familiarity with the property. Consequently, despite an absence of data suggesting their presence, the presence or absence of USTs associated with the structures formerly located within the southeastern portion of the subject site in a historical agricultural setting is unknown.

Site Development Issue

- An inactive agricultural water well was observed on the subject site. No information regarding analytical testing or construction of the on-site well was found during the course of this investigation. If the on-site inactive agricultural water well is not to be used during any future development of the subject site, it should be properly abandoned/destroyed in accordance with state and local guidelines.

9.0 RELIANCE

This report was prepared solely for use by Client and should not be provided to any other person or entity without Krazan & Associates' prior written consent. No party other than Client may rely on this report without Krazan & Associates' express prior written consent. Reliance rights for third parties will only be in effect once requested by Client and authorized by Krazan & Associates with authorization granted by way of a Reliance Letter. The Reliance Letter will require that the relying party(ies) agree to be bound to the terms and conditions of the agreement between Client and Krazan & Associates as if originally issued to the relying party(ies), or as so stipulated in the Reliance Letter.

10.0 LIMITATIONS

This reconnaissance and review of the subject site has been limited in scope. This type of investigation is undertaken with the calculated risk that the presence, full nature, and extent of contamination would not be revealed by visual observation alone. Although a thorough site reconnaissance was conducted in accordance with ASTM Guidelines and employing a professional standard of care, no warranty is given, either expressed or implied, that hazardous material contamination or buried structures, which would not have been disclosed through this investigation, do not exist at the subject site. Therefore, the data obtained are clear and accurate only to the degree implied by the sources and methods used.

The findings presented in this report were based upon field observations during a single property visit, review of available data, and discussions with local regulatory and advisory agencies. Observations describe only the conditions present at the time of this investigation. The data reviewed and observations made are limited to accessible areas and currently available records searched. Krazan cannot guarantee the completeness or accuracy of the regulatory agency records reviewed. Additionally, in evaluating the property, Krazan has relied in good faith upon representations and information provided by individuals noted in the report with respect to present operations and existing property conditions, and the historic uses of the property. It must also be understood that changing circumstances in the property usage, proposed property usage, subject site zoning, and changes in the environmental status of the other nearby properties can alter the validity of conclusions and information contained in this report. Therefore, the data obtained are clear and accurate only to the degree implied by the sources and methods used.

This report is provided for the exclusive use of the client noted on the cover page and shall be subject to the terms and conditions in the applicable contract between the client and Krazan. Any third party use of this report, shall also be subject to the terms and conditions governing the work in the contract between the client and Krazan. The unauthorized use of, reliance on, or release of the information contained in this report without the express written consent of Krazan is strictly prohibited and will be without risk or liability to Krazan. Conclusions and recommendations contained in this report are based on the evaluation of information made available during the course of this assessment. It is not warranted that such data cannot be superseded by future environmental, legal, geotechnical or technical developments. Consequently, given the possibility for unanticipated hazardous conditions to exist on a subject site which may not have been discovered, this Phase I ESA is not intended as the basis for a buyer or developer of real property to waive their rights of recovery based upon environmental unknowns. Parties that choose to waive rights of recovery prior to site development do so at their own risk.

Parties who seek to rely upon Phase I Environmental Site Assessment reports dated more than 180 days prior to the date of reliance do so at their own risk. This limitation in reliance is based on the potential for physical changes at the site, changes in circumstances, technological and professional advances, and guidance related to the continued viability of Environmental Site Assessment reports, user's responsibilities, and requirements for updating of components of the inquiry as stated in the ASTM Standard E 1527-13.

11.0 QUALIFICATIONS

This Phase I ESA was conducted under the supervision or responsible charge of Krazan's undersigned environmental assessor with oversight from the undersigned environmental professional. The work was conducted in accordance with ASTM E 1527-13, generally accepted industry standards for environmental due diligence in place at the time of the preparation of this report, and Krazan's quality-control policies.

We declare that, to the best of our professional knowledge and belief, we meet the definition of environmental professional as defined in §312.10 of 40 CFR 312 and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

Kenneth R. Sani, REPA No. 872367
Environmental Project Manager

Arthur C. Farkas, REA
Environmental Professional

KRS/ACF/mlt

REFERENCES

Aerial photographs obtained from Environmental Data Resources, Inc. (EDR), and Google Earth™.

American Society for Testing and Materials (ASTM), *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment (ESA) Process*, ASTM Designation: E 1527-13.

ASTM, *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions*, ASTM Designation E 2600-10.

Cordeniz, Mr. Donald, Trustee, the owner of the subject site.

County of Tulare Fire Department (CTFD).

Environmental Data Resources, Inc. (EDR), Sanborn Fire Insurance Maps *Unmapped Property* Report.

Environmental Data Resources, Inc. (EDR), Regulatory Database Report.

State of California Geologic Energy Management Division (CalGEM) Maps Website:

State of California Department of Toxic Substances Control, Envirostor Website: http://www.envirostor.dtsc.ca.gov/public

State of California Regional Water Quality Control Board, Geotracker Website: http://geotracker.swrcb.ca.gov

State of California, Department of Water Resources, *Sustainable Groundwater Management Act (SGMA) Data Viewer, Spring 2018*.

Tulare County Health and Human Service Agency, Environmental Health Division (TCEHD).

Tulare County Resource Management Agency, Building Division (TCBD).

U.S. Environmental Protection Agency (EPA) *Map of Radon Zones*.

U.S. Geological Survey, 7.5 minute Tulare, California topographic quadrangle map, dated 1950, photorevised 1969.

GLOSSARY OF TERMS

Subject Site: The real property being investigated under this Phase I ESA.

Adjacent Properties: Properties which are contiguous with the subject site, or would be contiguous except for a street, road, or other public thoroughfare.

Subject Site Vicinity: Properties located within a 500-foot radius of the subject site.

Environmental Professional: A person meeting the education, training, and experience requirements as set forth in 40 CFR §312.10(b). The EP may be an independent contractor or an employee of the user.

User: The party seeking to use Practice E 1527 to complete an environmental site assessment of the subject site. A user may include, without limitation, a potential purchaser of the subject site, a potential tenant of the subject site, an owner of the subject site, a lender, or a property manager.

Recognized Environmental Condition (REC): In defining a standard of good commercial and customary practice for conducting an environmental site assessment of a parcel of property, the goal of the processes established by this practice is to identify recognized environmental conditions. The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions.

Controlled Recognized Environmental Condition (CREC): A recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). For example, if a leaking underground storage tank has been cleaned up to a commercial use standard, but does not meet unrestricted residential cleanup criteria, this would be considered a CREC. The "control" is represented by the restriction that the property use remain commercial. A condition considered by the environmental professional to be a CREC shall be listed in the findings section of the Phase I ESA report and as an REC in the conclusions section. A condition identified as a CREC does not imply that the environmental professional has evaluated or confirmed the adequacy, implementation, or continued effectiveness of the required control that has been, or is intended to be, implemented.

Historical Recognized Environmental Condition (HREC): 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 criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release an HREC, the environmental professional must determine whether the past release is an REC at the time the Phase I ESA is conducted (for example, if there has been change in the regulatory criteria). If the EP considers the past release to be an REC at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as an REC.

GLOSSARY OF TERMS (continued)

Potential Area of Concern (PAOC): A term adopted to provide an alternative designation to the REC and HREC for a range of environmental issues related to current subject site uses, historical subject site uses, or from adjacent and/or vicinity property uses. The PAOC is utilized to emphasize full disclosure and provide the User with conclusions and recommendations related to potential environmental issues in connection with the subject site based on Krazan's professional experience in cases where official documentation or other evidence may be absent in order to identify an REC or HREC, thereby aiding the User's considerations of environmental due diligence risk tolerance.

Migrate/migration: For the purposes of this practice, "migrate" and "migration" refer to the movement of hazardous substances or petroleum products in any form, including, for example, solid and liquid at the surface or subsurface, and vapor in the subsurface. Vapor migration in the subsurface is described in ASTM E 2600-10 guidance; however, nothing in the E 1527-13 practice should be construed to require application of the E 2600-10 standard to achieve compliance with AAI.

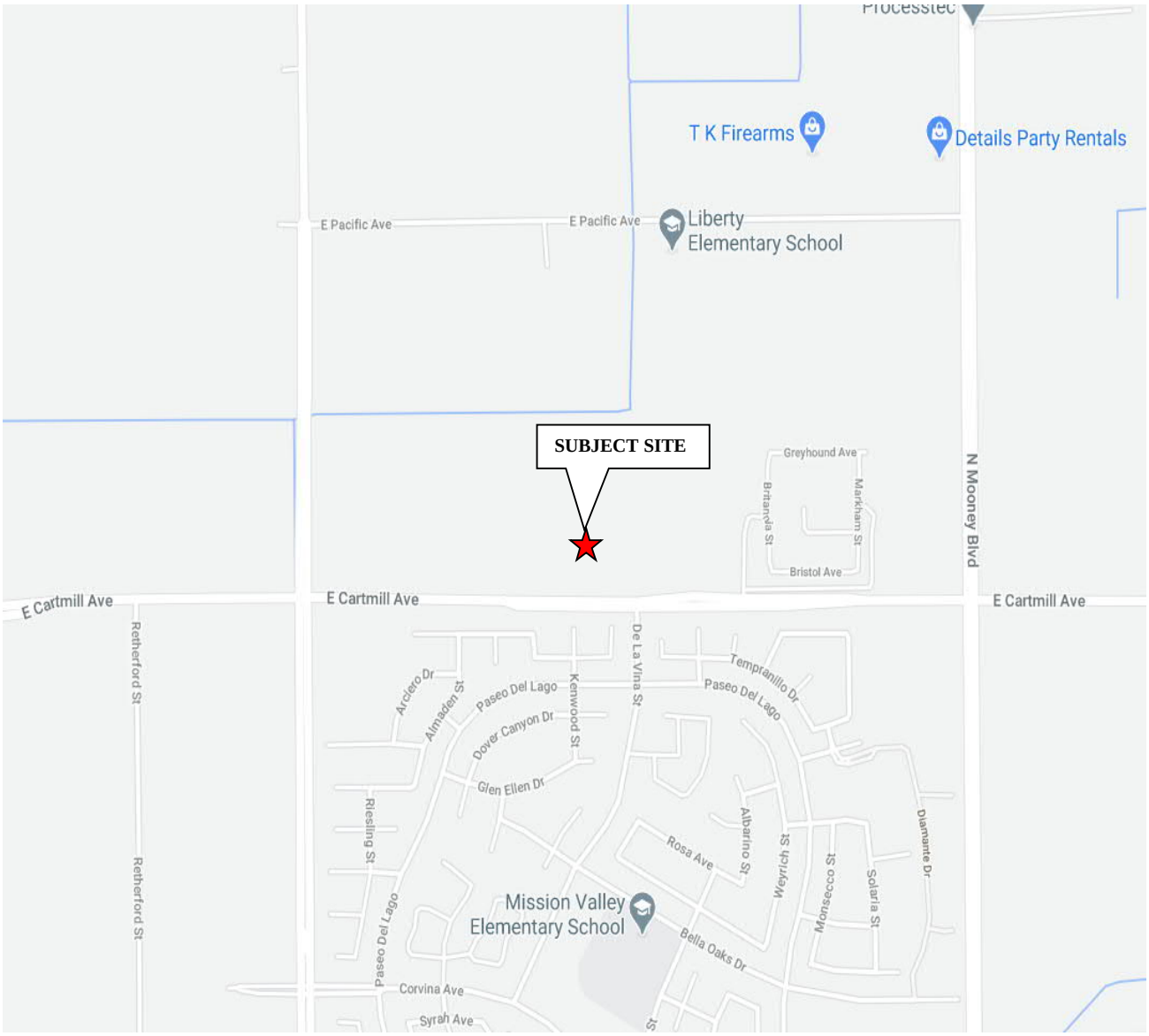
De minimis condition: A condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Condition determined to be *de minimis conditions* are not RECS or CRECs.

Data Gap: A lack of or inability to obtain information required by this practice despite good faith efforts by the Environmental Professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice, including, but not limited to the site reconnaissance and interviews.

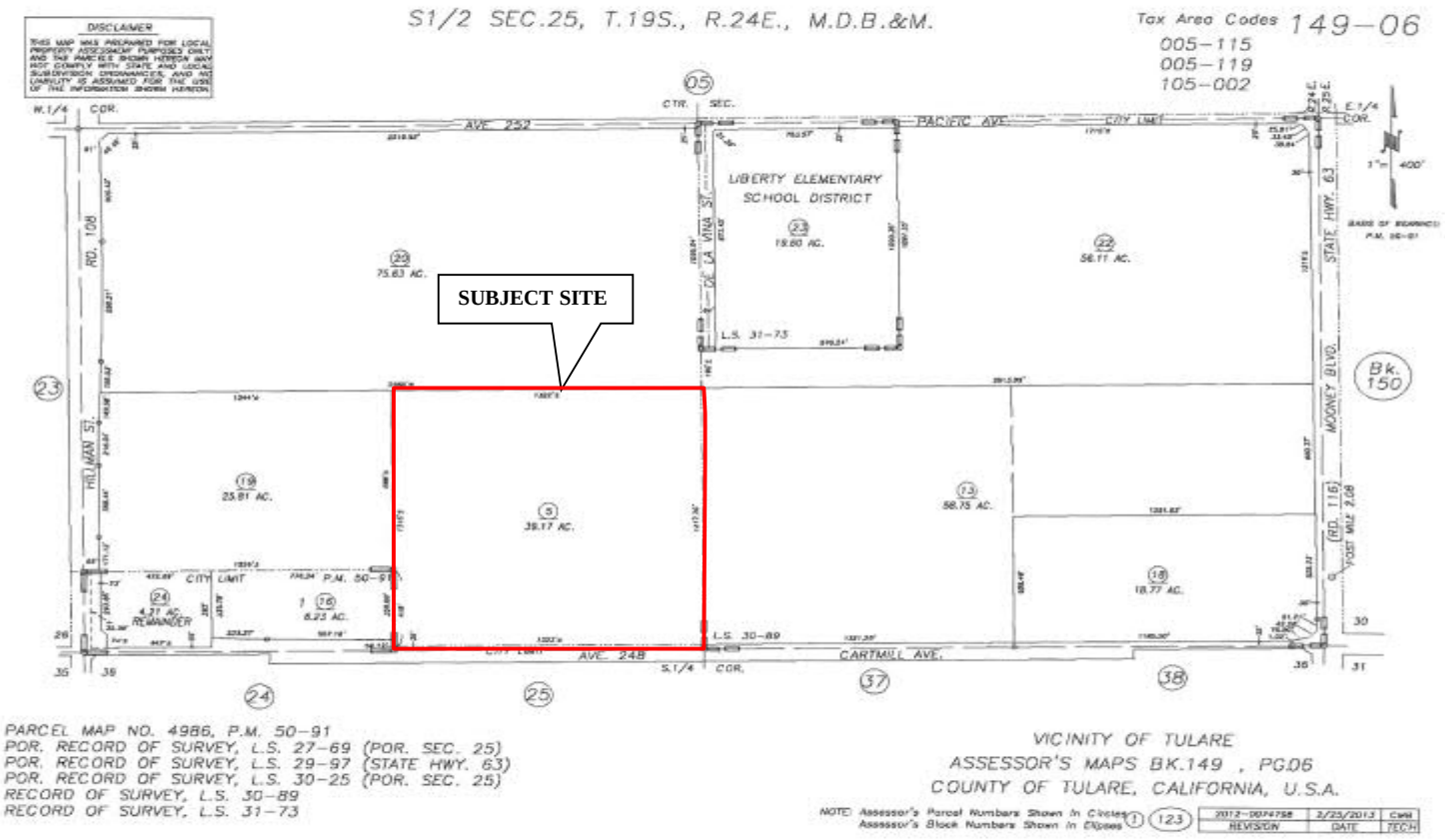
Data Failure: A failure to achieve the historical research objectives even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

GLOSSARY OF TERMS (continued)

AAI	All Appropriate Inquiries
AC	Asphalt Concrete
ACM	Asbestos-Containing Materials
AOC	Area of Concern
APN	Assessor's Parcel Number
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
AS	Air Sparging
AUL	Activity & Use Limitations
bgs	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CESQG	Conditionally Exempt Small Quantity Generator
CFR	Code of Federal Regulations
CMU	Concrete Masonry Unit
COCs	Constituents of Concern
DEULs	Declaration of Environmental Use Restrictions
DOGGR	Division of Oil, Gas & Geothermal Resources (CA)
DTSC	Department of Toxic Substances Control (CA)
EC	Engineering Control
EFS	Environmental FirstSearch
EP	Environmental Professional
EPA	United States Environmental Protection Agency
ERP	Emergency Response Plan
ESA	Environmental Site Assessment
ESL	Environmental Screening Level
FOIA	Freedom of Information Act
GPR	Ground Penetrating Radar
HCCD	Haines Criss-Cross Directory
HFIM	Historical Fire Insurance Map
HMBP	Hazardous Materials Business Plan
HREC	Historical Recognized Environmental Condition
HVAC	Heating, Ventilation, Air Conditioning
IC	Institutional Control
LBP	Lead-Based Paint
LLP	Landowner Liability Protection
LQG	Large Quantity Generator
LUC	Land Use Control
LUST	Leaking Underground Storage Tank
MCL	Maximum Contaminant Level
µg/L	Micrograms Per Liter
mg/kg	Milligrams Per Kilogram
mg/L	Milligrams Per Liter
MSDS	Material Safety Data Sheet
MTBE	Methyl Tertiary Butyl Ether
MFR	Multi-Family Residential
ND	Nondetectable
NFA	No Further Action (letter)
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
O&M	Operations & Maintenance Plan
PAOC	Potential Area of Concern
PCB	Polychlorinated Biphenyl
PCC	Portland Cement Concrete
PCE	Perchloroethylene (Tetrachloroethylene)
PEC	Potential Environmental Concern (TS)
PGD	Polk Guide Directory
PG&E	Pacific Gas & Electric
PHCs	Petroleum Hydrocarbon Constituents
PID	Photoionization Detector
ppb	Parts Per Billion
ppm	Parts Per Million
PRG	Preliminary Remediation Goal
PRP	Potentially Responsible Party
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RP	Responsible Party
RWQCB	Regional Water Quality Control Board (CA)
SBA	Small Business Administration
SFR	Single-Family Residential
SPCC	Spill Prevention Control and Countermeasure Plan
SQG	Small Quantity Generator
SCE	Southern California Edison
SVE	Soil Vapor Extraction
SVOC	Semi-Volatile Organic Compound
SWRCB	State Water Resources Control Board
TCE	Trichloroethylene
TPH	Total Petroleum Hydrocarbons
TPH-D	Total Petroleum Hydrocarbons as Diesel
TPH-G	Total Petroleum Hydrocarbons as Gasoline
TPH-MO	Total Petroleum Hydrocarbons as Motor Oil
TS	Transaction Screen
USGS	United States Geological Survey
USFWS	United States Fish & Wildlife Service
UST	Underground Storage Tank
VEC	Vapor Encroachment Condition
VES	Vapor Encroachment Screening
VOCs	Volatile Organic Compounds



VICINITY MAP	Scale: NTS	Date: March 2021	Krazan SITE DEVELOPMENT ENGINEERS *With Offices Serving the Western United States*
CORDENIZ 37 PROPERTY NORTHWEST OF CARTMILL AVENUE AND DE LA VINA STREET TULARE, CALIFORNIA 93274	**Drawn By:** KS	**Approved by:** KS	
	Project No. 014-21031	**Figure No.** 1	



This map/plat is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.

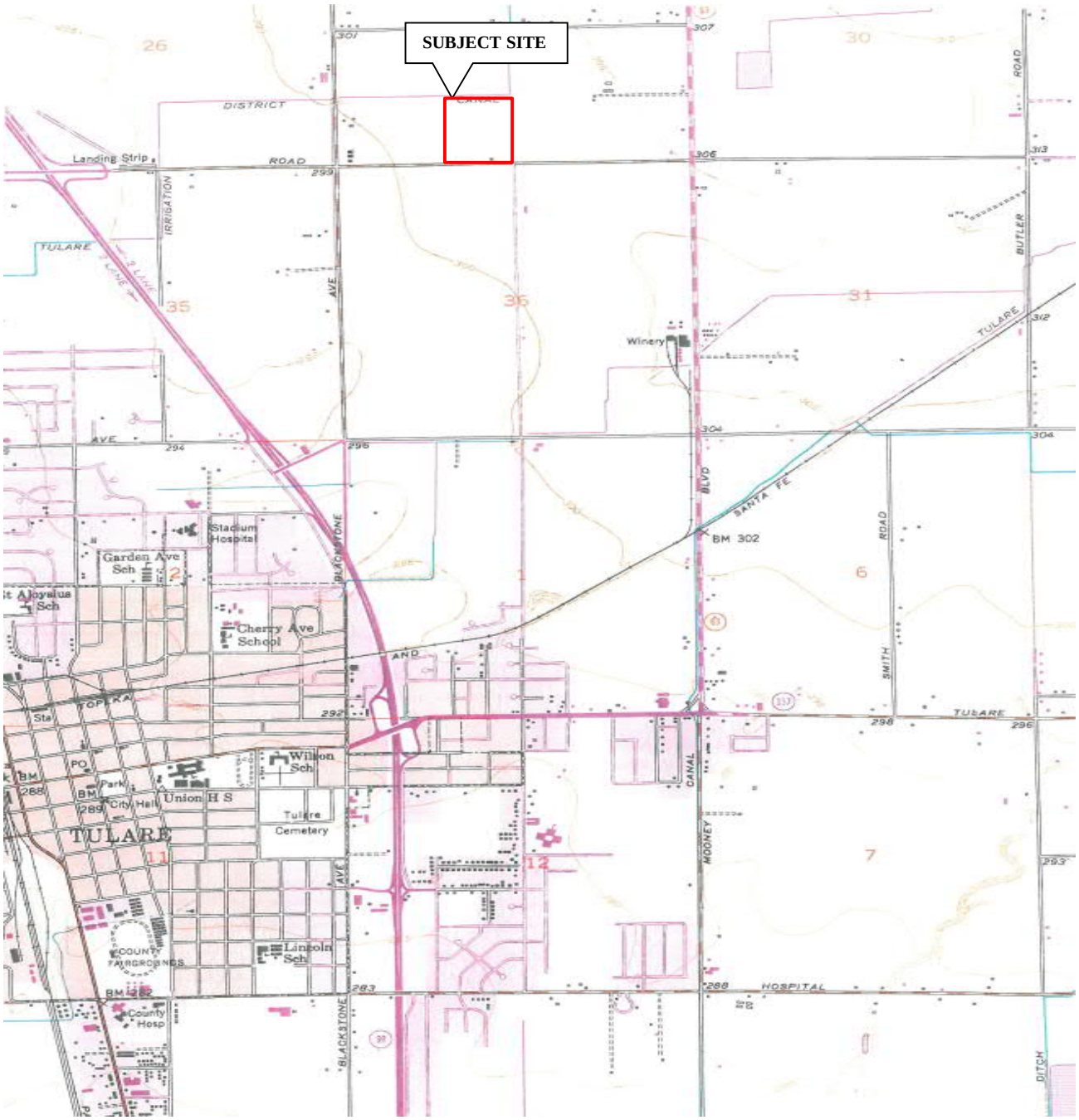
PARCEL MAP	Scale: NTS	Date: March 2021
CORDENIZ 37 PROPERTY NORTHWEST OF CARTMILL AVENUE AND DE LA VINA STREET TULARE, CALIFORNIA 93274	Drawn By: KS	Approved by: KS
	Project No. 014-21031	Figure No. 2

Krazan
SITE DEVELOPMENT ENGINEERS
With Offices Serving the Western United States

= SUBJECT SITE BOUNDARY

= INACTIVE AGRICULTURAL WATER WELL

SITE MAP	**Scale:** NTS	**Date:** March 2021	Krazan **SITE DEVELOPMENT ENGINEERS** *With Offices Serving the Western United States*
CORDENIZ 37 PROPERTY NORTHWEST OF CARTMILL AVENUE AND DE LA VINA STREET TULARE, CALIFORNIA 93274	**Drawn By:** KS	**Approved by:** KS	
	Project No. 014-21031	**Figure No.** 3	



7.5-MINUTE SERIES
USGS TOPOGRAPHIC MAP
TULARE, CALIFORNIA
DATED 1950
PHOTOREVISED 1969

TOPOGRAPHIC MAP	Scale: NTS	Date: March 2021	Krazan
CORDENIZ 37 PROPERTY NORTHWEST OF CARTMILL AVENUE AND DE LA VINA STREET TULARE, CALIFORNIA 93274	Drawn By: KS	Approved by: KS	SITE DEVELOPMENT ENGINEERS *With Offices Serving the Western United States*
	Project No. 014-21031	Figure No. 4	

Photo 1: Northwestern facing view of the subject site from the southeastern corner.

Photo 2: View of the inactive agricultural water well located in the central-southern portion of the subject site.

Photo 3: Northern facing view of the large tree located along De La Vina Street in the northeastern portion of the subject site.

Photo 4: Southwestern facing view of the subject site from the northeastern corner.

Photo 5: Western facing view of the irrigation canal located adjacent to the north of the subject site.

Photo 6: Southern facing view of the central portion of the subject site from the northern boundary.

Appendix A

Phase I ESA User Questionnaire
Cordeniz 37 Property
NW of Cartmill Ave. and De La Vina St.
Tulare, California 93274

Respondent Information:

Name: Mr. Jim Robinson
Date: 3-3-21
Organization: San Joaquin Valley Homes
Phone: 559-804-7419

Introduction

"In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfield Revitalization Act of 2001 (the 'Brownfields Amendments'), the user must provide the following information (if available) to the environmental professional. Failure to provide this information could result in a determination that 'all appropriate inquiry' is not completed"- American Society for Testing and Materials (ASTM) E1527-13 Appendix X3: User Questionnaire

1. Are you aware of any environmental cleanup liens against the subject site that are filed or recorded under federal, tribal, state, or local law?

No.

2. Are you aware of any activity use limitations (AULs) such as engineering controls, land use restrictions, or institutional controls that are in place at the subject site and/or have been filed or recorded in a registry under federal, tribal, state, or local law?

NO

3. As the user of the Phase I Environmental Site Assessment (ESA), do you have any specialized knowledge or experience related to the subject site or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the subject site or an adjacent property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

NO.

4. Does the purchase price being paid for the subject site reasonably reflect the fair market value of the subject site? (Yes) No

   A. If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the subject site?

5. Are you aware of commonly known or reasonably ascertainable information about the subject site that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example:

A. Do you know the past uses of the subject site? If so, briefly explain.

AG & WATER PUMP.

B. Do you know of specific chemicals that are present or once were present at the subject site? If so, briefly explain.

N/A

C. Do you know of spills or other chemical releases that have taken place at the subject site? If so, briefly explain.

NO

D. Do you know of any environmental cleanups that have taken place at the subject site? If so, briefly explain.

NO

6. As the user of the Phase I ESA, based on your knowledge and experience related to the subject site, are there any obvious indicators that point to the presence or likely presence of contamination at the subject site?

NO.

7. What is the reason for preparation of this Phase I ESA? (Property purchase/sale; bank loan; proposed development; etc.)

CONSTRUCT HOMES

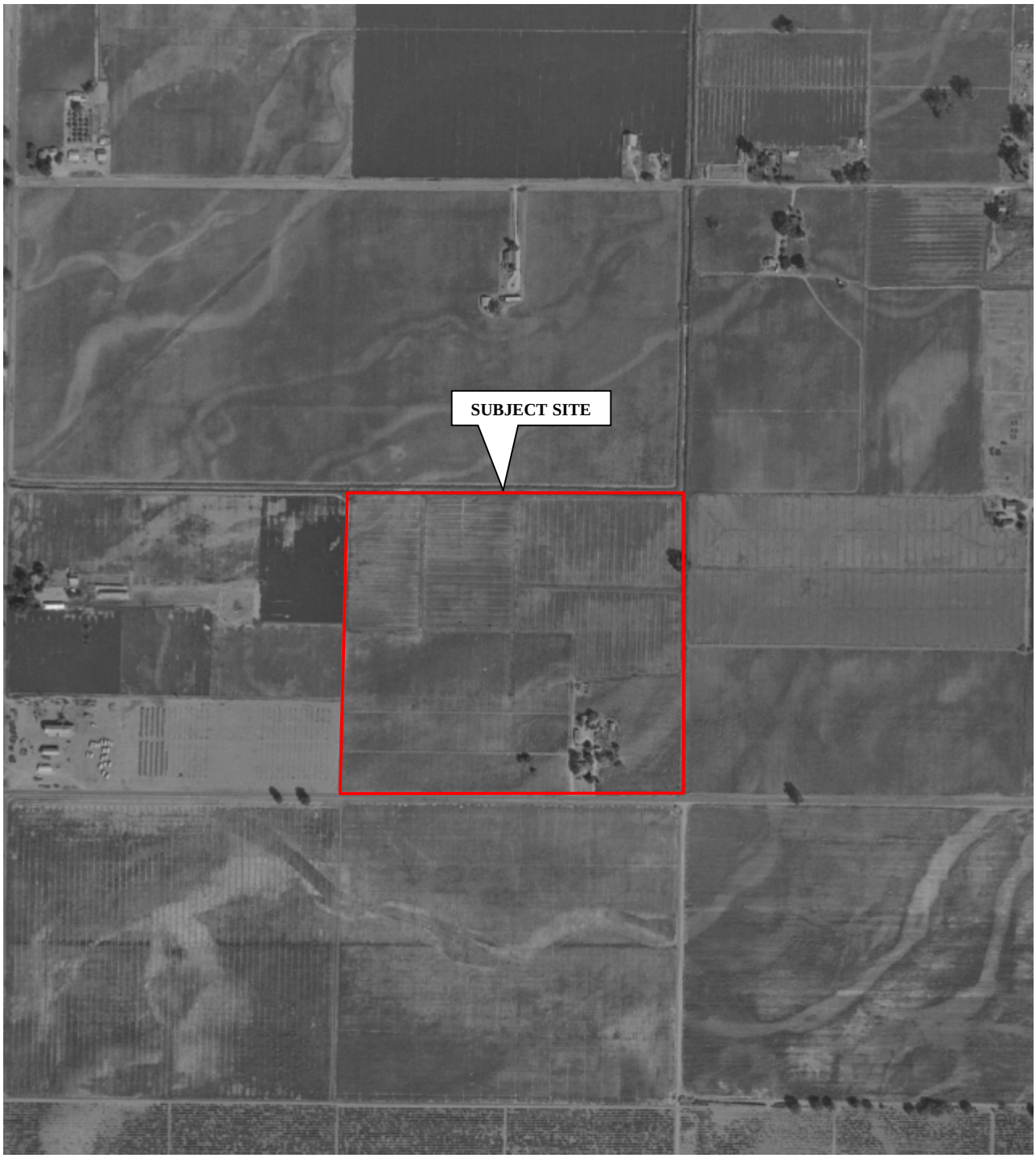
I, the user of this Phase I ESA (or authorized representative of the User), do hereby attest that I have carefully considered the questions herein and have presented answers to the best of my knowledge and ability based upon the Responsibilities of the User as required within ASTM E1527-13 guidance.

Name JM ROBINSON Date 3-3-21
(Please Print)

Signature

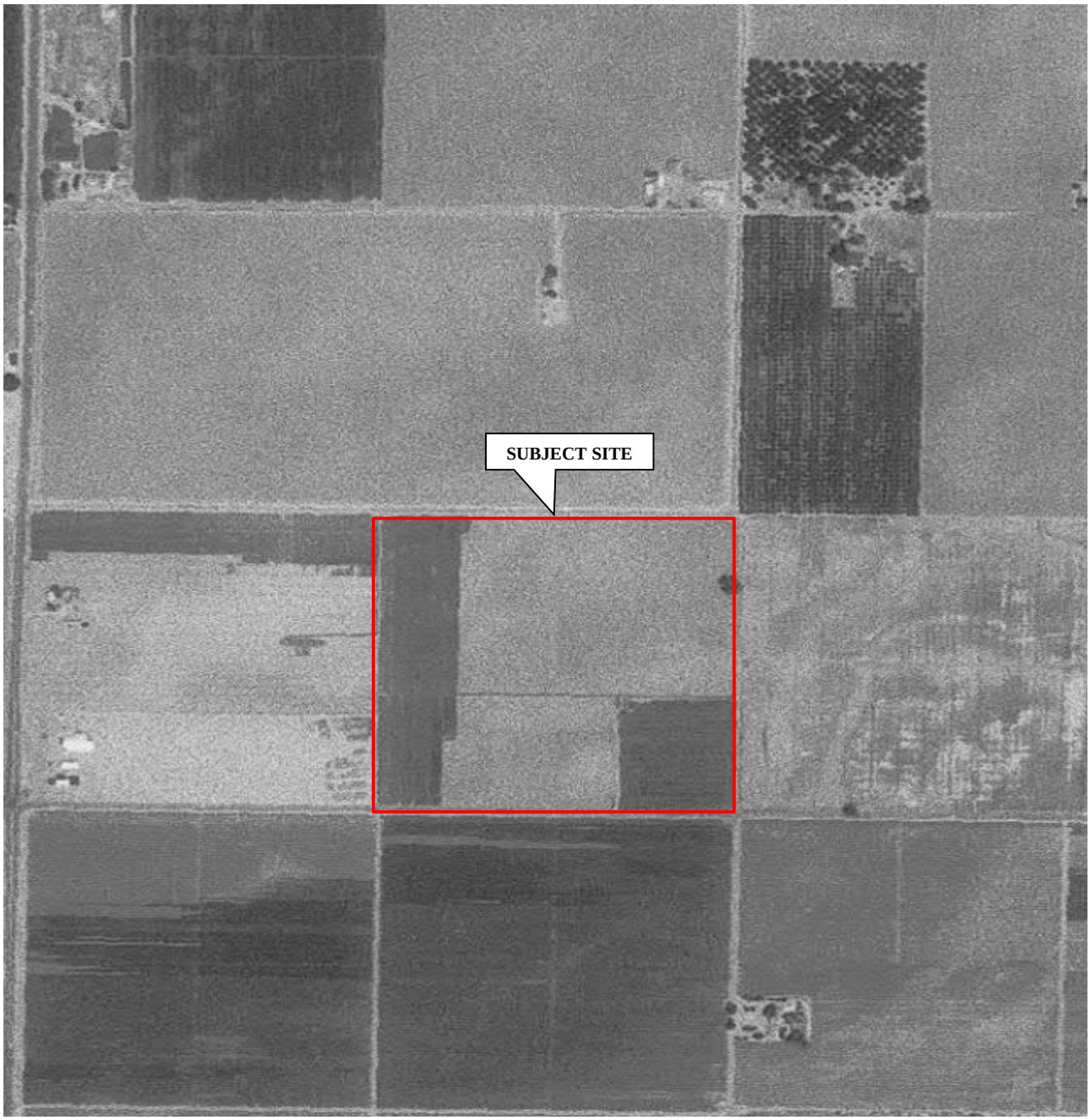
Appendix B

1937 AERIAL PHOTOGRAPH	**Scale:** 1" = 600'	**Date:** March 2021	Krazan **SITE DEVELOPMENT ENGINEERS** *With Offices Serving the Western United States*
CORDENIZ 37 PROPERTY NORTHWEST OF CARTMILL AVENUE AND DE LA VINA STREET TULARE, CALIFORNIA 93274	**Drawn By:** KS	**Approved by:** KS	
	Project No. 014-21031	**Source:** EDR	



1952 AERIAL PHOTOGRAPH **CORDENIZ 37 PROPERTY** **NORTHWEST OF CARTMILL AVENUE AND DE LA VINA STREET** **TULARE, CALIFORNIA 93274**	**Scale:** 1" = 600'	**Date:** March 2021	Krazan **SITE DEVELOPMENT ENGINEERS** ***With Offices Serving the Western United States***
	Drawn By: KS	**Approved by:** KS	
	Project No. 014-21031	**Source:** EDR	

1969 AERIAL PHOTOGRAPH	**Scale:** 1" = 600'	**Date:** March 2021	Krazan **SITE DEVELOPMENT ENGINEERS** *With Offices Serving the Western United States*
CORDENIZ 37 PROPERTY NORTHWEST OF CARTMILL AVENUE AND DE LA VINA STREET TULARE, CALIFORNIA 93274	**Drawn By:** KS	**Approved by:** KS	
	Project No. 014-21031	**Source:** EDR	

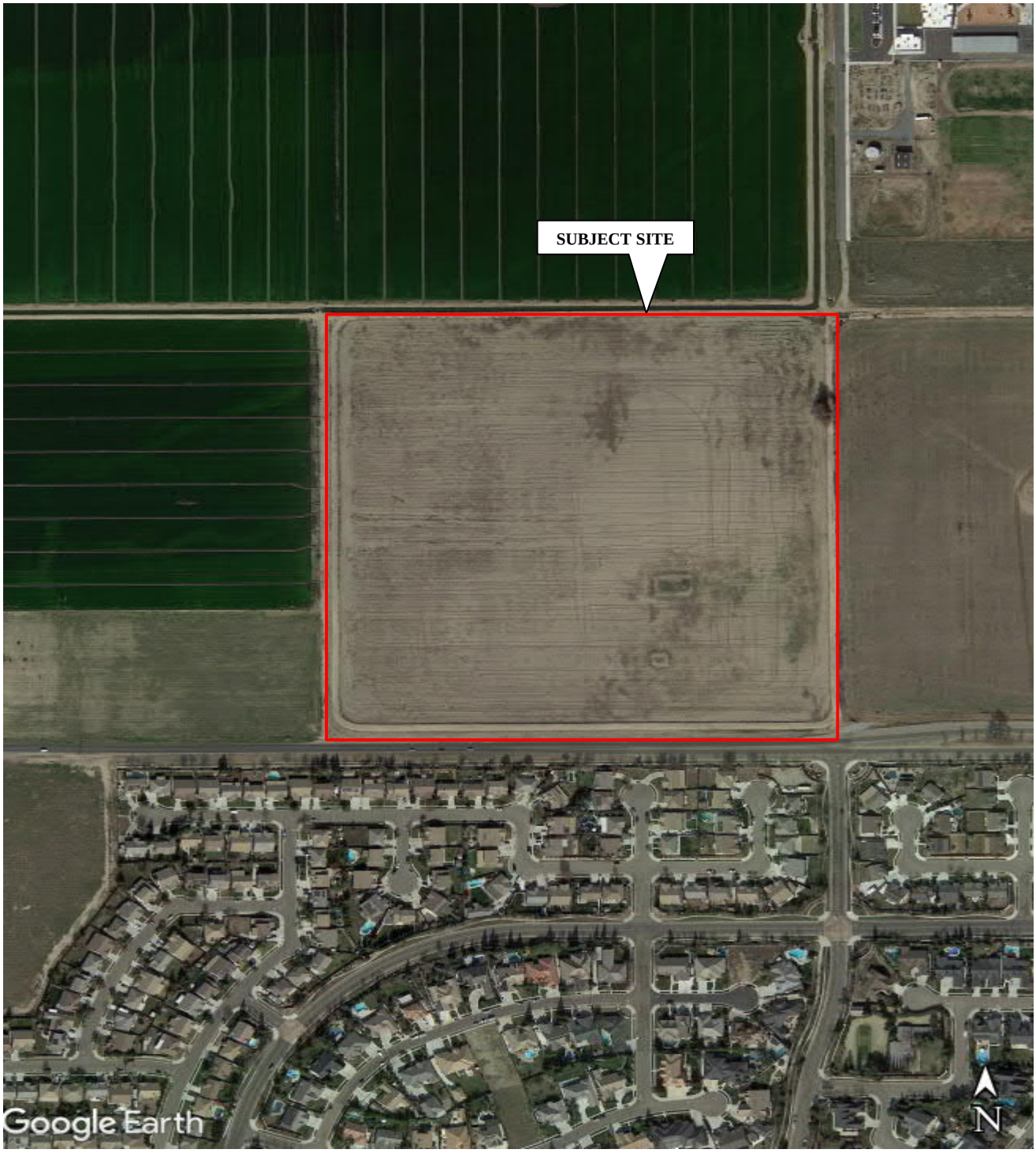


1977 AERIAL PHOTOGRAPH **CORDENIZ 37 PROPERTY** **NORTHWEST OF CARTMILL AVENUE AND DE LA VINA STREET** **TULARE, CALIFORNIA 93274**	**Scale:** 1" = 600'	**Date:** March 2021	Krazan **SITE DEVELOPMENT ENGINEERS** ***With Offices Serving the Western United States***
	Drawn By: KS	**Approved by:** KS	
	Project No. 014-21031	**Source:** EDR	

1984 AERIAL PHOTOGRAPH	**Scale:** 1" = 600'	**Date:** March 2021	Krazan **SITE DEVELOPMENT ENGINEERS** *With Offices Serving the Western United States*
CORDENIZ 37 PROPERTY NORTHWEST OF CARTMILL AVENUE AND DE LA VINA STREET TULARE, CALIFORNIA 93274	**Drawn By:** KS	**Approved by:** KS	
	Project No. 014-21031	**Source:** EDR	

1994 AERIAL PHOTOGRAPH **CORDENIZ 37 PROPERTY** **NORTHWEST OF CARTMILL AVENUE AND DE LA VINA STREET** **TULARE, CALIFORNIA 93274**	**Scale:** 1" = 500'	**Date:** March 2021	Krazan **SITE DEVELOPMENT ENGINEERS** ***With Offices Serving the Western United States***
	Drawn By: KS	**Approved by:** KS	
	Project No. 014-21031	**Source:** Google Earth	

2006 AERIAL PHOTOGRAPH **CORDENIZ 37 PROPERTY** **NORTHWEST OF CARTMILL AVENUE AND DE LA VINA STREET** **TULARE, CALIFORNIA 93274**	**Scale:** 1" = 500'	**Date:** March 2021	Krazan **SITE DEVELOPMENT ENGINEERS** ***With Offices Serving the Western United States***
	Drawn By: KS	**Approved by:** KS	
	Project No. 014-21031	**Source:** Google Earth	



N

2020 AERIAL PHOTOGRAPH **CORDENIZ 37 PROPERTY** **NORTHWEST OF CARTMILL AVENUE AND DE LA VINA STREET** **TULARE, CALIFORNIA 93274**	**Scale:** 1" = 500'	**Date:** March 2021	Krazan **SITE DEVELOPMENT ENGINEERS** ***With Offices Serving the Western United States***
	Drawn By: KS	**Approved by:** KS	
	Project No. 014-21031	**Source:** Google Earth	

Appendix C

Cordeniz 37 Property

NW of Cartmill Ave and De La Vina St

Tulare, CA 93274

Inquiry Number: 6372876.3

February 18, 2021

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

02/18/21

Site Name:

Cordeniz 37 Property
NW of Cartmill Ave and De La '
Tulare, CA 93274
EDR Inquiry # 6372876.3

Client Name:

Krazan & Associates, Inc.
215 West Dakota
Clovis, CA 93612
Contact: Ken Sani

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Krazan & Associates, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # A931-4892-B49B

PO # NA

Project 01421031

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: A931-4892-B49B

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

Krazan & Associates, Inc. (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Appendix D

Cordeniz 37 Property
NW of Cartmill Ave and De La Vina St
Tulare, CA 93274

Inquiry Number: 6372876.2s
February 18, 2021

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

NW OF CARTMILL AVE AND DE LA VINA ST
TULARE, CA 93274

COORDINATES

Latitude (North):	36.2422910 - 36° 14' 32.24''
Longitude (West):	119.3242550 - 119° 19' 27.31''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	291140.7
UTM Y (Meters):	4013126.8
Elevation:	305 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5603226 TULARE, CA
Version Date:	2012
North Map:	5603230 VISALIA, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140618, 20140617
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
NW OF CARTMILL AVE AND DE LA VINA ST
TULARE, CA 93274

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	CITY OF TULARE WATER	KORBEL COURT	CUPA Listings, CERS	Higher	993, 0.188, SSE
2	LIBERTY ELEMENTARY P	PACIFIC AVENUE AND D	ENVIROSTOR, SCH	Higher	1840, 0.348, NNE
3	DEL LAGO SITE	LASPINA STREET/CORVI	ENVIROSTOR, SCH, CERS	Lower	2920, 0.553, SSE
4	CARTMILL AT HIGHWAY	CARTMILL AVENUE AT H	ENVIROSTOR, VCP	Lower	3264, 0.618, West
5	MOORE AVIATION	596 CARTMILL AVENUE	ENVIROSTOR, VCP	Lower	4851, 0.919, West

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System

US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROLS ..... Institutional Controls Sites List

Federal ERNS list

ERNS ..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ..... State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ..... Solid Waste Information System

State and tribal leaking storage tank lists

LUST ..... Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land
CPS-SLIC ..... Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST ..... Underground Storage Tank Listing
UST ..... Active UST Facilities
AST ..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST ..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

VCP ..... Voluntary Cleanup Program Properties
INDIAN VCP ..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS ..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ..... Waste Management Unit Database
SWRCY ..... Recycler Database
HAULERS ..... Registered Waste Tire Haulers Listing
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
ODI ..... Open Dump Inventory
IHS OPEN DUMPS ..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ..... Delisted National Clandestine Laboratory Register

HIST Cal-Sites ---- Historical Calsites Database
SCH ---- School Property Evaluation Program
CDL ---- Clandestine Drug Labs
CERS HAZ WASTE ---- CERS HAZ WASTE
Toxic Pits ---- Toxic Pits Cleanup Act Sites
US CDL ---- National Clandestine Laboratory Register
PFAS ---- PFAS Contamination Site Location Listing

Local Lists of Registered Storage Tanks

SWEEPS UST ---- SWEEPS UST Listing
HIST UST ---- Hazardous Substance Storage Container Database
CA FID UST ---- Facility Inventory Database
CERS TANKS ---- California Environmental Reporting System (CERS) Tanks

Local Land Records

LIENS ---- Environmental Liens Listing
LIENS 2 ---- CERCLA Lien Information
DEED ---- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---- Hazardous Materials Information Reporting System
CHMIRS ---- California Hazardous Material Incident Report System
LDS ---- Land Disposal Sites Listing
MCS ---- Military Cleanup Sites Listing
SPILLS 90 ---- SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR ---- RCRA - Non Generators / No Longer Regulated
FUDS ---- Formerly Used Defense Sites
DOD ---- Department of Defense Sites
SCRD DRYCLEANERS ---- State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ---- Financial Assurance Information
EPA WATCH LIST ---- EPA WATCH LIST
2020 COR ACTION ---- 2020 Corrective Action Program List
TSCA ---- Toxic Substances Control Act
TRIS ---- Toxic Chemical Release Inventory System
SSTS ---- Section 7 Tracking Systems
ROD ---- Records Of Decision
RMP ---- Risk Management Plans
RAATS ---- RCRA Administrative Action Tracking System
PRP ---- Potentially Responsible Parties
PADS ---- PCB Activity Database System
ICIS ---- Integrated Compliance Information System
FTTS ---- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ---- Material Licensing Tracking System
COAL ASH DOE ---- Steam-Electric Plant Operation Data
COAL ASH EPA ---- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---- PCB Transformer Registration Database
RADINFO ---- Radiation Information Database
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing

DOT OPS ---- Incident and Accident Data
CONSENT ---- Superfund (CERCLA) Consent Decrees
INDIAN RESERV ---- Indian Reservations
FUSRAP ---- Formerly Utilized Sites Remedial Action Program
UMTRA ---- Uranium Mill Tailings Sites
LEAD SMELTERS ---- Lead Smelter Sites
US AIRS ---- Aerometric Information Retrieval System Facility Subsystem
US MINES ---- Mines Master Index File
ABANDONED MINES ---- Abandoned Mines
FINDS ---- Facility Index System/Facility Registry System
ECHO ---- Enforcement & Compliance History Information
UXO ---- Unexploded Ordnance Sites
DOCKET HWC ---- Hazardous Waste Compliance Docket Listing
FUELS PROGRAM ---- EPA Fuels Program Registered Listing
CA BOND EXP. PLAN ---- Bond Expenditure Plan
Cortese ---- "Cortese" Hazardous Waste & Substances Sites List
DRYCLEANERS ---- Cleaner Facilities
EMI ---- Emissions Inventory Data
ENF ---- Enforcement Action Listing
Financial Assurance ---- Financial Assurance Information Listing
HAZNET ---- Facility and Manifest Data
ICE ---- ICE
HIST CORTESE ---- Hazardous Waste & Substance Site List
HWP ---- EnviroStor Permitted Facilities Listing
HWT ---- Registered Hazardous Waste Transporter Database
MINES ---- Mines Site Location Listing
MWMP ---- Medical Waste Management Program Listing
NPDES ---- NPDES Permits Listing
PEST LIC ---- Pesticide Regulation Licenses Listing
PROC ---- Certified Processors Database
Notify 65 ---- Proposition 65 Records
UIC ---- UIC Listing
UIC GEO ---- UIC GEO (GEOTRACKER)
WASTEWATER PITS ---- Oil Wastewater Pits Listing
WDS ---- Waste Discharge System
WIP ---- Well Investigation Program Case List
MILITARY PRIV SITES ---- MILITARY PRIV SITES (GEOTRACKER)
PROJECT ---- PROJECT (GEOTRACKER)
WDR ---- Waste Discharge Requirements Listing
CIWQS ---- California Integrated Water Quality System
CERS ---- CERS
NON-CASE INFO ---- NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS ---- OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS ---- PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT ---- SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ ---- Well Stimulation Project (GEOTRACKER)
HWTS ---- Hazardous Waste Tracking System
MINES MRDS ---- Mineral Resources Data System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---- EDR Proprietary Manufactured Gas Plants

EXECUTIVE SUMMARY

EDR Hist Auto---------- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner---------- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 10/26/2020 has revealed that there are 4 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LIBERTY ELEMENTARY P Facility Id: 60001039 Status: No Further Action	***PACIFIC AVENUE AND D***	***NNE 1/4 - 1/2 (0.348 mi.)***	***2***	***11***

Lower Elevation	Address	Direction / Distance	Map ID	Page
DEL LAGO SITE Facility Id: 54010010 Status: No Further Action	***LASPINA STREET/CORVI***	***SSE 1/2 - 1 (0.553 mi.)***	***3***	***14***
CARTMILL AT HIGHWAY	***CARTMILL AVENUE AT H***	***W 1/2 - 1 (0.618 mi.)***	***4***	***18***

Facility Id: 60000700
Status: No Further Action

MOORE AVIATION	***596 CARTMILL AVENUE***	***W 1/2 - 1 (0.919 mi.)***	***5***	***21***

Facility Id: 60000853
Status: No Further Action

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

CUPA Listings: A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

A review of the CUPA Listings list, as provided by EDR, has revealed that there is 1 CUPA Listings site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CITY OF TULARE WATER	***KORBEL COURT***	***SSE 1/8 - 1/4 (0.188 mi.)***	***1***	***9***

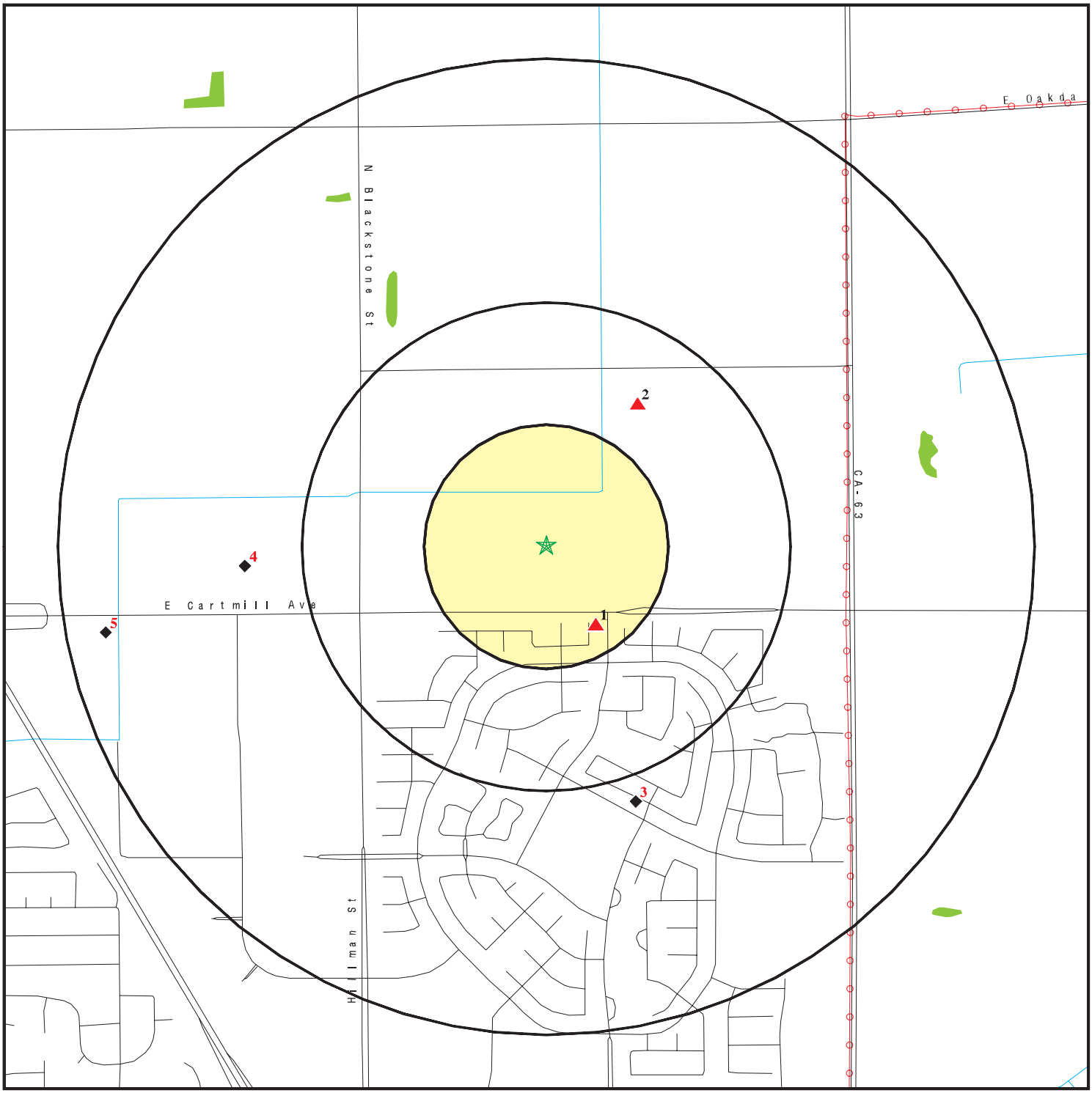
Database: CUPA TULARE, Date of Government Version: 10/30/2020

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 11 records.

Site Name	Database(s)
	CDL
	CDL
	CDL
	CDL
	CDL
	CDL
	CDL
	CDL
	CDL
	CDL
AG COMPOST ASSOCIATES	SWF/LF

OVERVIEW MAP - 6372876.2S



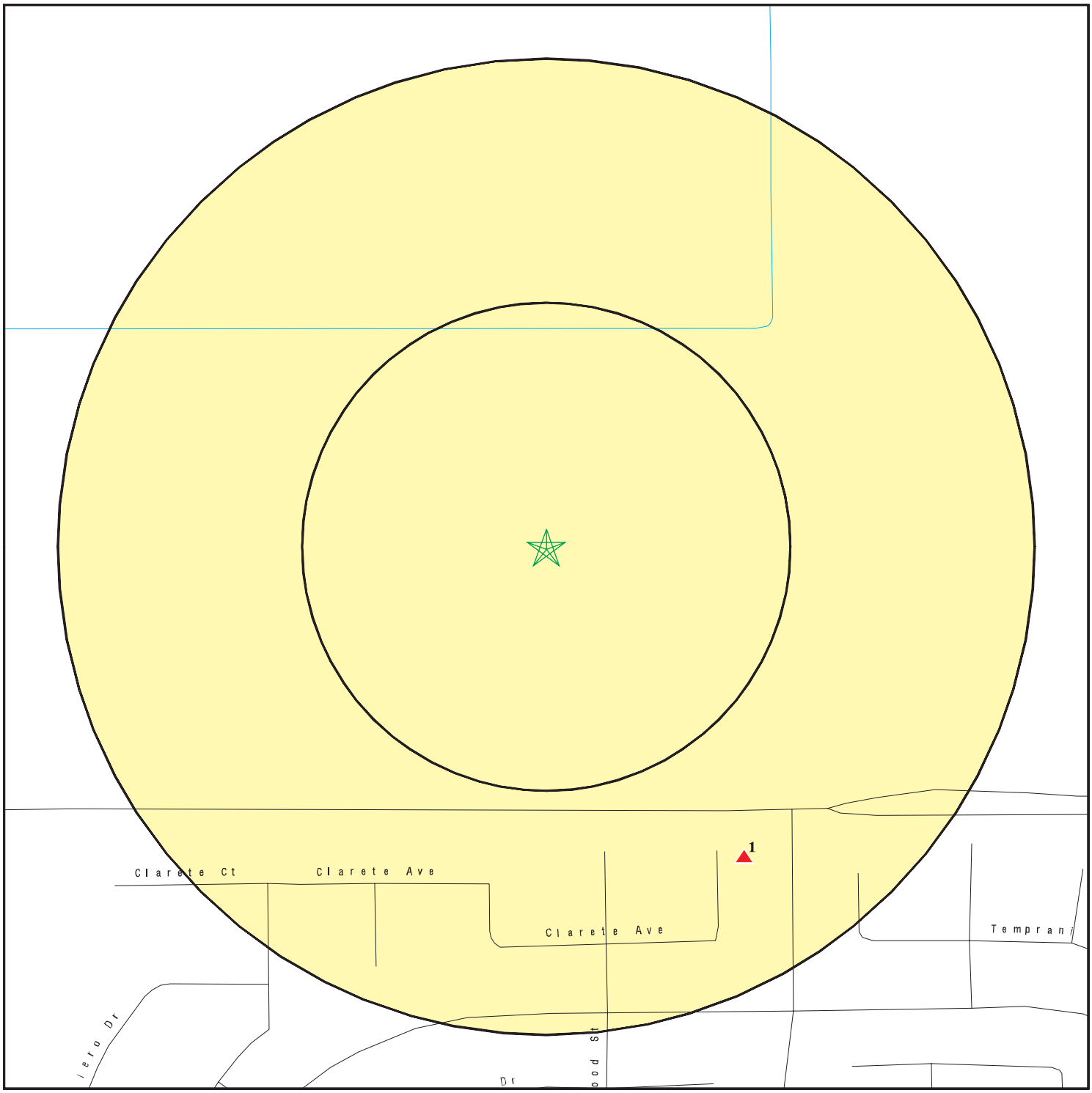
0 1/4 1/2 1 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Cordeniz 37 Property	CLIENT:	Krazan & Associates, Inc.
ADDRESS:	NW of Cartmill Ave and De La Vina St Tulare CA 93274	CONTACT:	Ken Sani
LAT/LONG:	36.242291 / 119.324255	INQUIRY #:	6372876.2s
		DATE:	February 18, 2021 3:35 pm

DETAIL MAP - 6372876.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Cordeniz 37 Property	CLIENT: Krazan & Associates, Inc.
ADDRESS: NW of Cartmill Ave and De La Vina St Tulare CA 93274	CONTACT: Ken Sani
LAT/LONG: 36.242291 / 119.324255	INQUIRY #: 6372876.2s DATE: February 18, 2021 3:36 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	1	3	NR	4
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	1	NR	NR	NR	1

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
WDR	TP		NR	NR	NR	NR	NR	0
CIWQS	TP		NR	NR	NR	NR	NR	0
CERS	TP		NR	NR	NR	NR	NR	0
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	TP		NR	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
MINES MRDS	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		0	0	1	1	3	0	5

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
SSE
1/8-1/4
0.188 mi.
993 ft.

CITY OF TULARE WATER WELL #36
KORBEL COURT
TULARE, CA 93274

CUPA Listings **S120051341**
CERS **N/A**

Relative:
Higher

Actual:
305 ft.

CUPA TULARE:

Name:	CITY OF TULARE WATER WELL #36
Address:	KORBEL COURT
City,State,Zip:	TULARE, CA 93274
CERS ID:	10604992
Facility ID:	FA1347788
APN:	149-250-042
Latitude:	36.239992069
Longitude:	-119.32244949
PE:	2223
TB Fin Fees Description:	HM - SMALL FACILITY - < 5 CHEMICALS
Current Status:	1
CD Fin billing Status Description:	Active, billable

CERS:

Name:	CITY OF TULARE WATER WELL #36
Address:	KORBEL COURT
City,State,Zip:	TULARE, CA 93274
Site ID:	426500
CERS ID:	10604992
CERS Description:	Chemical Storage Facilities

Evaluation:

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	07-21-2014
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	Tulare County Environmental Health
Eval Program:	HMRRP
Eval Source:	CERS

Affiliation:

Affiliation Type Desc:	CUPA District
Entity Name:	Tulare County Environmental Health
Entity Title:	Not reported
Affiliation Address:	5957 South Mooney Boulevard
Affiliation City:	Visalia
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	93277
Affiliation Phone:	(559) 624-7400

Affiliation Type Desc:	Document Preparer
Entity Name:	JESUS CORTEZ
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

CITY OF TULARE WATER WELL #36 (Continued) **S120051341**

Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	3981 SOUTH K ST
Affiliation City:	TULARE
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	93274
Affiliation Phone:	Not reported

Affiliation Type Desc:	Legal Owner
Entity Name:	City of Tulare
Entity Title:	Not reported
Affiliation Address:	411 E KERN AVE
Affiliation City:	TULARE
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	93274
Affiliation Phone:	(559) 685-2300

Affiliation Type Desc:	Environmental Contact
Entity Name:	TIM DOYLE
Entity Title:	Not reported
Affiliation Address:	3981 SOUTH K ST
Affiliation City:	TULARE
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	93274
Affiliation Phone:	Not reported

Affiliation Type Desc:	Identification Signer
Entity Name:	JESUS CORTEZ
Entity Title:	WATER QUALITY SPECIALIST
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Affiliation Type Desc:	Operator
Entity Name:	TIM DOYLE
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(559) 684-4324

Affiliation Type Desc:	Parent Corporation
Entity Name:	CITY OF TULARE WATER WELL #36
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported

CITY OF TULARE WATER WELL #36 (Continued) **S120051341**

Affiliation Zip: Not reported
Affiliation Phone: Not reported

2
NNE
1/4-1/2
0.348 mi.
1840 ft.

LIBERTY ELEMENTARY PACIFIC AVENUE SITE **ENVIROSTOR** **S109422391**
PACIFIC AVENUE AND DE LA VINA STREET **SCH** **N/A**
TULARE, CA 93274

Relative:
Higher

Actual:
307 ft.

ENVIROSTOR:
Name: LIBERTY ELEMENTARY PACIFIC AVENUE SITE
Address: PACIFIC AVENUE AND DE LA VINA STREET
City,State,Zip: TULARE, CA 93274
Facility ID: 60001039
Status: No Further Action
Status Date: 03/30/2010
Site Code: 104663
Site Type: School Investigation
Site Type Detailed: School
Acres: 19.6
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: Mark Malinowski
Division Branch: Northern California Schools & Santa Susana
Assembly: 26
Senate: 16
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 36.24655
Longitude: -119.3209
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: Chlordane DDD DDE DDT Endrin Lead
Confirmed COC: 30004-NO 30013-NO 30006-NO 30007-NO 30008-NO 30010-NO No Contaminants found
Potential Description: SOIL
Alias Name: 104663
Alias Type: Project Code (Site Code)
Alias Name: 60001039
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 06/11/2009
Comments: PM sent comments from Toxicologist to Consultant. All comments can and will be addressed in completing the PEA report.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 03/30/2010

LIBERTY ELEMENTARY PACIFIC AVENUE SITE (Continued) **S109422391**

Comments:	The PEA Report was approved with an NFA determination on 3/30/2010.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Correspondence
Completed Date:	04/26/2011
Comments:	Sent 1st collection letter to district
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	03/04/2009
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	CEQA - Initial Study/ Mitigated Neg. Dec. (MND)
Completed Date:	04/08/2010
Comments:	DTSC reviewed the IS/MND for the Liberty ES school site for compliance with Education Code requirements for investigation and cleanup. The DTSC PM reviewed the document and found it to be in compliance with Education Code requirements based on completion of a PEA (with an NFA determination). The review letter was copied to CDE and OPEA. See uploaded letter and e-mail.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	04/21/2010
Comments:	DTSC sent a CRU to the accounting unit to summarize costs associated with the PEA
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

SCH:

Name:	LIBERTY ELEMENTARY PACIFIC AVENUE SITE
Address:	PACIFIC AVENUE AND DE LA VINA STREET
City,State,Zip:	TULARE, CA 93274
Facility ID:	60001039
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	19.6
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported

LIBERTY ELEMENTARY PACIFIC AVENUE SITE (Continued) **S109422391**

Supervisor:	Mark Malinowski
Division Branch:	Northern California Schools & Santa Susana
Site Code:	104663
Assembly:	26
Senate:	16
Special Program Status:	Not reported
Status:	No Further Action
Status Date:	03/30/2010
Restricted Use:	NO
Funding:	School District
Latitude:	36.24655
Longitude:	-119.3209
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ROW CROPS
Potential COC:	Chlordane, Chlordane, DDD, DDE, DDT, Endrin, Lead
Confirmed COC:	30004-NO, 30013-NO, 30006-NO, 30007-NO, 30008-NO, 30010-NO, No Contaminants found
Potential Description:	SOIL
Alias Name:	104663
Alias Type:	Project Code (Site Code)
Alias Name:	60001039
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Workplan
Completed Date:	06/11/2009
Comments:	PM sent comments from Toxicologist to Consultant. All comments can and will be addressed in completing the PEA report.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	03/30/2010
Comments:	The PEA Report was approved with an NFA determination on 3/30/2010.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Correspondence
Completed Date:	04/26/2011
Comments:	Sent 1st collection letter to district

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	03/04/2009
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	CEQA - Initial Study/ Mitigated Neg. Dec. (MND)
Completed Date:	04/08/2010
Comments:	DTSC reviewed the IS/MND for the Liberty ES school site for compliance with Education Code requirements for investigation and cleanup. The DTSC PM reviewed the document and found it to be in compliance with Education Code requirements based on completion of a PEA (with an NFA determination). The review letter was copied to CDE

LIBERTY ELEMENTARY PACIFIC AVENUE SITE (Continued) **S109422391**

and OPEA. See uploaded letter and e-mail.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	04/21/2010
Comments:	DTSC sent a CRU to the accounting unit to summarize costs associated with the PEA
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

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3 **DEL LAGO SITE** **ENVIROSTOR** **S105629016**
SSE **LASPINA STREET/CORVINA AVENUE** **SCH** **N/A**
1/2-1 **TULARE, CA 93274** **CERS**
0.553 mi.
2920 ft.

Relative: **Lower**

Actual: **304 ft.**

ENVIROSTOR:

Name:	DEL LAGO SITE
Address:	LASPINA STREET/CORVINA AVENUE
City,State,Zip:	TULARE, CA 93274
Facility ID:	54010010
Status:	No Further Action
Status Date:	04/23/2002
Site Code:	104198
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	16
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Juan Koponen
Division Branch:	Northern California Schools & Santa Susana
Assembly:	26
Senate:	16
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	36.23472
Longitude:	-119.3209
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ROW CROPS
Potential COC:	Arsenic Chlordane DDD DDE DDT Lead
Confirmed COC:	30001-NO 30004-NO 30006-NO 30007-NO 30008-NO 30013-NO
Potential Description:	SOIL
Alias Name:	DEL LAGO SITE
Alias Type:	Alternate Name
Alias Name:	TULARE CITY SCHOOL DISTRICT

DEL LAGO SITE (Continued) **S105629016**

Alias Type: Alternate Name
Alias Name: TULARE CITY SD-DEL LAGO PROPERTY
Alias Type: Alternate Name
Alias Name: 104198
Alias Type: Project Code (Site Code)
Alias Name: 54010010
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 04/17/2001
Comments: DTSC entered into an Environmental Oversight Agreement (Docket Number HSA-A 00/01-226) with Tulare City School District to provide oversight for a Preliminary Endangerment Assessment for the proposed Del Lago School Site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Public Participation
Completed Date: 04/19/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 04/30/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 03/13/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 04/23/2002
Comments: DTSC approved the Preliminary Endangerment Assessment (PEA). Based on the information presented in the PEA, neither an actual a potential release of hazardous material, nor the presence of naturally occurring hazardous material indicated at the site pose threat to human health or the environment under any land use. Therefore, DTSC concurred that no further environmental investigation or cleanup was required at this site, and approved the PEA.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 01/18/2001
Comments: Phase 1 - Pursuant to an agreement between the Department of Toxic Substances Control (DTSC) and the California Department of Education, DTSC's Site Mitigation Program completed a review of a Phase 1 Environmental Assessment and has made a PEA required determination for this Site.

DEL LAGO SITE (Continued) **S105629016**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	* Workplan
Completed Date:	07/11/2001
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

SCH:

Name:	DEL LAGO SITE
Address:	LASPINA STREET/CORVINA AVENUE
City,State,Zip:	TULARE, CA 93274
Facility ID:	54010010
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	16
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	Juan Koponen
Division Branch:	Northern California Schools & Santa Susana
Site Code:	104198
Assembly:	26
Senate:	16
Special Program Status:	Not reported
Status:	No Further Action
Status Date:	04/23/2002
Restricted Use:	NO
Funding:	School District
Latitude:	36.23472
Longitude:	-119.3209
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ROW CROPS
Potential COC:	Arsenic, Chlordane, DDD, DDE, DDT, Lead
Confirmed COC:	30001-NO, 30004-NO, 30006-NO, 30007-NO, 30008-NO, 30013-NO
Potential Description:	SOIL
Alias Name:	DEL LAGO SITE
Alias Type:	Alternate Name
Alias Name:	TULARE CITY SCHOOL DISTRICT
Alias Type:	Alternate Name
Alias Name:	TULARE CITY SD-DEL LAGO PROPERTY
Alias Type:	Alternate Name
Alias Name:	104198
Alias Type:	Project Code (Site Code)
Alias Name:	54010010

DEL LAGO SITE (Continued) **S105629016**

Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 04/17/2001
Comments: DTSC entered into an Environmental Oversight Agreement (Docket Number HSA-A 00/01-226) with Tulare City School District to provide oversight for a Preliminary Endangerment Assessment for the proposed Del Lago School Site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Public Participation
Completed Date: 04/19/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 04/30/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 03/13/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 04/23/2002
Comments: DTSC approved the Preliminary Endangerment Assessment (PEA). Based on the information presented in the PEA, neither an actual a potential release of hazardous material, nor the presence of naturally occurring hazardous material indicated at the site pose threat to human health or the environment under any land use. Therefore, DTSC concurred that no further environmental investigation or cleanup was required at this site, and approved the PEA.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 01/18/2001
Comments: Phase 1 - Pursuant to an agreement between the Department of Toxic Substances Control (DTSC) and the California Department of Education, DTSC's Site Mitigation Program completed a review of a Phase 1 Environmental Assessment and has made a PEA required determination for this Site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Workplan
Completed Date: 07/11/2001
Comments: Not reported

DEL LAGO SITE (Continued) **S105629016**

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

CERS:

Name:	DEL LAGO SITE
Address:	LASPINA STREET/CORVINA AVENUE
City,State,Zip:	TULARE, CA 93274
Site ID:	336653
CERS ID:	54010010
CERS Description:	School Investigation

Affiliation:

Affiliation Type Desc:	Supervisor
Entity Name:	JUAN KOPONEN
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

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4 **CARTMILL AT HIGHWAY 99** **ENVIROSTOR** **S108936119**
West **CARTMILL AVENUE AT HIGHWAY 99** **VCP** **N/A**
1/2-1 **TULARE, CA 93274**
0.618 mi.
3264 ft.

Relative:
Lower

Actual:
301 ft.

ENVIROSTOR:

Name:	CARTMILL AT HIGHWAY 99
Address:	CARTMILL AVENUE AT HIGHWAY 99
City,State,Zip:	TULARE, CA 93274
Facility ID:	60000700
Status:	No Further Action
Status Date:	08/05/2008
Site Code:	101855
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	130
NPL:	NO
Regulatory Agencies:	SMBRP, TULARE COUNTY
Lead Agency:	SMBRP
Program Manager:	Joseph Ernest
Supervisor:	Kevin Shaddy
Division Branch:	Cleanup San Joaquin
Assembly:	26
Senate:	16
Special Program:	Voluntary Cleanup Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED

CARTMILL AT HIGHWAY 99 (Continued) **S108936119**

Funding: Responsible Party
Latitude: 36.24172
Longitude: -119.3353
APN: NONE SPECIFIED
Past Use: AIRCRAFT MAINTENANCE, AIRFIELD OPERATIONS, FUEL - AIRCRAFT STORAGE/ REFUELING, MACHINE SHOP, MAINTENANCE / CLEANING, OFFICE BUILDING, PESTICIDE/INSECTIDE/RODENTICIDE STORAGE
Potential COC: Benzene Chlordane DDD DDE DDT Toxaphene TPH-diesel TPH-gas TPH-MOTOR OIL
Confirmed COC: TPH-diesel TPH-gas TPH-MOTOR OIL Toxaphene Chlordane
Potential Description: SOIL, SV
Alias Name: 110033618510
Alias Type: EPA (FRS #)
Alias Name: 101855
Alias Type: Project Code (Site Code)
Alias Name: 60000700
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Standard Voluntary Agreement
Completed Date: 02/25/2008
Comments: EHA chose to terminate the VCA and proceed with remediation without DTSC involvement. Upon completion of RAW, EHA returned to the VCA>

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement Termination Notification
Completed Date: 01/03/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 09/04/2008
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

VCP:
Name: CARTMILL AT HIGHWAY 99
Address: CARTMILL AVENUE AT HIGHWAY 99
City,State,Zip: TULARE, CA 93274
Facility ID: 60000700
Site Type: Voluntary Cleanup
Site Type Detail: Voluntary Cleanup
Site Mgmt. Req.: NONE SPECIFIED
Acres: 130

CARTMILL AT HIGHWAY 99 (Continued) **S108936119**

National Priorities List: NO
Cleanup Oversight Agencies: SMBRP, TULARE COUNTY
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Joseph Ernest
Supervisor: Kevin Shaddy
Division Branch: Cleanup San Joaquin
Site Code: 101855
Assembly: 26
Senate: 16
Special Programs Code: Voluntary Cleanup Program
Status: No Further Action
Status Date: 08/05/2008
Restricted Use: NO
Funding: Responsible Party
Lat/Long: 36.24172 / -119.3353
APN: NONE SPECIFIED
Past Use: AIRCRAFT MAINTENANCE, AIRFIELD OPERATIONS, FUEL - AIRCRAFT STORAGE/ REFUELING, MACHINE SHOP, MAINTENANCE / CLEANING, OFFICE BUILDING, PESTICIDE/INSECTIDE/RODENTICIDE STORAGE
Potential COC: 30003, 30004, 30006, 30007, 30008, 30023, 30024, 30025, 3002502
Confirmed COC: 30024,30025,3002502,30023,30004
Potential Description: SOIL, SV
Alias Name: 110033618510
Alias Type: EPA (FRS #)
Alias Name: 101855
Alias Type: Project Code (Site Code)
Alias Name: 60000700
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Standard Voluntary Agreement
Completed Date: 02/25/2008
Comments: EHA chose to terminate the VCA and proceed with remediation without DTSC involvement. Upon completion of RAW, EHA returned to the VCA>

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement Termination Notification
Completed Date: 01/03/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 09/04/2008
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported

CARTMILL AT HIGHWAY 99 (Continued) **S108936119**

Schedule Revised Date: Not reported

5
West
1/2-1
0.919 mi.
4851 ft.

MOORE AVIATION
596 CARTMILL AVENUE
TULARE, CA 93274

ENVIROSTOR **S109034348**
VCP **N/A**

Relative:
Lower

Actual:
299 ft.

ENVIROSTOR:

Name:	MOORE AVIATION
Address:	596 CARTMILL AVENUE
City,State,Zip:	TULARE, CA 93274
Facility ID:	60000853
Status:	No Further Action
Status Date:	07/19/2010
Site Code:	101935
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	0.73
NPL:	NO
Regulatory Agencies:	SMBRP, TULARE COUNTY
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Kevin Shaddy
Division Branch:	Cleanup San Joaquin
Assembly:	26
Senate:	16
Special Program:	Voluntary Cleanup Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	CalMortgage
Latitude:	36.23975
Longitude:	-119.3404
APN:	166-010-05
Past Use:	PESTICIDE/INSECTIDE/RODENTICIDE STORAGE
Potential COC:	Arsenic Chlordane DDD DDE DDT Endrin TPH-gas TPH-MOTOR OIL Dieldrin
Confirmed COC:	Dieldrin 30025-NO 3002502-NO 30001-NO Chlordane DDD DDE DDT Endrin
Potential Description:	CSS, SOIL
Alias Name:	166-010-05
Alias Type:	APN
Alias Name:	SLT5FT424517
Alias Type:	GeoTracker Global ID
Alias Name:	101935
Alias Type:	Project Code (Site Code)
Alias Name:	60000853
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Fieldwork
Completed Date:	12/04/2008
Comments:	LFR staff conducted field sampling for pesticides, herbicides, and metals at the Moore Aviation site December 2008. Soil Probe, Inc. installed soil gas monitoring probes throughout the site. Two drums containing oils waste were also overpacked and labelled. Analytical results are pending.

MOORE AVIATION (Continued) **S109034348**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report
Completed Date: 05/12/2009
Comments: DTSC approved the TSI Report effective 5/1/2009.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 04/28/2009
Comments: Form completed

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report
Completed Date: 08/02/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Standard Voluntary Agreement
Completed Date: 06/29/2010
Comments: VCA Signed

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: No Further Action Letter
Completed Date: 07/19/2010
Comments: finished

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Workplan
Completed Date: 11/11/2008
Comments: TSI Work Plan Approved

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

VCP:
Name: MOORE AVIATION
Address: 596 CARTMILL AVENUE
City,State,Zip: TULARE, CA 93274
Facility ID: 60000853
Site Type: Voluntary Cleanup
Site Type Detail: Voluntary Cleanup
Site Mgmt. Req.: NONE SPECIFIED
Acres: 0.73
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP, TULARE COUNTY

MOORE AVIATION (Continued) **S109034348**

Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	Kevin Shaddy
Division Branch:	Cleanup San Joaquin
Site Code:	101935
Assembly:	26
Senate:	16
Special Programs Code:	Voluntary Cleanup Program
Status:	No Further Action
Status Date:	07/19/2010
Restricted Use:	NO
Funding:	CalMortgage
Lat/Long:	36.23975 / -119.3404
APN:	166-010-05
Past Use:	PESTICIDE/INSECTIDE/RODENTICIDE STORAGE
Potential COC:	30001, 30004, 30006, 30007, 30008, 30010, 30025, 3002502, 30207
Confirmed COC:	30207,30025-NO,3002502-NO,30001-NO,30004,30006,30007,30008,30010
Potential Description:	CSS, SOIL
Alias Name:	166-010-05
Alias Type:	APN
Alias Name:	SLT5FT424517
Alias Type:	GeoTracker Global ID
Alias Name:	101935
Alias Type:	Project Code (Site Code)
Alias Name:	60000853
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Fieldwork
Completed Date:	12/04/2008
Comments:	LFR staff conducted field sampling for pesticides, herbicides, and metals at the Moore Aviation site December 2008. Soil Probe, Inc. installed soil gas monitoring probes throughout the site. Two drums containing oils waste were also overpacked and labelled. Analytical results are pending.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Characterization Report
Completed Date:	05/12/2009
Comments:	DTSC approved the TSI Report effective 5/1/2009.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Other Report
Completed Date:	04/28/2009
Comments:	Form completed
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Characterization Report
Completed Date:	08/02/2010
Comments:	Not reported
Completed Area Name:	PROJECT WIDE

MOORE AVIATION (Continued) **S109034348**

Completed Sub Area Name:	Not reported
Completed Document Type:	Standard Voluntary Agreement
Completed Date:	06/29/2010
Comments:	VCA Signed
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	No Further Action Letter
Completed Date:	07/19/2010
Comments:	finished
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Characterization Workplan
Completed Date:	11/11/2008
Comments:	TSI Work Plan Approved
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

Count: 11 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
FOUNTAIN SPRING	S107540037		ON ROAD 256, 100 YARDS SOUTH O	93274	CDL
LINDSAY	S115811882		AVENUE 204, 1/4 MILE WEST OF R	93274	CDL
TULARE	S126984588	AG COMPOST ASSOCIATES	2.5 MILES SW OF ALLENSWORTH	93274	SWF/LF
TULARE	S107540366		ROAD 28, 1/4 MI S OF AVENUE 25	93274	CDL
TULARE	S107540046		ON ROAD 80, 2 MILES SOUTH OF A	93274	CDL
TULARE COUNTY	S107538426		EIGHTH MILE EAST OF 28097 AVEN		CDL
TULARE COUNTY	S107538946		IN ORCHARD, 1/2 MI N OF AVE 8		CDL
TULARE COUNTY	S107540390		REST STOP 2 MI. N OF TIPTPN ON		CDL
TULARE COUNTY	S107540483		ROAD 264 & AVE 100 (E OF TERRA		CDL
TULARE COUNTY	S107540466		ROAD 200, 1/4 MI N OF AVENUE 4		CDL
TULARE COUNTY	S107540437		ROAD 148, NO OF AVENUE 313		CDL

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 12/23/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 11/11/2020
Date Data Arrived at EDR: 11/17/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 84

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/08/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/18/2020
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/18/2020
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/15/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 7

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 10/26/2020
Date Data Arrived at EDR: 10/26/2020
Date Made Active in Reports: 01/13/2021
Number of Days to Update: 79

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/26/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 10/26/2020
Date Data Arrived at EDR: 10/26/2020
Date Made Active in Reports: 01/13/2021
Number of Days to Update: 79

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/26/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/09/2020
Date Data Arrived at EDR: 11/10/2020
Date Made Active in Reports: 01/14/2021
Number of Days to Update: 65

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 02/09/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)
Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/29/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/26/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 78
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/15/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 07/21/2020
Date Data Arrived at EDR: 09/03/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 83

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 09/03/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/03/2020
Number of Days to Update: 86
Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69
Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 12/09/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/03/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/29/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 85

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/26/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 78

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 10/26/2020
Date Data Arrived at EDR: 10/26/2020
Date Made Active in Reports: 01/13/2021
Number of Days to Update: 79

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/26/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Quarterly

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 09/21/2020
Date Data Arrived at EDR: 09/22/2020
Date Made Active in Reports: 12/11/2020
Number of Days to Update: 80

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 09/14/2020
Date Data Arrived at EDR: 09/15/2020
Date Made Active in Reports: 12/10/2020
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/11/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 01/25/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 11/23/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 02/08/2021
Number of Days to Update: 77

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 02/08/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 01/25/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Varies

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 01/29/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 03/18/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 10/26/2020
Date Data Arrived at EDR: 10/26/2020
Date Made Active in Reports: 01/13/2021
Number of Days to Update: 79

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/26/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2019
Date Data Arrived at EDR: 05/28/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 10/19/2020
Date Data Arrived at EDR: 10/19/2020
Date Made Active in Reports: 01/07/2021
Number of Days to Update: 80

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 01/20/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 03/18/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/01/2020
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 05/20/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/06/2020
Number of Days to Update: 78

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing
Aboveground storage tank sites

Date of Government Version: 11/05/2020
Date Data Arrived at EDR: 11/06/2020
Date Made Active in Reports: 01/26/2021
Number of Days to Update: 81

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 02/01/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Varies

CERS TANKS: California Environmental Reporting System (CERS) Tanks
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 10/19/2020
Date Data Arrived at EDR: 10/19/2020
Date Made Active in Reports: 01/07/2021
Number of Days to Update: 80

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 01/20/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Quarterly

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 11/24/2020
Date Data Arrived at EDR: 11/30/2020
Date Made Active in Reports: 02/10/2021
Number of Days to Update: 72

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 11/30/2020
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 02/12/2021
Number of Days to Update: 73

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/20/2020
Date Data Arrived at EDR: 09/22/2020
Date Made Active in Reports: 12/14/2020
Number of Days to Update: 83

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 09/30/2020
Date Data Arrived at EDR: 10/19/2020
Date Made Active in Reports: 01/07/2021
Number of Days to Update: 80

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 01/20/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 09/29/2020
Date Data Arrived at EDR: 11/17/2020
Date Made Active in Reports: 01/25/2021
Number of Days to Update: 69

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 02/17/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 01/15/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/07/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/09/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/21/2020
Date Data Arrived at EDR: 09/22/2020
Date Made Active in Reports: 12/14/2020
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 02/02/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 02/05/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/17/2020
Date Made Active in Reports: 09/10/2020
Number of Days to Update: 85

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/18/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 08/14/2020
Date Made Active in Reports: 11/04/2020
Number of Days to Update: 82

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/02/2021
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 10/19/2020
Date Data Arrived at EDR: 10/19/2020
Date Made Active in Reports: 01/04/2021
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/21/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 11/02/2020
Date Data Arrived at EDR: 11/12/2020
Date Made Active in Reports: 01/25/2021
Number of Days to Update: 74

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 34

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 10/09/2019
Date Data Arrived at EDR: 10/11/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 70

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/08/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/30/2020
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/05/2020
Date Data Arrived at EDR: 08/10/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 59

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 70
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 11/30/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 02/05/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 01/08/2021
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 01/27/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2020
Date Data Arrived at EDR: 10/08/2020
Date Made Active in Reports: 01/04/2021
Number of Days to Update: 88

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 151

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 12/23/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/08/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 02/02/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 11/20/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 01/25/2021
Number of Days to Update: 63

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Semi-Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 11/24/2020
Date Data Arrived at EDR: 11/30/2020
Date Made Active in Reports: 01/25/2021
Number of Days to Update: 56

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 11/24/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/25/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/25/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/16/2020
Date Data Arrived at EDR: 09/17/2020
Date Made Active in Reports: 12/10/2020
Number of Days to Update: 84

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 12/10/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/04/2020
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 01/25/2021
Number of Days to Update: 55

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 07/02/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 77

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 01/15/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 10/03/2020
Date Data Arrived at EDR: 10/06/2020
Date Made Active in Reports: 01/04/2021
Number of Days to Update: 90

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 01/08/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/17/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 11/17/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 11/13/2020
Date Data Arrived at EDR: 11/13/2020
Date Made Active in Reports: 01/25/2021
Number of Days to Update: 73

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/17/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 06/22/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/04/2020
Number of Days to Update: 74

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing

list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 02/12/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 11/17/2020
Date Data Arrived at EDR: 11/18/2020
Date Made Active in Reports: 02/04/2021
Number of Days to Update: 78

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 11/23/2020
Date Data Arrived at EDR: 11/25/2020
Date Made Active in Reports: 02/10/2021
Number of Days to Update: 77

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Annually

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 11/23/2020
Date Data Arrived at EDR: 11/24/2020
Date Made Active in Reports: 02/10/2021
Number of Days to Update: 78

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Varies

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 06/16/2020
Date Made Active in Reports: 08/28/2020
Number of Days to Update: 73

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 12/18/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 10/16/2020
Date Data Arrived at EDR: 10/19/2020
Date Made Active in Reports: 01/07/2021
Number of Days to Update: 80

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 01/20/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 10/13/2020
Date Data Arrived at EDR: 10/14/2020
Date Made Active in Reports: 01/04/2021
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 01/22/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 11/12/2020
Date Data Arrived at EDR: 11/13/2020
Date Made Active in Reports: 01/29/2021
Number of Days to Update: 77
Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 02/08/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 04/15/2020
Date Made Active in Reports: 07/02/2020
Number of Days to Update: 78
Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 01/05/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 11/13/2020
Date Data Arrived at EDR: 11/13/2020
Date Made Active in Reports: 02/01/2021
Number of Days to Update: 80
Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 02/17/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 11/13/2020
Date Data Arrived at EDR: 11/13/2020
Date Made Active in Reports: 02/01/2021
Number of Days to Update: 80
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/17/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 10/05/2020
Date Data Arrived at EDR: 10/06/2020
Date Made Active in Reports: 12/23/2020
Number of Days to Update: 78
Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 01/05/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 10/30/2020
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 02/12/2021
Number of Days to Update: 73
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 11/09/2020
Date Data Arrived at EDR: 11/10/2020
Date Made Active in Reports: 01/27/2021
Number of Days to Update: 78
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 02/09/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 11/30/2020
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 02/12/2021
Number of Days to Update: 73
Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/01/2020
Number of Days to Update: 84
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 12/07/2020
Date Data Arrived at EDR: 12/09/2020
Date Made Active in Reports: 12/10/2020
Number of Days to Update: 1
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 12/07/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/01/2020
Number of Days to Update: 84
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 11/19/2019
Date Data Arrived at EDR: 01/07/2020
Date Made Active in Reports: 03/09/2020
Number of Days to Update: 62
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 01/08/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 02/16/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing

In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/01/2020
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 11/30/2020
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 02/12/2021
Number of Days to Update: 73

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 10/19/2020
Date Data Arrived at EDR: 10/19/2020
Date Made Active in Reports: 01/07/2021
Number of Days to Update: 80

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 01/20/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)
Produced water ponds sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

HWTS: Hazardous Waste Tracking System
DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 10/13/2020
Date Data Arrived at EDR: 10/14/2020
Date Made Active in Reports: 11/03/2020
Number of Days to Update: 20
Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System
Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3
Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 11/25/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

PCS ENF: Enforcement data
No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29
Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 12/30/2020
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

PCS INACTIVE: Listing of Inactive PCS Permits
An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Semi-Annually

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Semi-Annually

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 10/06/2020
Date Made Active in Reports: 12/23/2020
Number of Days to Update: 78

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 10/19/2020
Date Data Arrived at EDR: 10/22/2020
Date Made Active in Reports: 01/12/2021
Number of Days to Update: 82

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 02/01/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 12/30/2020
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 12/15/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 12/24/2020
Number of Days to Update: 8

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 02/16/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 10/19/2020
Date Data Arrived at EDR: 10/22/2020
Date Made Active in Reports: 01/13/2021
Number of Days to Update: 83

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 01/25/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 08/13/2020
Date Made Active in Reports: 10/22/2020
Number of Days to Update: 70

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 01/25/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 10/22/2020
Date Data Arrived at EDR: 11/03/2020
Date Made Active in Reports: 01/20/2021
Number of Days to Update: 78

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 02/08/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 10/02/2020
Date Data Arrived at EDR: 10/06/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 77

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 01/15/2021
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 11/18/2020
Date Data Arrived at EDR: 11/19/2020
Date Made Active in Reports: 02/04/2021
Number of Days to Update: 77

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 02/16/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 10/14/2020
Date Data Arrived at EDR: 10/15/2020
Date Made Active in Reports: 01/05/2021
Number of Days to Update: 82

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 02/16/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Varies

KERN COUNTY:

CUPA KERN: CUPA Facility List
A listing of sites included in the Kern County Hazardous Material Business Plan.

Date of Government Version: 10/29/2020
Date Data Arrived at EDR: 10/30/2020
Date Made Active in Reports: 01/15/2021
Number of Days to Update: 77

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 02/01/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Varies

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 01/19/2021
Date Data Arrived at EDR: 01/21/2021
Date Made Active in Reports: 01/28/2021
Number of Days to Update: 7

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 02/01/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/11/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 76

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 02/16/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 08/13/2020
Date Data Arrived at EDR: 08/13/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 71

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 01/11/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 07/31/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 80

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 02/16/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 12/09/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 10/19/2020
Date Data Arrived at EDR: 10/20/2020
Date Made Active in Reports: 01/12/2021
Number of Days to Update: 84

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 10/09/2020
Date Data Arrived at EDR: 10/09/2020
Date Made Active in Reports: 12/29/2020
Number of Days to Update: 81

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 01/12/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 08/17/2020
Date Made Active in Reports: 11/05/2020
Number of Days to Update: 80

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 01/11/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory

A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 12/18/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills

This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/30/2012
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 42

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 01/15/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory

A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 12/18/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory

A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 12/18/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 07/20/2020
Date Data Arrived at EDR: 10/09/2020
Date Made Active in Reports: 12/29/2020
Number of Days to Update: 81

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 01/12/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/07/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 09/11/2020
Date Data Arrived at EDR: 10/07/2020
Date Made Active in Reports: 12/23/2020
Number of Days to Update: 77

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 72

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 02/16/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 12/21/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/28/2020
Date Data Arrived at EDR: 07/30/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 1

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 01/29/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 11/16/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 02/08/2021
Number of Days to Update: 77

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 11/15/2020
Next Scheduled EDR Contact: 03/08/3021
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 07/13/2020
Date Data Arrived at EDR: 07/15/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 16

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 12/21/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 10/26/2020
Date Data Arrived at EDR: 10/28/2020
Date Made Active in Reports: 01/15/2021
Number of Days to Update: 79

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 01/25/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 09/01/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 01/26/2021
Number of Days to Update: 82

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/01/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 09/01/2020
Date Data Arrived at EDR: 11/06/2020
Date Made Active in Reports: 01/26/2021
Number of Days to Update: 81

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/05/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 09/01/2020
Date Data Arrived at EDR: 11/03/2020
Date Made Active in Reports: 01/21/2021
Number of Days to Update: 79

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/02/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 11/24/2020
Date Data Arrived at EDR: 11/24/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 1

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 10/06/2020
Date Data Arrived at EDR: 10/07/2020
Date Made Active in Reports: 11/03/2020
Number of Days to Update: 27

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/09/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 10/06/2020
Date Data Arrived at EDR: 10/07/2020
Date Made Active in Reports: 11/03/2020
Number of Days to Update: 27
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/09/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/18/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 76
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 12/30/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 02/24/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/17/2020
Number of Days to Update: 78
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 12/30/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 10/30/2020
Date Made Active in Reports: 01/15/2021
Number of Days to Update: 77
Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 02/01/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 11/16/2020
Date Data Arrived at EDR: 11/18/2020
Date Made Active in Reports: 02/04/2021
Number of Days to Update: 78
Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 02/01/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 11/30/2020
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 02/16/2021
Number of Days to Update: 77

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 02/08/2021
Number of Days to Update: 77

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing

A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/14/2020
Date Data Arrived at EDR: 07/16/2020
Date Made Active in Reports: 09/29/2020
Number of Days to Update: 75

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 02/01/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

Date of Government Version: 11/05/2020
Date Data Arrived at EDR: 11/06/2020
Date Made Active in Reports: 01/27/2021
Number of Days to Update: 82

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 02/01/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Varies

LUST SAN FRANCISCO: Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 02/01/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/05/2020
Date Data Arrived at EDR: 11/06/2020
Date Made Active in Reports: 01/26/2021
Number of Days to Update: 81

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 02/01/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 12/09/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 11/12/2020
Date Data Arrived at EDR: 11/13/2020
Date Made Active in Reports: 02/01/2021
Number of Days to Update: 80

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 02/16/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/11/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 02/16/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 11/20/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 02/05/2021
Number of Days to Update: 74

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 02/16/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 01/26/2021
Number of Days to Update: 82

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 02/15/2021
Next Scheduled EDR Contact: 05/16/2021
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 02/16/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 02/16/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 08/25/2020
Date Data Arrived at EDR: 08/26/2020
Date Made Active in Reports: 09/16/2020
Number of Days to Update: 21

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/03/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 12/15/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 12/23/2020
Number of Days to Update: 7

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 09/18/2020
Date Data Arrived at EDR: 09/22/2020
Date Made Active in Reports: 12/14/2020
Number of Days to Update: 83

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 10/06/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 77

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 01/11/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 11/23/2020
Date Data Arrived at EDR: 11/24/2020
Date Made Active in Reports: 02/10/2021
Number of Days to Update: 78

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 08/11/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/26/2020
Number of Days to Update: 75

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 02/01/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 10/14/2020
Date Data Arrived at EDR: 10/15/2020
Date Made Active in Reports: 01/05/2021
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 10/30/2020
Date Data Arrived at EDR: 11/03/2020
Date Made Active in Reports: 01/20/2021
Number of Days to Update: 78

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 02/01/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 09/28/2020
Date Data Arrived at EDR: 10/22/2020
Date Made Active in Reports: 01/12/2021
Number of Days to Update: 82
Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/02/2021
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/21/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 02/08/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 09/28/2020
Date Data Arrived at EDR: 10/22/2020
Date Made Active in Reports: 01/12/2021
Number of Days to Update: 82
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 01/20/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 08/26/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/01/2020
Number of Days to Update: 84
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 12/21/2020
Date Data Arrived at EDR: 12/23/2020
Date Made Active in Reports: 01/04/2021
Number of Days to Update: 12
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 12/20/2020
Next Scheduled EDR Contact: 04/11/2021
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 01/26/2021
Date Data Arrived at EDR: 01/28/2021
Date Made Active in Reports: 02/03/2021
Number of Days to Update: 6

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 01/25/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 10/20/2020
Date Made Active in Reports: 11/02/2020
Number of Days to Update: 13

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 02/12/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 01/08/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/29/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 72

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 01/29/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/11/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 10/02/2019
Date Made Active in Reports: 12/10/2019
Number of Days to Update: 69

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/09/2021
Next Scheduled EDR Contact: 05/31/2021
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 12/03/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CORDENIZ 37 PROPERTY
NW OF CARTMILL AVE AND DE LA VINA ST
TULARE, CA 93274

TARGET PROPERTY COORDINATES

Latitude (North):	36.242291 - 36° 14' 32.25''
Longitude (West):	119.324255 - 119° 19' 27.32''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	291140.7
UTM Y (Meters):	4013126.8
Elevation:	305 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5603226 TULARE, CA
Version Date:	2012
North Map:	5603230 VISALIA, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

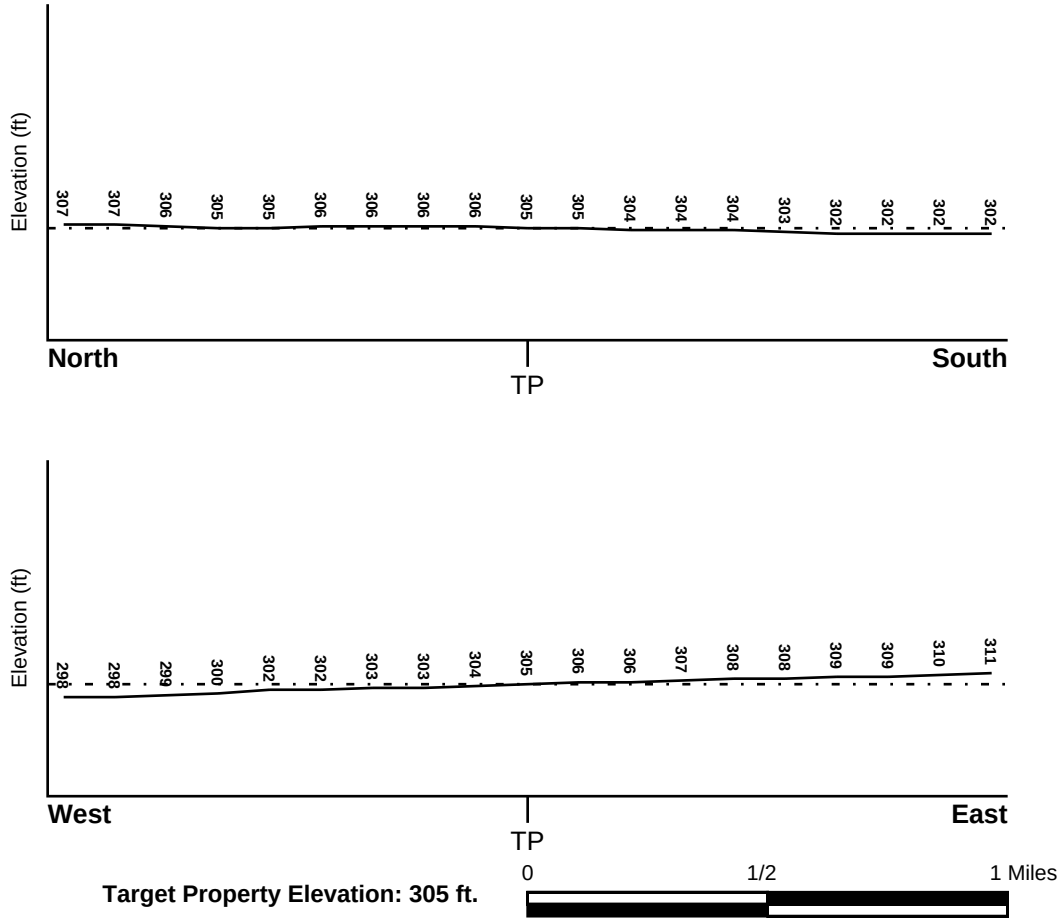
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General WSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06107C1275E	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06107C0945E	FEMA FIRM Flood data
06107C0940E	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
TULARE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

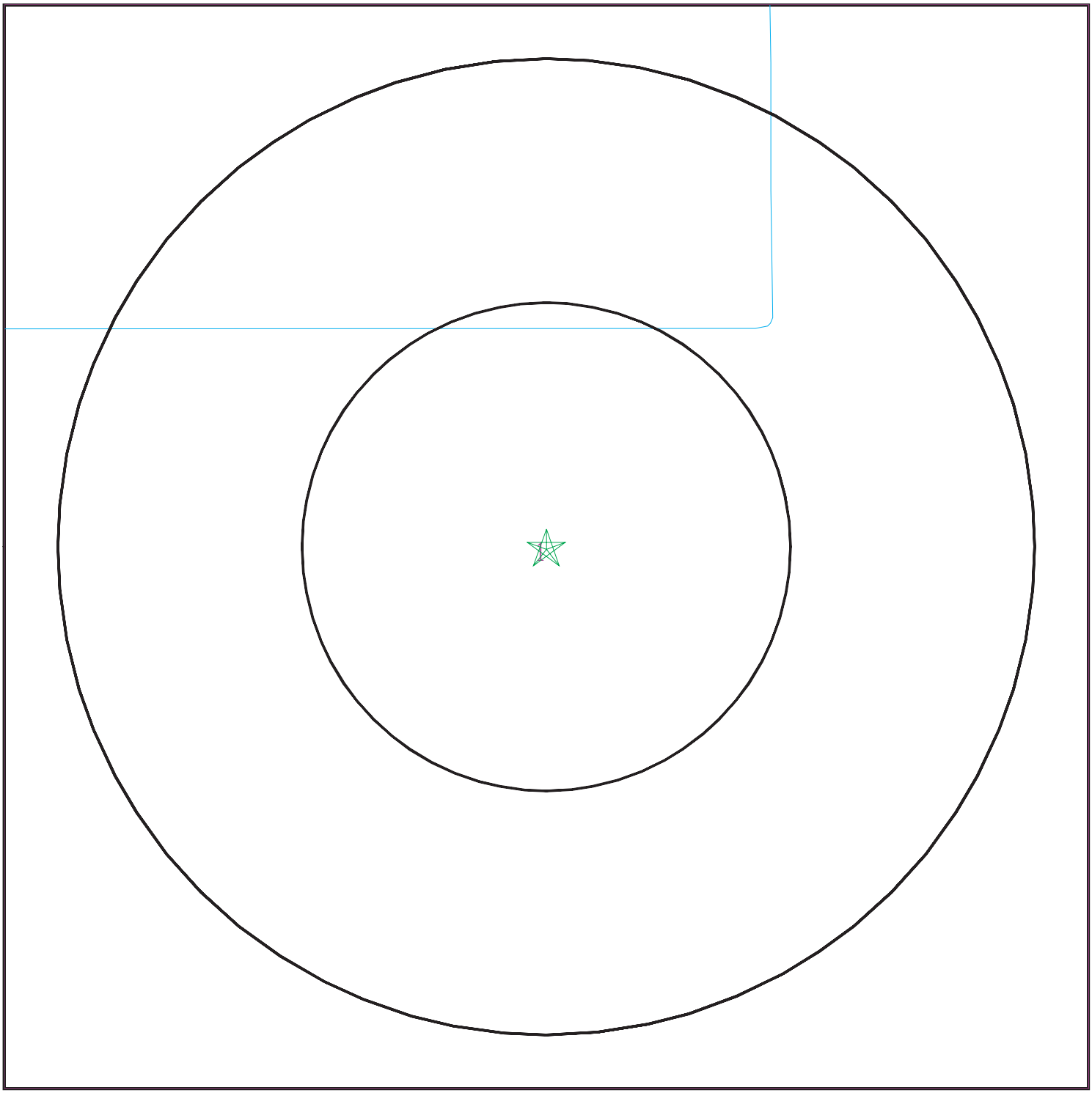
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 6372876.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Cordeniz 37 Property	CLIENT:	Krazan & Associates, Inc.
ADDRESS:	NW of Cartmill Ave and De La Vina St Tulare CA 93274	CONTACT:	Ken Sani
LAT/LONG:	36.242291 / 119.324255	INQUIRY #:	6372876.2s
		DATE:	February 18, 2021 3:37 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Nord

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 4.23	Max: 8.4 Min: 6.6
2	11 inches	38 inches	stratified sandy loam to loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 4.23	Max: 8.4 Min: 6.6
3	38 inches	50 inches	stratified loamy coarse sand to coarse sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 4.23	Max: 8.4 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
4	50 inches	72 inches	stratified sandy loam to silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 4.23	Max: 8.4 Min: 6.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
2	USGS40000171176	0 - 1/8 Mile North
6	USGS40000171163	1/8 - 1/4 Mile East
7	USGS40000171139	1/4 - 1/2 Mile ESE
C10	USGS40000168660	1/2 - 1 Mile NE
C11	USGS40000171236	1/2 - 1 Mile NE
12	USGS40000171194	1/2 - 1 Mile ENE
D15	USGS40000171040	1/2 - 1 Mile SSE
16	USGS40000171294	1/2 - 1 Mile North
21	USGS40000171295	1/2 - 1 Mile NNW
F23	USGS40000171024	1/2 - 1 Mile SSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

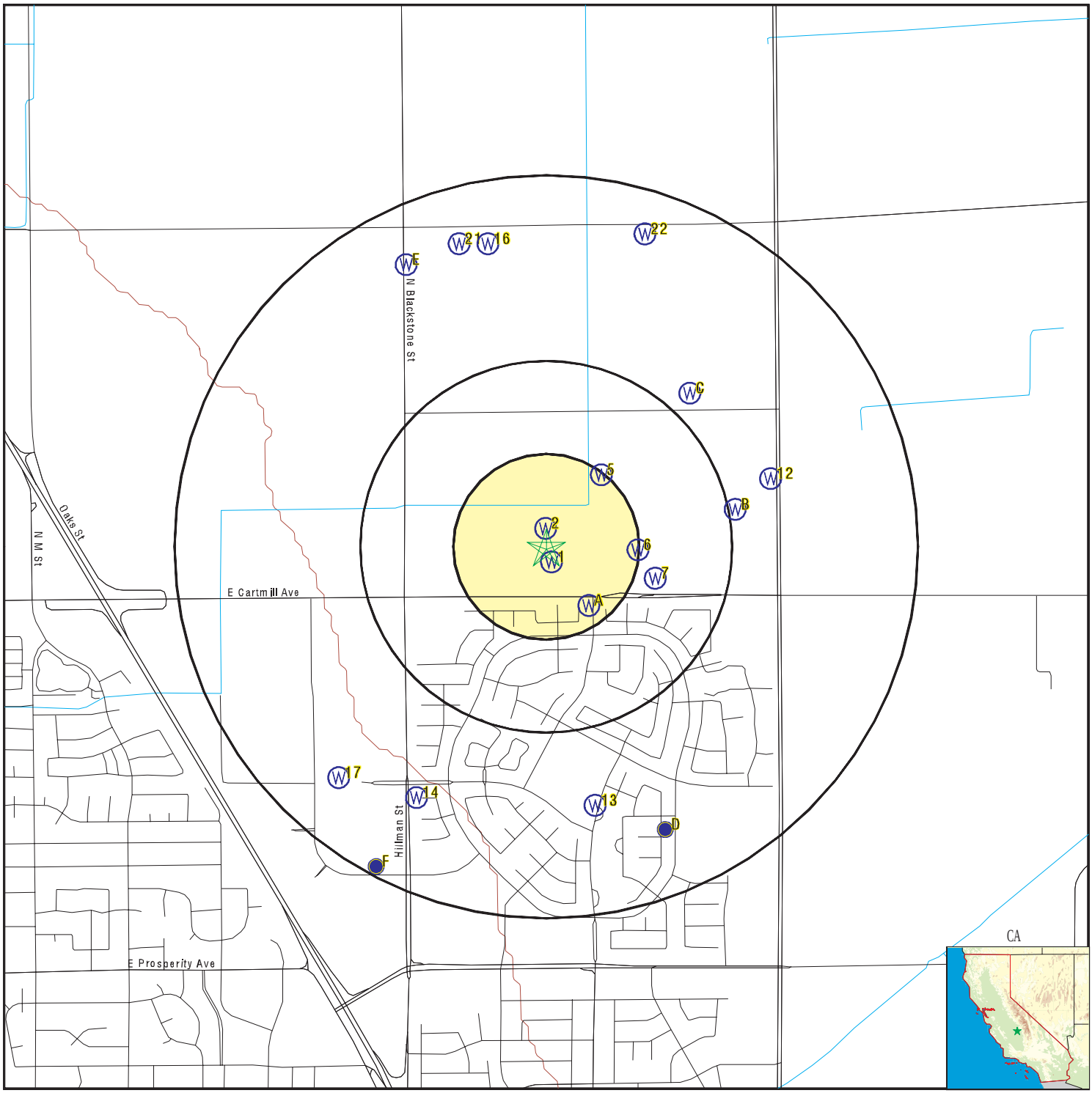
Note: PWS System location is not always the same as well location.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	CADWR8000023945	0 - 1/8 Mile SSE
A3	CADDW0000022156	1/8 - 1/4 Mile SSE
A4	CADWR8000023896	1/8 - 1/4 Mile SE
5	CADDW0000010654	1/8 - 1/4 Mile NE
B8	CADDW0000015769	1/2 - 1 Mile ENE
B9	CADWR8000023952	1/2 - 1 Mile East
13	CADDW0000021465	1/2 - 1 Mile South
14	CADDW0000020151	1/2 - 1 Mile SSW
17	14548	1/2 - 1 Mile SW
D18	CADPR0000000937	1/2 - 1 Mile SSE
E19	CADWR8000024032	1/2 - 1 Mile NNW
E20	CADWR0000005021	1/2 - 1 Mile NNW
22	CAEDF0000000664	1/2 - 1 Mile NNE
F24	CADWR8000023814	1/2 - 1 Mile SSW

PHYSICAL SETTING SOURCE MAP - 6372876.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Cordeniz 37 Property	CLIENT:	Krazan & Associates, Inc.
ADDRESS:	NW of Cartmill Ave and De La Vina St Tulare CA 93274	CONTACT:	Ken Sani
LAT/LONG:	36.242291 / 119.324255	INQUIRY #:	6372876.2s
		DATE:	February 18, 2021 3:37 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
SSE **CA WELLS** **CADWR8000023945**
0 - 1/8 Mile
Higher

State Well #:	19S24E25P001M	Station ID:	39189
Well Name:	Not Reported	Well Use:	Unknown
Well Type:	Unknown	Well Depth:	0
Basin Name:	Kaweah	Well Completion Rpt #:	Not Reported

2
North **FED USGS** **USGS40000171176**
0 - 1/8 Mile
Higher

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	019S024E25N001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	240
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

A3
SSE **CA WELLS** **CADDW0000022156**
1/8 - 1/4 Mile
Higher

Well ID:	5410015-052	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL 36 - RAW	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=5410015-052&store_num=		
GeoTracker Data:	Not Reported		

A4
SE **CA WELLS** **CADWR8000023896**
1/8 - 1/4 Mile
Higher

State Well #:	19S24E36C001M	Station ID:	17300
Well Name:	19S24E36C001M	Well Use:	Unknown
Well Type:	Single Well	Well Depth:	0
Basin Name:	Kaweah	Well Completion Rpt #:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

5
NE **CA WELLS** **CADDW0000010654**
1/8 - 1/4 Mile
Higher

Well ID:	5403146-001	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL 01 - RAW	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=5403146-001&store_num=		
GeoTracker Data:	Not Reported		

6
East **FED USGS** **USGS40000171163**
1/8 - 1/4 Mile
Higher

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	019S024E25P001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1947	Well Depth:	165
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1962-01-25
Feet below surface:	93.20	Feet to sea level:	Not Reported
Note:	Not Reported		

7
ESE **FED USGS** **USGS40000171139**
1/4 - 1/2 Mile
Higher

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	019S024E36C001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1945	Well Depth:	263
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

B8
ENE
1/2 - 1 Mile
Higher

CA WELLS **CADDW0000015769**

Well ID:	5410015-077	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL 47 - RAW	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=5410015-077&store_num=		
GeoTracker Data:	Not Reported		

B9
East
1/2 - 1 Mile
Higher

CA WELLS **CADWR8000023952**

State Well #:	19S24E25R001M	Station ID:	35782
Well Name:	Not Reported	Well Use:	Unknown
Well Type:	Unknown	Well Depth:	0
Basin Name:	Kaweah	Well Completion Rpt #:	Not Reported

C10
NE
1/2 - 1 Mile
Higher

FED USGS **USGS40000168660**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	019S024E25G001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1934	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

C11
NE
1/2 - 1 Mile
Higher

FED USGS **USGS40000171236**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	019S024E25G002M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1952	Well Depth:	136
Well Depth Units:	ft	Well Hole Depth:	Not Reported

Well Hole Depth Units: Not Reported

12
ENE **FED USGS** **USGS40000171194**
1/2 - 1 Mile
Higher

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	019S024E25J001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1962-01-25
Feet below surface:	91.70	Feet to sea level:	Not Reported
Note:	Not Reported		

13
South **CA WELLS** **CADDW0000021465**
1/2 - 1 Mile
Lower

Well ID:	5410015-057	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL 39 - RAW	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=5410015-057&store_num=		
GeoTracker Data:	Not Reported		

14
SSW **CA WELLS** **CADDW0000020151**
1/2 - 1 Mile
Lower

Well ID:	5410015-033	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL 31 - UNTREATED	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=5410015-033&store_num=		
GeoTracker Data:	Not Reported		

D15
SSE **FED USGS** **USGS40000171040**
1/2 - 1 Mile
Higher

Organization ID:	USGS-CA
Organization Name:	USGS California Water Science Center

Monitor Location:	019S024E36K001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1951	Well Depth:	195
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

16
North
1/2 - 1 Mile
Lower

FED USGS **USGS40000171294**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	019S024E25D001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1942	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1962-01-19
Feet below surface:	83.00	Feet to sea level:	Not Reported
Note:	Not Reported		

17
SW
1/2 - 1 Mile
Lower

CA WELLS **14548**

Seq:	14548	Prim sta c:	19S/24E-35L01 M
Frds no:	5410015019	County:	54
District:	12	User id:	CYA
System no:	5410015	Water type:	G
Source nam:	WELL 20	Station ty:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Latitude:	361400.0	Longitude:	1192000.0
Precision:	8	Status:	AU
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		

System no:	5410015	System nam:	Tulare, City Of
Hqname:	Not Reported	Address:	411 EAST KERN AVENUE
City:	TULARE	State:	CA
Zip:	93274	Zip ext:	Not Reported
Pop serv:	39800	Connection:	10785
Area serve:	CITY		

Sample date:	08-JUN-17	Finding:	7.6
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		

Sample date:	09-MAR-17	Finding:	2.1e-002
Chemical:	DIBROMOCHLOROPROPANE (DBCP)	Report units:	UG/L
Dlr:	1.e-002		
Sample date:	09-MAR-17	Finding:	7.1
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	20-DEC-16	Finding:	3.2e-002
Chemical:	DIBROMOCHLOROPROPANE (DBCP)	Report units:	UG/L
Dlr:	1.e-002		
Sample date:	20-DEC-16	Finding:	7.5
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	15-SEP-16	Finding:	2.3e-002
Chemical:	DIBROMOCHLOROPROPANE (DBCP)	Report units:	UG/L
Dlr:	1.e-002		
Sample date:	15-SEP-16	Finding:	7.3
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	16-JUN-16	Finding:	2.6
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	16-JUN-16	Finding:	1.49
Chemical:	GROSS ALPHA MDA95	Report units:	PCI/L
Dlr:	0.		
Sample date:	16-JUN-16	Finding:	12.
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)	Report units:	Not Reported
Dlr:	0.		
Sample date:	16-JUN-16	Finding:	0.55
Chemical:	TURBIDITY, LABORATORY	Report units:	NTU
Dlr:	0.1		
Sample date:	16-JUN-16	Finding:	0.33
Chemical:	LANGELIER INDEX @ 60 C	Report units:	Not Reported
Dlr:	0.		
Sample date:	16-JUN-16	Finding:	240.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	16-JUN-16	Finding:	3.2e-002
Chemical:	DIBROMOCHLOROPROPANE (DBCP)	Report units:	UG/L
Dlr:	1.e-002		
Sample date:	16-JUN-16	Finding:	6.2
Chemical:	URANIUM (PCI/L)	Report units:	PCI/L
Dlr:	1.		
Sample date:	16-JUN-16	Finding:	0.44
Chemical:	GROSS ALPHA COUNTING ERROR	Report units:	PCI/L
Dlr:	0.		
Sample date:	16-JUN-16	Finding:	6.55
Chemical:	GROSS ALPHA	Report units:	PCI/L

Dlr:	3.		
Sample date:	16-JUN-16	Finding:	56.
Chemical:	ALUMINUM	Report units:	UG/L
Dlr:	50.		
Sample date:	16-JUN-16	Finding:	180.
Chemical:	IRON	Report units:	UG/L
Dlr:	100.		
Sample date:	16-JUN-16	Finding:	38.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	16-JUN-16	Finding:	17.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	16-JUN-16	Finding:	2.1
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	16-JUN-16	Finding:	31.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	16-JUN-16	Finding:	400.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	16-JUN-16	Finding:	8.2
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	16-JUN-16	Finding:	95.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	16-JUN-16	Finding:	120.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	16-JUN-16	Finding:	7.1
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	16-JUN-16	Finding:	130.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	16-JUN-16	Finding:	48.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	15-MAR-16	Finding:	3.7e-002
Chemical:	DIBROMOCHLOROPROPANE (DBCP)	Report units:	UG/L
Dlr:	1.e-002		
Sample date:	03-MAR-16	Finding:	7.2
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		

Sample date:	09-DEC-15	Finding:	6.7
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	09-DEC-15	Finding:	5.2e-002
Chemical:	DIBROMOCHLOROPROPANE (DBCP)	Report units:	UG/L
Dlr:	1.e-002		
Sample date:	15-SEP-15	Finding:	6.7
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	15-SEP-15	Finding:	3.6e-002
Chemical:	DIBROMOCHLOROPROPANE (DBCP)	Report units:	UG/L
Dlr:	1.e-002		
Sample date:	04-JUN-15	Finding:	5.e-002
Chemical:	DIBROMOCHLOROPROPANE (DBCP)	Report units:	UG/L
Dlr:	1.e-002		
Sample date:	04-JUN-15	Finding:	30.
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	05-MAR-15	Finding:	30.
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	05-MAR-15	Finding:	5.8e-002
Chemical:	DIBROMOCHLOROPROPANE (DBCP)	Report units:	UG/L
Dlr:	1.e-002		
Sample date:	09-DEC-14	Finding:	7.4e-002
Chemical:	DIBROMOCHLOROPROPANE (DBCP)	Report units:	UG/L
Dlr:	1.e-002		
Sample date:	09-DEC-14	Finding:	28.
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	20-AUG-14	Finding:	28.
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	05-JUN-14	Finding:	29.
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	05-JUN-14	Finding:	6.2e-002
Chemical:	DIBROMOCHLOROPROPANE (DBCP)	Report units:	UG/L
Dlr:	1.e-002		
Sample date:	19-MAR-14	Finding:	3.5e-002
Chemical:	DIBROMOCHLOROPROPANE (DBCP)	Report units:	UG/L
Dlr:	1.e-002		
Sample date:	06-MAR-14	Finding:	27.
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	10-DEC-13	Finding:	5.5e-002
Chemical:	DIBROMOCHLOROPROPANE (DBCP)	Report units:	UG/L

Dlr:	1.e-002		
Sample date:	10-DEC-13	Finding:	28.
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	26-SEP-13	Finding:	29.
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	26-SEP-13	Finding:	4.1e-002
Chemical:	DIBROMOCHLOROPROPANE (DBCP)	Report units:	UG/L
Dlr:	1.e-002		
Sample date:	13-JUN-13	Finding:	26.
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	13-JUN-13	Finding:	4.e-002
Chemical:	DIBROMOCHLOROPROPANE (DBCP)	Report units:	UG/L
Dlr:	1.e-002		
Sample date:	20-MAR-13	Finding:	8.2
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	20-MAR-13	Finding:	1.16
Chemical:	GROSS ALPHA MDA95	Report units:	PCI/L
Dlr:	0.		
Sample date:	20-MAR-13	Finding:	12.
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)	Report units:	Not Reported
Dlr:	0.		
Sample date:	20-MAR-13	Finding:	0.12
Chemical:	TURBIDITY, LABORATORY	Report units:	NTU
Dlr:	0.1		
Sample date:	20-MAR-13	Finding:	26.
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	20-MAR-13	Finding:	0.28
Chemical:	LANGELIER INDEX @ 60 C	Report units:	Not Reported
Dlr:	0.		
Sample date:	20-MAR-13	Finding:	210.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	20-MAR-13	Finding:	4.4e-002
Chemical:	DIBROMOCHLOROPROPANE (DBCP)	Report units:	UG/L
Dlr:	1.e-002		
Sample date:	20-MAR-13	Finding:	5.1
Chemical:	URANIUM (PCI/L)	Report units:	PCI/L
Dlr:	1.		
Sample date:	20-MAR-13	Finding:	0.479
Chemical:	GROSS ALPHA COUNTING ERROR	Report units:	PCI/L
Dlr:	0.		

Sample date:	20-MAR-13	Finding:	9.38
Chemical:	GROSS ALPHA	Report units:	PCI/L
Dlr:	3.		
Sample date:	20-MAR-13	Finding:	30.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	20-MAR-13	Finding:	12.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	20-MAR-13	Finding:	27.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	20-MAR-13	Finding:	2.1
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	20-MAR-13	Finding:	41.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	20-MAR-13	Finding:	110.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	20-MAR-13	Finding:	120.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	20-MAR-13	Finding:	98.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	20-MAR-13	Finding:	330.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	14-MAR-13	Finding:	25.
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	05-DEC-12	Finding:	3.9e-002
Chemical:	DIBROMOCHLOROPROPANE (DBCP)	Report units:	UG/L
Dlr:	1.e-002		
Sample date:	13-SEP-12	Finding:	28.
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	13-SEP-12	Finding:	4.e-002
Chemical:	DIBROMOCHLOROPROPANE (DBCP)	Report units:	UG/L
Dlr:	1.e-002		
Sample date:	17-AUG-12	Finding:	320.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	17-AUG-12	Finding:	95.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L

Dlr:	0.		
Sample date:	17-AUG-12	Finding:	120.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	17-AUG-12	Finding:	8.2
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	17-AUG-12	Finding:	110.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	17-AUG-12	Finding:	39.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	17-AUG-12	Finding:	12.
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)	Report units:	Not Reported
Dlr:	0.		
Sample date:	17-AUG-12	Finding:	28.
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	17-AUG-12	Finding:	0.24
Chemical:	LANGELIER INDEX @ 60 C	Report units:	Not Reported
Dlr:	0.		
Sample date:	17-AUG-12	Finding:	240.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	17-AUG-12	Finding:	5.2
Chemical:	URANIUM (PCI/L)	Report units:	PCI/L
Dlr:	1.		
Sample date:	17-AUG-12	Finding:	33.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	17-AUG-12	Finding:	14.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	17-AUG-12	Finding:	24.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	17-AUG-12	Finding:	2.
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	19-JUN-12	Finding:	24.
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	21-MAR-12	Finding:	4.6e-002
Chemical:	DIBROMOCHLOROPROPANE (DBCP)	Report units:	UG/L
Dlr:	1.e-002		

Sample date:	21-MAR-12	Finding:	22.
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		

D18
SSE **CA WELLS** **CADPR0000000937**
1/2 - 1 Mile
Higher

Well ID:	96416	Well Type:	UNK
Source:	Department of Pesticide Regulation		
Other Name:	96416	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DPR&samp_date=&global_id=&assigned_name=96416&store_num=		
GeoTracker Data:	Not Reported		

E19
NNW **CA WELLS** **CADWR8000024032**
1/2 - 1 Mile
Lower

State Well #:	19S24E25D001M	Station ID:	17291
Well Name:	192425D1	Well Use:	Irrigation
Well Type:	Single Well	Well Depth:	111
Basin Name:	Kaweah	Well Completion Rpt #:	Not Reported

E20
NNW **CA WELLS** **CADWR0000005021**
1/2 - 1 Mile
Lower

Well ID:	19S24E25D001M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	19S24E25D001M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=19S24E25D001M&store_num=		
GeoTracker Data:	Not Reported		

21
NNW **FED USGS** **USGS40000171295**
1/2 - 1 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	019S024E26A001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1952	Well Depth:	143
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

22
NNE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000000664**

Well ID:	AGW080013682-GEORGE	Well Type:	MONITORING
Source:	Agricultural Lands	Other Name:	GEORGE
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=AGLAND&samp_date=&global_id=AGW080013682&assigned_name=GEORGE&store_num=		
GeoTracker Data:	Not Reported		

F23
SSW
1/2 - 1 Mile
Lower

FED USGS **USGS40000171024**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	019S024E35J001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19831121	Well Depth:	260
Well Depth Units:	ft	Well Hole Depth:	265
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1987-02-28
Feet below surface:	57.85	Feet to sea level:	Not Reported
Note:	Not Reported		

F24
SSW
1/2 - 1 Mile
Lower

CA WELLS **CADWR8000023814**

State Well #:	19S24E35R001M	Station ID:	35895
Well Name:	Not Reported	Well Use:	Unknown
Well Type:	Unknown	Well Depth:	0
Basin Name:	Kaweah	Well Completion Rpt #:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
93274	92	27

Federal EPA Radon Zone for TULARE County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 93274

Number of sites tested: 9

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.544 pCi/L	100%	0%	0%
Living Area - 2nd Floor	0.600 pCi/L	100%	0%	0%
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

Groundwater Ambient Monitoring & Assessment Program
State Water Resources Control Board
Telephone: 916-341-5577
The GAMA Program is Californias comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. The GAMA data includes Domestic, Monitoring and Municipal well types from the following sources, Department of Water Resources, Department of Heath Services, EDF, Agricultural Lands, Lawrence Livermore National Laboratory, Department of Pesticide Regulation, United States Geological Survey, Groundwater Ambient Monitoring and Assessment Program and Local Groundwater Projects.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

PHYSICAL SETTING SOURCE RECORDS SEARCHED

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

March 18, 2021 Project No. 014-21031

Mr. Jim Robinson
San Joaquin Valley Homes
5607 Avenida de los Robles
Visalia, California 93291
jrobinson@sjvhomes.com

RE: Report of Findings
Phase II Limited Subsurface Survey
Cordeniz 37 Property
Northwest Corner of De La Vina Street & Cartmill Avenue
Tulare, California

Dear Mr. Robinson:

Pursuant to your request, Krazan & Associates, Inc. (Krazan) has conducted a Phase II Limited Subsurface Survey (LSS) at the referenced property (subject site). The scope of work was based strictly upon the findings and recommendations provided in Krazan's March 8, 2021 *Phase I Environmental Site Assessment* (ESA) report for the referenced subject site prepared for San Joaquin Valley Homes (Client). The work was reportedly being conducted in conjunction with a real estate transaction and not by the request of a regulatory agency. Figure 1 is a vicinity map.

BACKGROUND

During the course of this assessment, Krazan identified no evidence of recognized environmental conditions (RECs), controlled RECs (CRECs) or historical RECs (HRECs) in conjunction with the subject site as defined by ASTM E 1527-13. However, the following Potential Area of Concern (PAOC) and Site Development Issue are presented:

PAOC

- Based on review of historical aerial photographs, a rural residential dwelling occupied the southeastern portion of the subject site from at least 1937 to at least 1952. Additionally, several farm structures, in association with the former rural residential dwelling, occupied the subject site from at least 1937 to at least 1969. During Krazan's research of the subject site, no records of underground storage tanks (USTs) for the subject site were identified on file with the local regulatory agencies. USTs on rural or agricultural properties historically have been exempt from requirements for registration with regulatory agencies. Krazan's experience with such properties has shown that it was not uncommon for property owners to install USTs for their convenience, especially in the vicinity of structures in an agricultural setting, which are undocumented and whose presence would remain unknown in spite of the standard data research conducted in the course of this Phase I ESA. It is therefore possible that subsurface features such as unregistered USTs may exist on the subject site and remain unknown based upon the absence of any regulatory, municipality, interview data or evidence indicating their presence or location at a time

potentially prior to the current property owner's familiarity with the property. Consequently, despite an absence of data suggesting their presence, the presence or absence of USTs associated with the structures formerly located within the southeastern portion of the subject site in a historical agricultural setting is unknown.

For a higher level of due diligence, Krazan recommended conducting a Phase II limited subsurface survey to assess the presence or absence of subsurface features indicative of USTs potentially associated with the former structures located within the southeastern portion of the subject site.

Site Development Issue

An inactive agricultural water well was observed on the subject site. No information regarding analytical testing or construction of the on-site well was found during the course of this investigation. If the on-site inactive agricultural water well is not to be used during any future development of the subject site, it should be properly abandoned/destroyed in accordance with state and local guidelines.

PURPOSE

The purpose of this LSS was to assess the presence or absence of subsurface anomalies characteristic of potential USTs on the subject site in the inferred area of the former on-site structures.

The Site Development Issues were not addressed during this Phase II LSS.

PHASE II SCOPE OF WORK

General Activities

- An LSS was conducted using electromagnetic equipment in the vicinity of the location of the inferred location of former on-site structures to assess the presence or absence of subsurface metallic anomalies characteristic of USTs and related features.
- Following completion of the field investigation activities, Krazan prepared this report.

Investigation of Potential Presence of Unregistered USTs on the Subject Site in the Inferred Area of the Former On-Site Structures

- On March 15, 2021, an LSS was conducted in the inferred areas of the former structures historically located on the subject site. The LSS was conducted to assess the presence or absence of subsurface metallic anomalies characteristic of USTs or related subsurface features of concern. Figure 2 depicts the approximate boundaries of the LSS areas.
- Subsurface anomalies identified were excavated by using a shovel and/or hand auger.

REPORT OF FINDINGS

Potential Presence of Unregistered USTs on the Subject Site

Electromagnetic equipment identified three (3) subsurface anomalies during the LSS field activities. Figure 2 depicts the approximate location of the subsurface anomalies. A large diameter wire and farm equipment debris were identified near the existing on-site water well. A steel well casing was identified south of the existing water well. A small piece of piping was identified southeast of the water well.

CONCLUSIONS, OPINIONS AND RECOMMENDATIONS

The Phase II LSS did not reveal evidence of USTs or other subsurface features of environmental concern in the areas assessed presumed to be the most likely locations of USTs. No surface evidence including fill ports or vent piping associated with USTs was identified during the Phase II LSS in the areas assessed.

LIMITATIONS

The findings of this report were based upon the results of our field investigation and reported client excavation information, along with the interpretation of subsurface conditions associated with the LSS. Therefore, the data are accurate only to the degree implied by review of the data obtained and by professional interpretation.

This subsurface investigation of the subject site has been limited in scope. This type of assessment is undertaken with the calculated risk that the presence, full nature, and extent of contamination would not be revealed by methods employed. Therefore, no warranty is given; either expressed or implied that hazardous material contamination or buried structures, which would not have been disclosed through this investigation, do not exist at the subject site. Therefore, the data obtained are clear and accurate only to the degree implied by the sources and methods used. Matters related to reporting to regulators of subsurface conditions revealed by this investigation are the responsibility of the property owner and, if guidance is desired, legal counsel should be consulted.

The limited subsurface survey equipment is considered a state-of-the-art technology that is effective within certain limitations for the investigation of buried features such as septic tanks, fuel bunkers, USTs, and/or piping in areas accessible at the time of the investigation. In uncommon or atypical cases where bunkers or tanks are buried at depths greater than two (2) feet bgs and/or which may be covered by layers of pavement cumulatively in excess of two to four inches in thickness, rock, gravel or aggregate layers, dense (clayey) soils, or other surface or subsurface metallic objects (such as motor vehicles, fencing, piping, conduit or rebar) that can interfere with the electrical transmission/reception of the equipment, the equipment's technical capabilities can be exceeded to a degree where the presence of a UST or other metallic feature could not be detected. No guarantee is made or implied that the geophysical survey will detect suspected metallic features under uncommon or atypical circumstances as described above, or that the discovery of underground piping or conduit commonly found underlying commercial properties in and of itself is evidence of the presence of USTs. It should be understood that the location of subsurface objects and utilities is dependent upon the recognition of physical phenomena at the ground surface. These phenomena can be magnetic fields or electromagnetic waves that give rise to a surface expression which in turn is interpreted as representative of subsurface objects. These waves, however, may be attenuated and/or distorted by a number of factors including soil moisture, corrosion, and proximity to other surface and subsurface facilities. The findings presented herewith are based on professional interpretation using state of the art methods and equipment and a degree of conservatism deemed proper

as of this report date. It is not warranted that such data cannot be superseded by future geotechnical, environmental, or technical developments.

The findings presented herewith are based on professional interpretation using state of the art methods and equipment and a degree of conservatism deemed proper as of this report date. It is not warranted that such data cannot be superseded by future geotechnical, environmental, or technical developments.
This assessment and report were authorized by and prepared for the exclusive use of our Client. Unauthorized use of or reliance on the information contained in this report without the expressed written consent of Krazan & Associates, Inc. is strictly prohibited.

CLOSING

We appreciate the opportunity to be of service to of the San Joaquin Valley Homes. If you have any questions, or if we can be of further assistance, please feel free to contact me at (559) 348-2200.

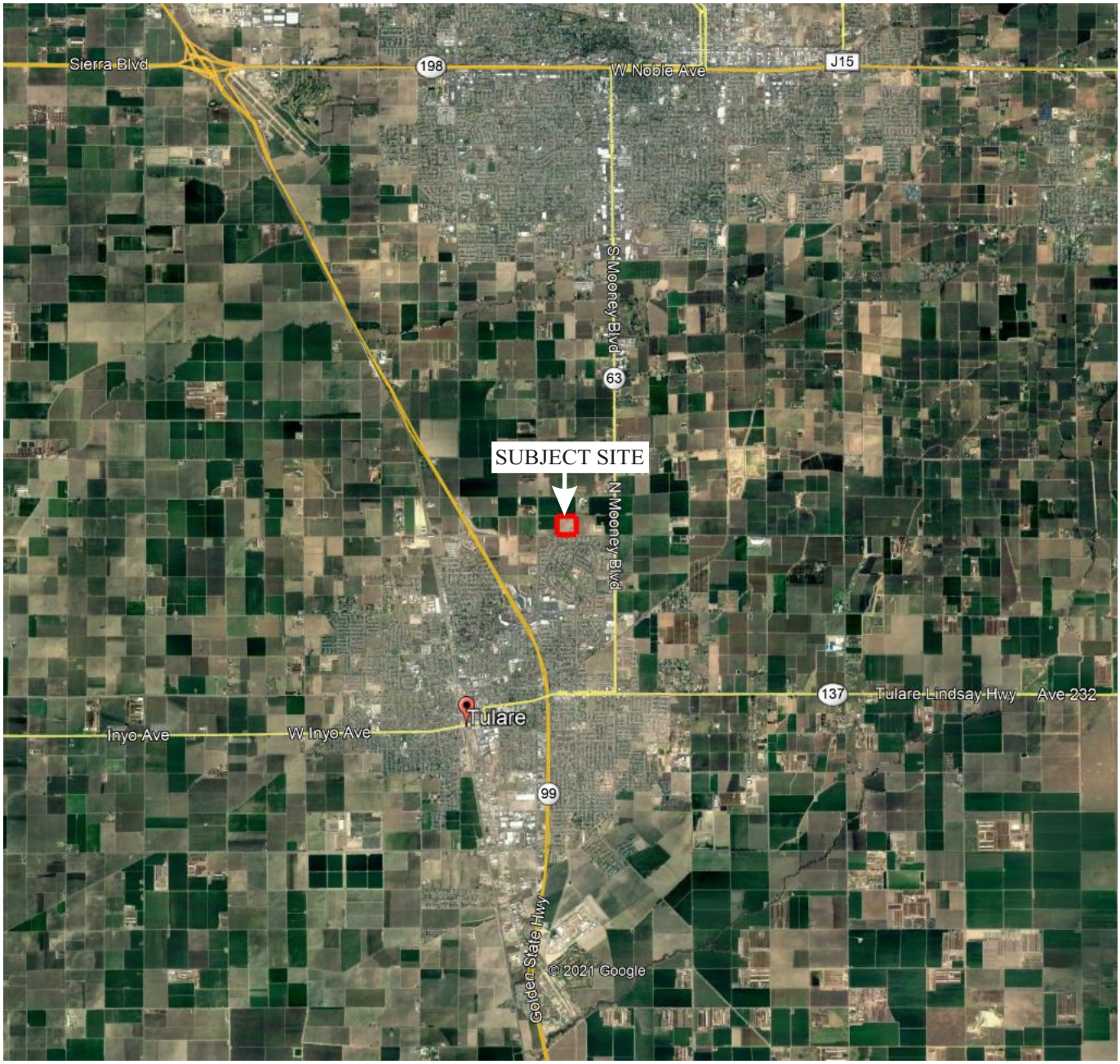
Respectfully Submitted,
KRAZAN & ASSOCIATES, INC.

Mark D. Edwards, PG 7714, CHG 1072
Project Manager

Arthur C. Farkas, REA No. 07818
Environmental Professional

MDE/ACF/mlt

Attachments:
Figure 1 – Vicinity Map
Figure 2 – Extent of Limited Subsurface Survey



VICINITY MAP	Scale: NTS	Date: March 2021	Krazan
CORDENIZ 37 PROPERTY N.W. CORNER OF DE LA VINA STREET AND CARTMILL AVENUE TULARE, CALIFORNIA	Drawn By: MDE	Approved By: MDE	SITE DEVELOPMENT ENGINEERS *With Offices Serving the Western United States*
	Project No. 014-21031	Figure: 1	

EXPLANATION

- Approximate Extent of the Limited Subsurface Survey
- Approximate Location of Subsurface Anomaly

EXTENT OF LIMITED SUBSURFACE SURVEY	Scale: NTS	Date: March 2021	Krazan
CORDENIZ 37 PROPERTY N.W. CORNER OF DE LA VINA STREET AND CARTMILL AVENUE TULARE, CALIFORNIA	Drawn By: MDE	Approved By: MDE	SITE DEVELOPMENT ENGINEERS *With Offices Serving the Western United States*
	Project No. 014-21031	Figure: 2	

Appendix H – Traffic Study

Project No: 257-61

TRAFFIC STUDY

CORDENIZ RESIDENTIAL DEVELOPMENT

CARTMILL AVENUE

CITY OF TULARE

Prepared for:

QK

December 2021

Prepared by:

RUETTGERS & SCHULER
CIVIL ENGINEERS

1800 30TH STREET, SUITE 260
BAKERSFIELD, CA 93301

Ian J. Parks, RCE 58155

TABLE OF CONTENTS

INTRODUCTION

The purpose of this study is to evaluate the proposed residential development located on the northwest corner of De La Vina Street and Cartmill Avenue in Tulare, CA. A vicinity map, location map, and tentative tract map are presented in Figures 1 through 3, respectively. The project will include a maximum of 145 single family residential lots.

A. Land Use, Site and Study Area Boundaries

The existing zoning is Agriculture.

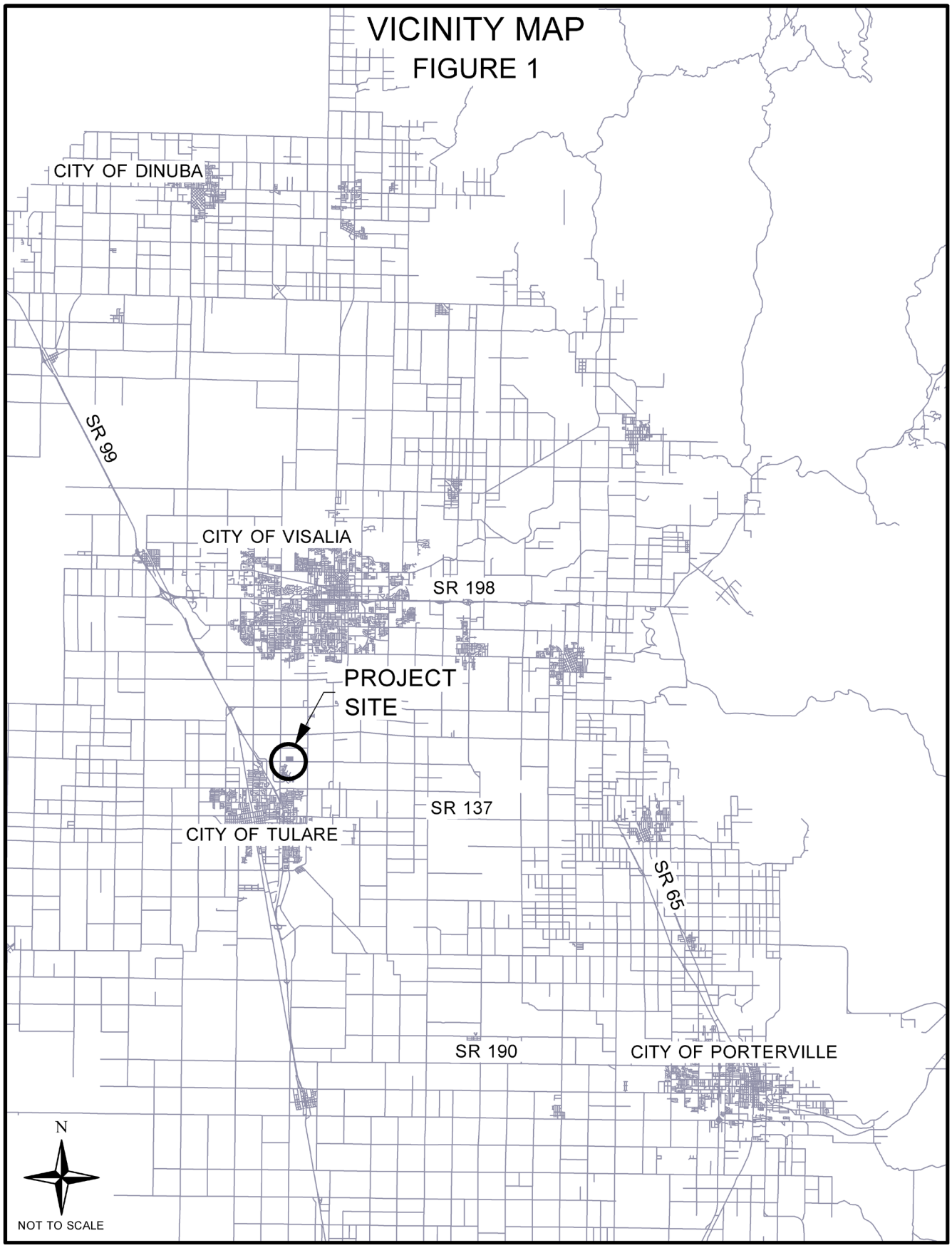
The study area includes a total of six signalized intersections and one stop-controlled intersection located along Cartmill Avenue. The scope includes roadway and intersection facilities which meet the threshold of 50 peak hour trips at a facility. The scope was approved by the City of Tulare and Caltrans.

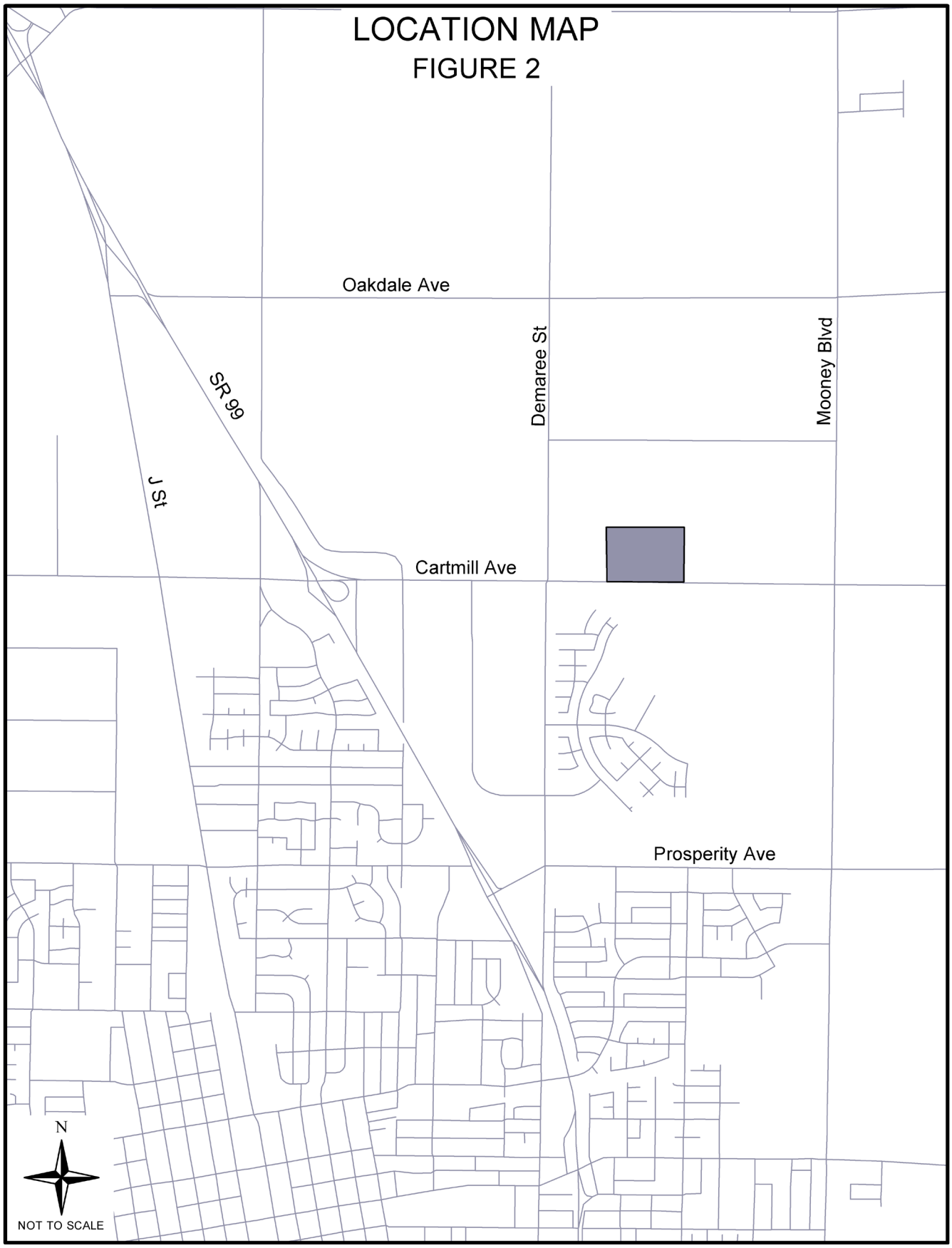
B. Existing Site Uses and Site Access

The site is currently vacant land. As currently planned, access to the proposed development would be provided along De La Vina Street and Cartmill Avenue.

C. Existing Uses in Vicinity of the Site

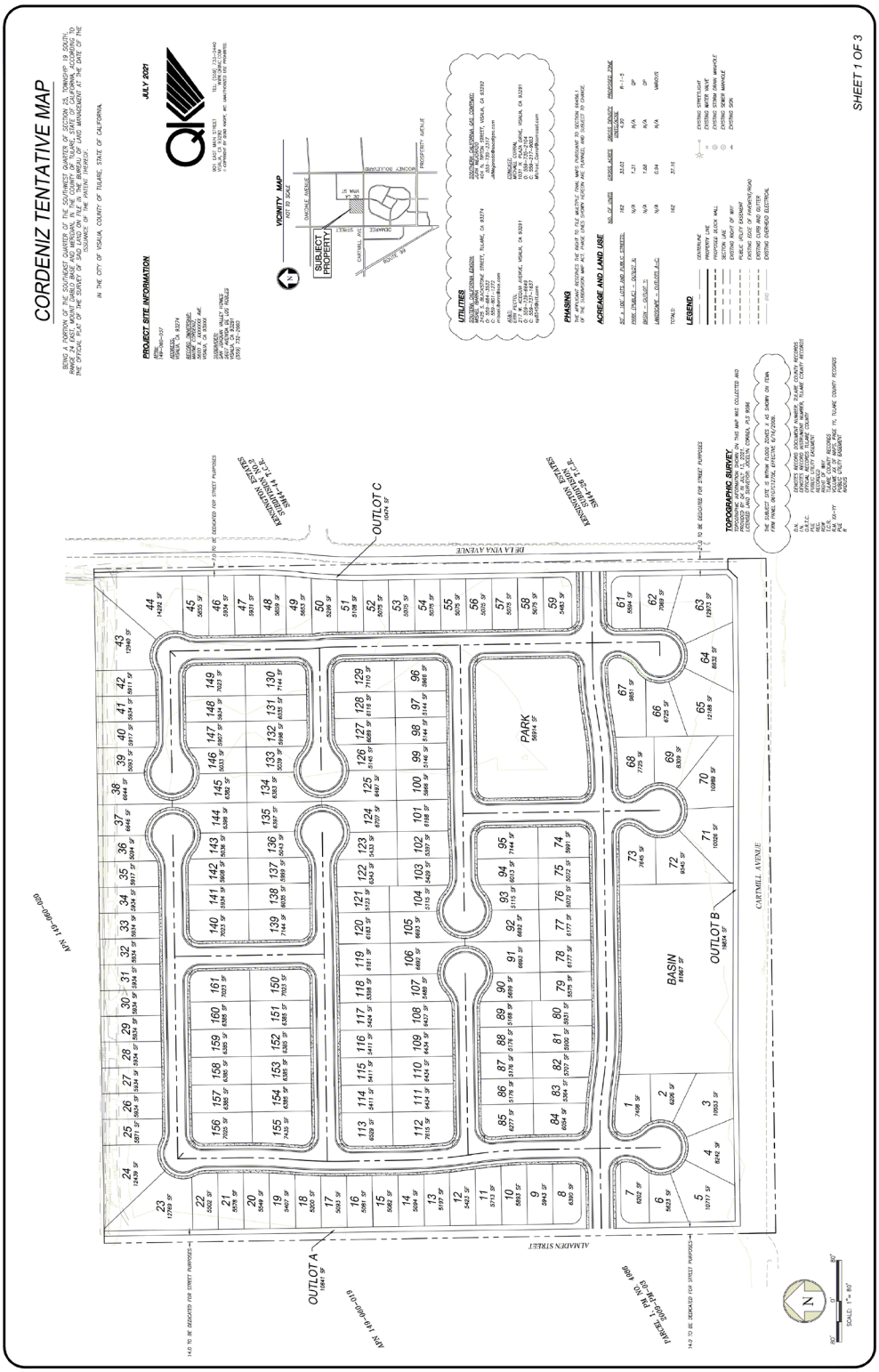
Existing land uses in the vicinity of the project site include a mix of a residential subdivision and agricultural land uses.


VICINITY MAP
FIGURE 1
CITY OF DINUBA
SR 99
CITY OF VISALIA
SR 198
PROJECT
SITE
SR 137
CITY OF TULARE
SR 65
SR 190
CITY OF PORTERVILLE
N
NOT TO SCALE


LOCATION MAP
FIGURE 2
Oakdale Ave
SR 99
J St
Demaree St
Mooney Blvd
Cartmill Ave
Prosperity Ave
N
NOT TO SCALE

SITE PLAN

FIGURE 3



D. Roadway Descriptions

Cartmill Avenue is an east-west major arterial that extends from west of State Route 99 to east of the City of Tulare. In the vicinity of the project it exists as a four-lane roadway and provides access to residential and agricultural land uses as well as State Route 99.

De La Vina Street is a north-south local roadway that extends from Corvina Avenue to Pacific Avenue. In the vicinity of the project, it exists as a two-lane roadway and provides access to residential land uses.

Hillman Street is classified as a major arterial south of Cartmill Avenue and an arterial north of Cartmill Avenue. Hillman Street is a north-south roadway that extends from Hillcrest Avenue to Oakdale Avenue, where it is renamed Demaree Street. In the vicinity of the project, it exists as a four-lane roadway and provides access to residential, agricultural, and commercial land uses as well as to State Route 99.

Mooney Boulevard is a north-south major arterial that extends throughout the City of Tulare. In the vicinity of the project it exists as a four-lane roadway and provides access to agricultural, residential, and commercial land uses.

Retherford Street is a local north-south roadway that extends south from Cartmill Avenue. In the vicinity of the project it exists as two-lane roadway and provides access to agricultural and retail land uses.

Road 100 is a local, primarily north-south roadway that extends from Cartmill Avenue to Oakdale Avenue. In the vicinity of the project it exists as a two-lane roadway and provides access to agricultural land uses.

State Route 99 is a major north-south route through the central valley of California, extending from Interstate 5 south of Bakersfield to Sacramento. State Route 99 operates as an four-lane freeway from within the vicinity of the City of Tulare.

PROJECT TRIP GENERATION

The trip generation for the residential development were calculated using the Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition. Trip generation and design hour volumes for all land uses are shown in Table 1.

The ADT, AM and PM peak hour rate equations, and peak hour directional splits for ITE Land Use Code 210 (Single-Family detached Housing) were used to estimate the project traffic.

Table 1
Project Trip Generation

General Information			Daily Trips		AM Peak Hour Trips			PM Peak Hour Trips		
ITE Code	Development Type	Variable	ADT RATE	ADT	Rate	In % Split/ Trips	Out % Split/ Trips	Rate	In % Split/ Trips	Out % Split/ Trips
210	Single-Family detached Housing	145 Dwelling Units	eq	1464	eq	25% 27	75% 81	eq	63% 91	37% 54
Total				1,464		27	81		91	54

TRIP DISTRIBUTION AND ASSIGNMENT

The project trip distribution in Table 2 represents the most likely travel routes for traffic accessing the project. Project traffic distribution was estimated based on a review of the potential draw from population centers within the region and the types of land uses involved. These assumptions were used to distribute project traffic as shown in Figure 4.

Table 2
Project Trip Distribution

Direction	Percent
North	20
East	5
South	50
West	25

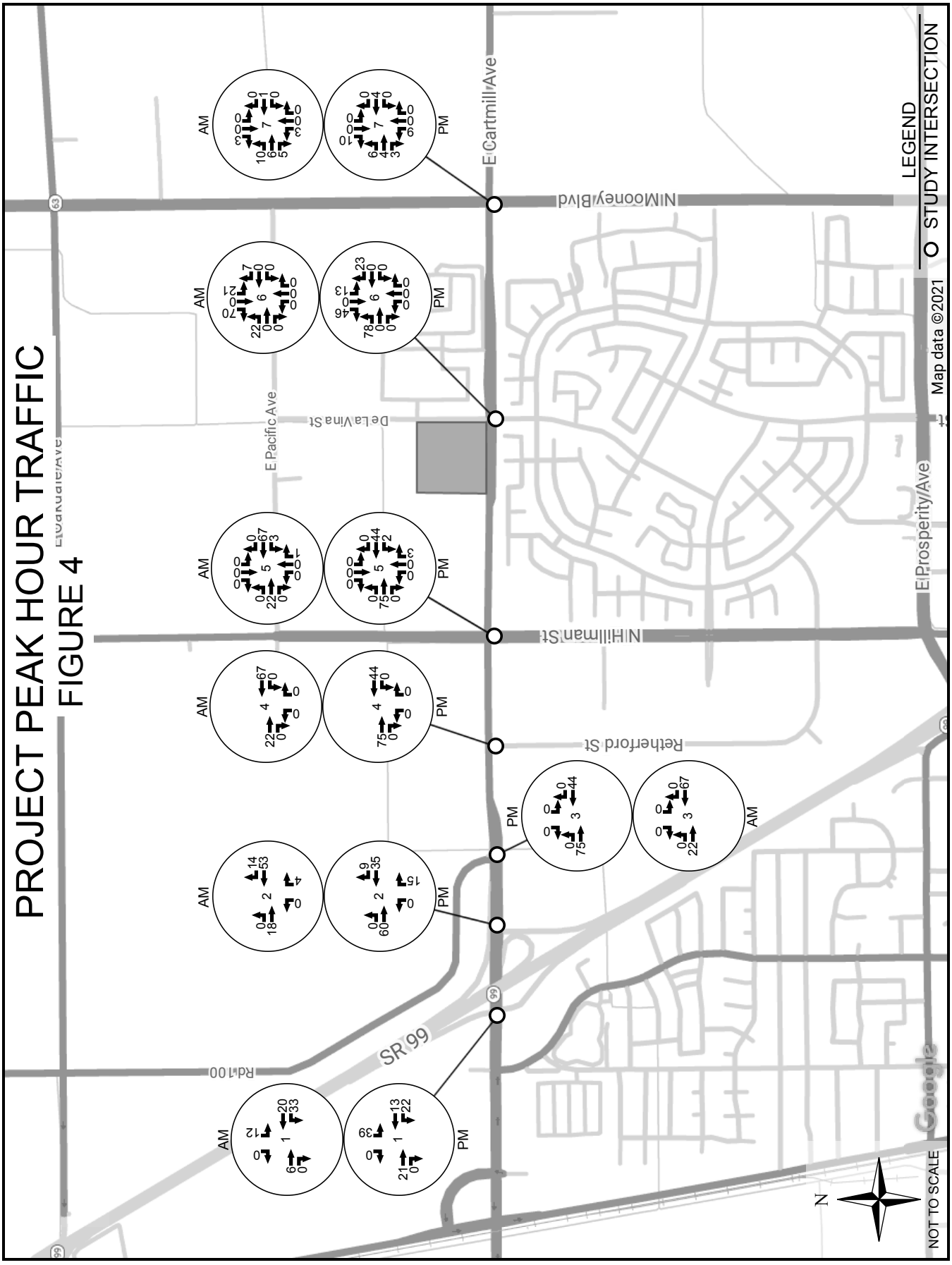
EXISTING AND FUTURE TRAFFIC

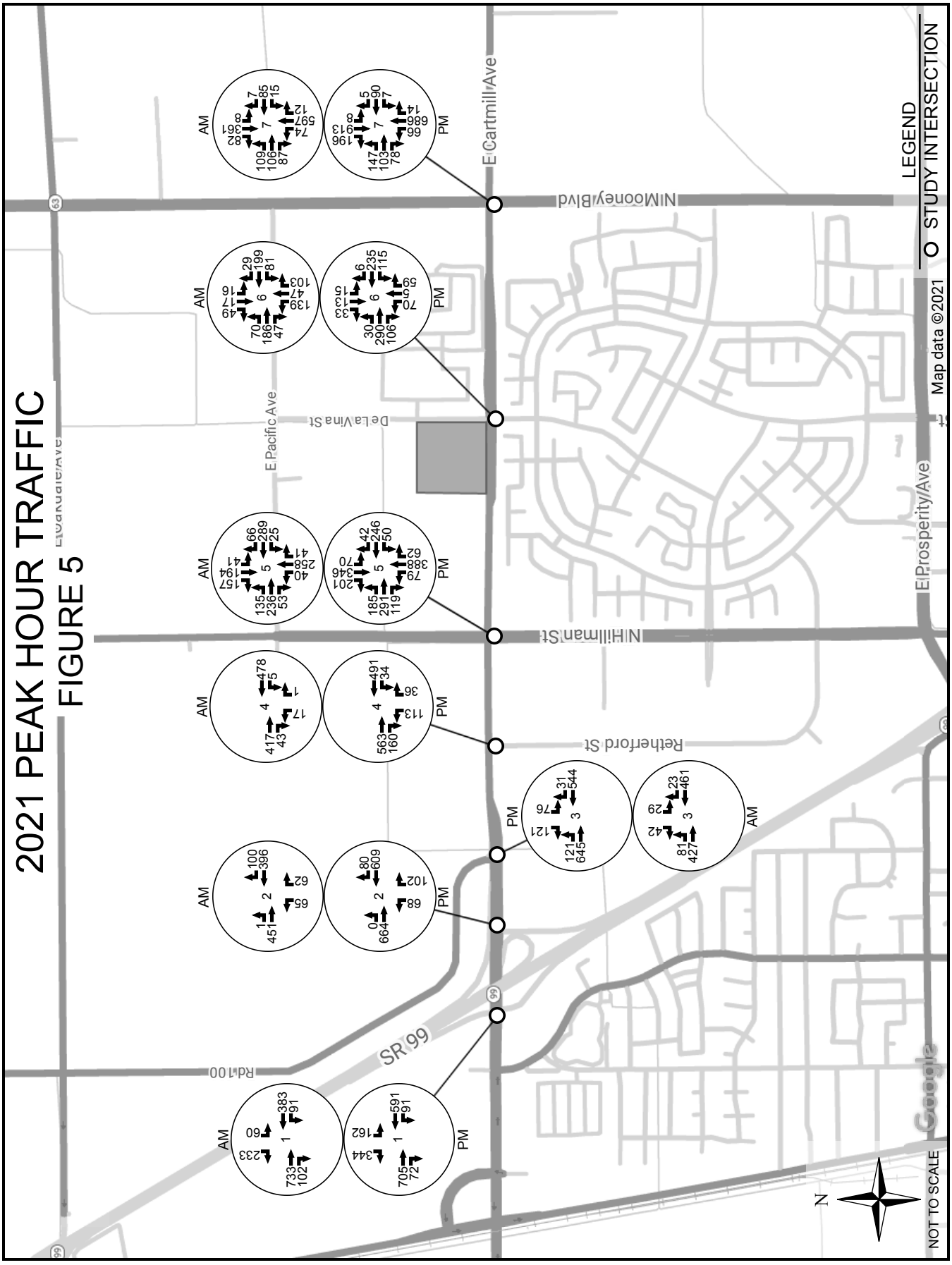
Weekday peak hour turning movements were counted at the following intersections in October 2021 (see Appendix for count data).

- N Mooney Boulevard & E Cartmill Avenue
- De La Vina Street & E Cartmill Avenue
- N Hillman Street & E Cartmill Avenue
- Retherford Street & E Cartmill Avenue
- Road 100 & E Cartmill Avenue
- SR 99 Northbound Ramp & E Cartmill Avenue
- SR 99 Southbound Ramp & E Cartmill Avenue

Traffic counts were conducted between the hours 6:00 to 8:00 AM and 4:00 to 6:00 PM and are shown in Figure 5. Traffic counts were compared to pre-COVID 19 count data and found to accurately reflect normal traffic volumes. Existing + Project peak hour volumes are shown in Figure 6. Raw count data is included in the appendix.

Annual growth rates ranging between 0.45% and 5.78% were applied to existing traffic volumes to estimate future traffic volumes for the year 2041. These growth rates were estimated based on a review of existing and approved future developments in the vicinity of the project and TCAG traffic model data. Future peak hour volumes are shown in Figures 7 and 8.


PROJECT PEAK HOUR TRAFFIC
FIGURE 4
LEGEND
STUDY INTERSECTION
NOT TO SCALE
N
Map data ©2021
Google
SR 99
Rd 100
E Cartmill Ave
NMooney Blvd
E Prosperity Ave
NHillman St
Retherford St
De La Vina St
E Pacific Ave
AM
PM


2021 PEAK HOUR TRAFFIC
FIGURE 5
LEGEND
STUDY INTERSECTION
NOT TO SCALE
N
Map data ©2021
Google
SR 99
Rd 100
E Cartmill Ave
NMooney Blvd
E Pacific Ave
De La Vina St
E Prosperity Ave
NHillman St
Retherford St
AM
PM

2021+PROJECT PEAK HOUR TRAFFIC
FIGURE 6
LEGEND
STUDY INTERSECTION
NOT TO SCALE
N
Map data ©2021
Google
SR 99
Rd 100
E Cartmill Ave
NMooney Blvd
E Pacific Ave
De La Vina St
E Prosperity Ave
NHillman St
Retherford St
AM
PM

2041 PEAK HOUR TRAFFIC
FIGURE 7
LEGEND
STUDY INTERSECTION
NOT TO SCALE
N
Map data ©2021
Google
SR 99
Rd 100
E Cartmill Ave
NMooney Blvd
E Pacific Ave
De La Vina St
NHillman St
E Prosperity Ave
Retherford St
AM
PM

2041+PROJECT PEAK HOUR TRAFFIC
FIGURE 8
LEGEND
STUDY INTERSECTION
NOT TO SCALE
N
Map data ©2021
Google
SR 99
Rd 100
E Cartmill Ave
NMooney Blvd
E Pacific Ave
De La Vina St
E Prosperity Ave
NHillman St
Retherford St
AM
PM

INTERSECTION ANALYSIS

A capacity analysis of the study intersections was conducted using Synchro 9 software from Trafficware. This software utilizes the 2010 capacity analysis methodology in the Transportation Research Board's Highway Capacity Manual.

- Existing (2021)
- Existing (2021) + Project
- Future (2041)
- Future (2041) + Project

Criteria for intersection level of service (LOS) are shown in the tables below.

LEVEL OF SERVICE CRITERIA
UNSIGNALIZED INTERSECTION

Average Control Delay (sec/veh)	Level of Service	Expected Delay to Minor Street Traffic
≤ 10	A	Little or no delay
> 10 and ≤ 15	B	Short traffic delays
> 15 and ≤ 25	C	Average traffic delays
> 25 and ≤ 35	D	Long traffic delays
> 35 and ≤ 50	E	Very long traffic delays
> 50	F	Extreme delays

LEVEL OF SERVICE CRITERIA
SIGNALIZED INTERSECTIONS

Volume/Capacity	Control Delay (sec/veh)	Level of Service
< 0.60	≤ 10	A
0.61 - 0.70	> 10 and ≤ 20	B
0.71 - 0.80	> 20 and ≤ 35	C
0.81 - 0.90	> 35 and ≤ 55	D
0.91 - 1.00	> 55 and ≤ 80	E
> 1.0	> 80	F

Level of service for the study intersections is presented in Tables 3a and 3b. The level of service goal for roadway facilities in the City of Tulare is LOS "D". Intersection delays are shown for all intersections that operate below LOS "D". A significant impact is generally defined as a condition where the addition of project traffic reduces the LOS to below LOS D, or where the pre-existing condition of the roadway is below LOS D, and the LOS degrades below the pre-existing level of service with the addition of the project.

Table 3a
PM Intersection Level of Service

#	Intersection	Control Type	2021	2021+ Project	2041	2041+ Project	2041+ Project w/Mitigation[1]
1	SR 99 SB Offramp & E Cartmill Ave	Signal	A	B	B	B	-
2	SR 99 NB Offramp & E Cartmill Ave	Signal	A	A	A	A	-
3	Rd 100 & E Cartmill Ave	Signal	A	A	B	B	-
4	Retherford St & E Cartmill Ave	Signal	A	A	B	B	-
5	Hillman St & E Cartmill Ave	Signal	B	C	C	C	-
6	De La Vina St & E Cartmill Ave	AWSC	B	B	E (40.3)	E (44.0)	D
7	N Mooney Blvd & E Cartmill Ave	Signal	C	C	D	D	-

[1]Mitigation shown in Table 6

Table 3b
AM Intersection Level of Service

#	Intersection	Control Type	2021	2021+ Project	2041	2041+ Project	2041+ Project w/Mitigation[1]
1	SR 99 SB Offramp & E Cartmill Ave	Signal	A	A	B	B	-
2	SR 99 NB Offramp & E Cartmill Ave	Signal	A	A	A	A	-
3	Rd 100 & E Cartmill Ave	Signal	A	A	A	A	-
4	Retherford St & E Cartmill Ave	Signal	A	A	A	A	-
5	Hillman St & E Cartmill Ave	Signal	B	B	C	C	-
6	De La Vina St & E Cartmill Ave	AWSC	B	B	E (45.0)	F (53.0)	D
7	N Mooney Blvd & E Cartmill Ave	Signal	B	B	B	B	-

[1]Mitigation shown in Table 6

TRAFFIC SIGNAL WARRANT ANALYSIS

Peak hour signal warrants were evaluated for the one unsignalized intersection within the study based on the 2014 California Manual on Uniform Traffic Control Devices (2014 CA MUTCD). Peak hour signal warrants assess delay to traffic on minor street approaches when entering or crossing a major street. Signal warrant analysis results are shown in Tables 4a and 4b.

Table 4a
Traffic Signal Warrants
Weekday PM Peak Hour

		2021			2021+Project			2041			2041+Project		
#	Intersection	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
6	De La Vina St at E Cartmill Ave	782	134	NO	883	134	NO	1228	416	YES	1329	416	YES

Table 4b
Traffic Signal Warrants
Weekday AM Peak Hour

		2021			2021+Project			2041			2041+Project		
#	Intersection	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
6	De La Vina St at E Cartmill Ave	612	289	YES	641	289	YES	1157	565	YES	1248	572	YES

ROADWAY ANALYSIS

A capacity analysis of the study roadways was conducted using Table 4 in the State of Florida Department of Transportation *Quality/Level of Service Handbook* dated June 2020 (see Appendix). The City of Tulare Circulation Element states that the peak hour level of service for roadways shall be no lower than LOS "D" for urban areas. The analysis was performed for the following AM and PM traffic scenarios:

- Existing (2021)
- Existing (2021) + Project
- Future Cumulative (2041)
- Future Cumulative (2041) + Project

Table 5a
PM Roadway Level of Service

Street	2021 Two-Way LOS		2021+Project Two-Way LOS		2041 Two-Way LOS		2041+Project Two-Way LOS	
	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS
Cartmill Avenue: SR 99 SB Ramps - SR 99 NB Ramps	1558	C	1653	C	2928	C	3023	C
Cartmill Avenue: SR 99 NB Ramps - Road 100	1455	C	1574	C	2356	C	2475	C
Cartmill Avenue: Road 100 - Retherford Street	1327	C	1446	C	2703	C	2822	C
Cartmill Avenue: Retherford Street - Hillman Street	1124	C	1243	C	2251	C	2370	C
Cartmill Avenue: Hillman Street - De La Vina Street	764	C	888	C	1521	C	1645	C
Cartmill Avenue: De La Vina Street - Mooney Boulevard	720	C	756	C	1251	C	1287	C

Table 5b
AM Roadway Level of Service

Street	2021 Two-Way LOS		2021+Project Two-Way LOS		2041 Two-Way LOS		2041+Project Two-Way LOS	
	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS
Cartmill Avenue: SR 99 SB Ramps - SR 99 NB Ramps	1279	C	1350	C	2401	C	2472	C
Cartmill Avenue: SR 99 NB Ramps - Road 100	1011	C	1100	C	1653	C	1742	C
Cartmill Avenue: Road 100 - Retherford Street	957	C	1046	C	1909	C	1998	C
Cartmill Avenue: Retherford Street - Hillman Street	910	C	999	C	1792	C	1881	C
Cartmill Avenue: Hillman Street - De La Vina Street	698	C	791	C	1497	C	1589	C
Cartmill Avenue: De La Vina Street - Mooney Boulevard	614	C	642	C	1256	C	1284	C

MITIGATION

Intersection and roadway segment improvements needed by the year 2041 to maintain or improve the operational level of service of the street system in the vicinity of the project are presented in Table 6. Shown also is the project's percent share of the cost for these improvements.

Table 6
Future Intersection Improvements

#	Intersection	Mitigation Required by 2041	Percent Share
6	De La Vina St & E Cartmill Ave	Signal	15.67%

Project percent share is calculated using the following formula:

$$\% \text{ Share} = \frac{\text{Project Traffic}}{\text{(Future+Project Traffic) - Existing Traffic}} \times 100\%$$

VEHICLE MILES TRAVELED (VMT)

An evaluation of project vehicle miles traveled (VMT) was conducted based on VMT analysis guidelines adopted by the City of Tulare (Memorandum dated June 26, 2020). The guidelines provide "screening thresholds" for identifying whether a land use project should be expected to result in a less than significant transportation impact under CEQA. Projects meeting one or more of these criteria would not be required to undergo a detailed VMT analysis. One of the screening criteria is project location screening. Residential projects that are located in a low VMT zone would be expected to generate similar low vehicle miles travelled. A review of Figure 1 in the guidelines, which shows the VMT rates by TAZ mapping, shows that the project is within a low VMT zone (Taz 952). Therefore, the project would be expected to result in a less than significant transportation impact under CEQA.

SUMMARY AND CONCLUSIONS

The purpose of this study is to evaluate the proposed residential development located on the northwest corner of De La Vina Street and Cartmill Avenue in Tulare, CA. The study included both level of service (LOS) and vehicle miles traveled (VMT) analyses.

Intersection Level of Service Analysis

All intersections currently operate at an acceptable level of service and are expected to continue to do so with the addition of project traffic.

In 2041, it is anticipated that the intersection of De La Vina Street and Cartmill Avenue will operate below an acceptable level of service prior to the addition of project traffic. The intersection can be mitigated with the installation of a signal.

Roadway Capacity

All roadway segments currently operate at an acceptable level of service and are expected to continue to do so into the year 2041, prior to and with the addition of project traffic.

VMT

The project is located in a low VMT zone, therefore, the project would be expected to result in a less than significant transportation impact under CEQA.

REFERENCES

1. Annual Traffic Census, TCAG
2. City of Tulare General Plan, adopted October 7, 2014
3. Highway Capacity Manual, Special Report 209, Transportation Research Board
4. California Manual on Uniform Traffic Control Devices for Streets and Highways, 2014 Edition, Federal Highway Administration (FHA)
5. Trip Generation, 10th Edition, Institute of Transportation Engineers (ITE)

APPENDIX

Intersection 1
SR 99 SB Offramp & E Cartmill Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	705	72	91	591	0	0	0	0	162	0	344
Future Volume (veh/h)	0	705	72	91	591	0	0	0	0	162	0	344
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1716	1716	1863	0				1716	0	1716
Adj Flow Rate, veh/h	0	766	78	99	642	0				176	0	374
Adj No. of Lanes	0	3	1	2	3	0				2	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	1608	461	327	2830	0				775	0	723
Arrive On Green	0.00	0.32	0.32	0.10	0.56	0.00				0.24	0.00	0.28
Sat Flow, veh/h	0	5253	1458	3170	5253	0				3170	0	2567
Grp Volume(v), veh/h	0	766	78	99	642	0				176	0	374
Grp Sat Flow(s),veh/h/ln	0	1695	1458	1585	1695	0				1585	0	1283
Q Serve(g_s), s	0.0	4.9	1.6	1.2	2.6	0.0				1.8	0.0	4.9
Cycle Q Clear(g_c), s	0.0	4.9	1.6	1.2	2.6	0.0				1.8	0.0	4.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1608	461	327	2830	0				775	0	723
V/C Ratio(X)	0.00	0.48	0.17	0.30	0.23	0.00				0.23	0.00	0.52
Avail Cap(c_a), veh/h	0	4808	1379	1025	6959	0				2287	0	1948
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	11.1	9.9	16.7	4.5	0.0				12.1	0.0	12.1
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.5	0.0	0.0				0.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.3	0.6	0.5	1.2	0.0				0.8	0.0	1.8
LnGrp Delay(d),s/veh	0.0	11.3	10.1	17.2	4.6	0.0				12.3	0.0	12.7
LnGrp LOS		B	B	B	A					B		B
Approach Vol, veh/h		844			741						550	
Approach Delay, s/veh		11.2			6.3						12.6	
Approach LOS		B			A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			9.7	16.7		13.8		26.4
Change Period (Y+Rc), s			6.0	* 6		4.5		6.0
Max Green Setting (Gmax), s			12.5	* 36		28.5		53.0
Max Q Clear Time (g_c+I1), s			3.2	6.9		6.9		4.6
Green Ext Time (p_c), s			2.3	3.8		2.4		3.4

Intersection Summary	
HCM 2010 Ctrl Delay	9.8
HCM 2010 LOS	A

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱	↰↰	↑↑↑					↰↰		↱↱
Traffic Volume (veh/h)	0	726	72	113	604	0	0	0	0	201	0	344
Future Volume (veh/h)	0	726	72	113	604	0	0	0	0	201	0	344
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1716	1716	1863	0				1716	0	1716
Adj Flow Rate, veh/h	0	789	78	123	657	0				218	0	374
Adj No. of Lanes	0	3	1	2	3	0				2	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	1604	460	376	2873	0				774	0	719
Arrive On Green	0.00	0.32	0.32	0.12	0.56	0.00				0.24	0.00	0.28
Sat Flow, veh/h	0	5253	1458	3170	5253	0				3170	0	2567
Grp Volume(v), veh/h	0	789	78	123	657	0				218	0	374
Grp Sat Flow(s),veh/h/ln	0	1695	1458	1585	1695	0				1585	0	1283
Q Serve(g_s), s	0.0	5.3	1.6	1.5	2.7	0.0				2.3	0.0	5.2
Cycle Q Clear(g_c), s	0.0	5.3	1.6	1.5	2.7	0.0				2.3	0.0	5.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1604	460	376	2873	0				774	0	719
V/C Ratio(X)	0.00	0.49	0.17	0.33	0.23	0.00				0.28	0.00	0.52
Avail Cap(c_a), veh/h	0	4607	1321	982	6667	0				2191	0	1866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	11.6	10.4	17.0	4.6	0.0				12.9	0.0	12.7
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.5	0.0	0.0				0.2	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.4	0.7	0.7	1.2	0.0				1.1	0.0	1.9
LnGrp Delay(d),s/veh	0.0	11.9	10.6	17.5	4.6	0.0				13.1	0.0	13.3
LnGrp LOS		B	B	B	A					B		B
Approach Vol, veh/h		867			780						592	
Approach Delay, s/veh		11.8			6.6						13.2	
Approach LOS		B			A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			10.5	17.2		14.2		27.7
Change Period (Y+Rc), s			6.0	* 6		4.5		6.0
Max Green Setting (Gmax), s			12.5	* 36		28.5		53.0
Max Q Clear Time (g_c+I1), s			3.5	7.3		7.2		4.7
Green Ext Time (p_c), s			2.4	4.0		2.6		3.6

Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱	↰↰	↑↑↑					↰↰		↱↱
Traffic Volume (veh/h)	0	1339	137	173	1123	0	0	0	0	293	0	621
Future Volume (veh/h)	0	1339	137	173	1123	0	0	0	0	293	0	621
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1716	1716	1863	0				1716	0	1716
Adj Flow Rate, veh/h	0	1455	149	188	1221	0				318	0	675
Adj No. of Lanes	0	3	1	2	3	0				2	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	1961	562	409	2978	0				985	0	847
Arrive On Green	0.00	0.39	0.39	0.13	0.59	0.00				0.31	0.00	0.33
Sat Flow, veh/h	0	5253	1458	3170	5253	0				3170	0	2567
Grp Volume(v), veh/h	0	1455	149	188	1221	0				318	0	675
Grp Sat Flow(s),veh/h/ln	0	1695	1458	1585	1695	0				1585	0	1283
Q Serve(g_s), s	0.0	19.0	5.4	4.2	10.1	0.0				5.9	0.0	18.5
Cycle Q Clear(g_c), s	0.0	19.0	5.4	4.2	10.1	0.0				5.9	0.0	18.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1961	562	409	2978	0				985	0	847
V/C Ratio(X)	0.00	0.74	0.26	0.46	0.41	0.00				0.32	0.00	0.80
Avail Cap(c_a), veh/h	0	2502	717	534	3621	0				1190	0	1013
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.4	16.2	31.2	8.7	0.0				20.4	0.0	23.5
Incr Delay (d2), s/veh	0.0	0.9	0.2	0.8	0.1	0.0				0.2	0.0	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.1	2.2	1.9	4.7	0.0				2.6	0.0	6.9
LnGrp Delay(d),s/veh	0.0	21.3	16.5	32.0	8.8	0.0				20.6	0.0	27.3
LnGrp LOS		C	B	C	A					C		C
Approach Vol, veh/h		1604			1409						993	
Approach Delay, s/veh		20.9			11.9						25.2	
Approach LOS		C			B						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			15.5	33.8		28.0		49.2
Change Period (Y+Rc), s			6.0	* 6		4.5		6.0
Max Green Setting (Gmax), s			12.5	* 36		28.5		53.0
Max Q Clear Time (g_c+I1), s			6.2	21.0		20.5		12.1
Green Ext Time (p_c), s			3.4	6.8		3.0		7.7

Intersection Summary	
HCM 2010 Ctrl Delay	18.8
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱	↰↰	↑↑↑					↰↰		↱↱
Traffic Volume (veh/h)	0	1360	137	195	1136	0	0	0	0	332	0	621
Future Volume (veh/h)	0	1360	137	195	1136	0	0	0	0	332	0	621
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1716	1716	1863	0				1716	0	1716
Adj Flow Rate, veh/h	0	1478	149	212	1235	0				361	0	675
Adj No. of Lanes	0	3	1	2	3	0				2	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	1965	564	421	2995	0				982	0	844
Arrive On Green	0.00	0.39	0.39	0.13	0.59	0.00				0.31	0.00	0.33
Sat Flow, veh/h	0	5253	1458	3170	5253	0				3170	0	2567
Grp Volume(v), veh/h	0	1478	149	212	1235	0				361	0	675
Grp Sat Flow(s),veh/h/ln	0	1695	1458	1585	1695	0				1585	0	1283
Q Serve(g_s), s	0.0	19.8	5.5	4.9	10.4	0.0				7.0	0.0	18.9
Cycle Q Clear(g_c), s	0.0	19.8	5.5	4.9	10.4	0.0				7.0	0.0	18.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1965	564	421	2995	0				982	0	844
V/C Ratio(X)	0.00	0.75	0.26	0.50	0.41	0.00				0.37	0.00	0.80
Avail Cap(c_a), veh/h	0	2447	702	522	3542	0				1164	0	991
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.0	16.6	31.8	8.8	0.0				21.2	0.0	24.1
Incr Delay (d2), s/veh	0.0	1.0	0.2	0.9	0.1	0.0				0.2	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.4	2.2	2.2	4.8	0.0				3.1	0.0	7.1
LnGrp Delay(d),s/veh	0.0	22.0	16.8	32.7	8.9	0.0				21.5	0.0	28.2
LnGrp LOS		C	B	C	A					C		C
Approach Vol, veh/h		1627			1447						1036	
Approach Delay, s/veh		21.5			12.4						25.9	
Approach LOS		C			B						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			16.0	34.5		28.5		50.5
Change Period (Y+Rc), s			6.0	* 6		4.5		6.0
Max Green Setting (Gmax), s			12.5	* 36		28.5		53.0
Max Q Clear Time (g_c+I1), s			6.9	21.8		20.9		12.4
Green Ext Time (p_c), s			3.2	6.7		3.0		7.9

Intersection Summary	
HCM 2010 Ctrl Delay	19.4
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱	↰↰	↑↑↑					↰↰		↱↱
Traffic Volume (veh/h)	0	733	102	91	383	0	0	0	0	60	0	233
Future Volume (veh/h)	0	733	102	91	383	0	0	0	0	60	0	233
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1716	1716	1863	0				1716	0	1716
Adj Flow Rate, veh/h	0	797	111	99	416	0				65	0	253
Adj No. of Lanes	0	3	1	2	3	0				2	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	1768	507	298	3021	0				585	0	580
Arrive On Green	0.00	0.35	0.35	0.09	0.59	0.00				0.18	0.00	0.23
Sat Flow, veh/h	0	5253	1458	3170	5253	0				3170	0	2567
Grp Volume(v), veh/h	0	797	111	99	416	0				65	0	253
Grp Sat Flow(s),veh/h/ln	0	1695	1458	1585	1695	0				1585	0	1283
Q Serve(g_s), s	0.0	4.4	1.9	1.1	1.3	0.0				0.6	0.0	3.1
Cycle Q Clear(g_c), s	0.0	4.4	1.9	1.1	1.3	0.0				0.6	0.0	3.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1768	507	298	3021	0				585	0	580
V/C Ratio(X)	0.00	0.45	0.22	0.33	0.14	0.00				0.11	0.00	0.44
Avail Cap(c_a), veh/h	0	5353	1535	1142	7748	0				2547	0	2169
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.1	8.3	15.3	3.2	0.0				12.3	0.0	12.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.6	0.0	0.0				0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.0	0.8	0.5	0.6	0.0				0.3	0.0	1.1
LnGrp Delay(d),s/veh	0.0	9.3	8.5	15.9	3.3	0.0				12.3	0.0	12.5
LnGrp LOS		A	A	B	A					B		B
Approach Vol, veh/h		908			515						318	
Approach Delay, s/veh		9.2			5.7						12.5	
Approach LOS		A			A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			8.9	16.6		10.7		25.4
Change Period (Y+Rc), s			6.0	* 6		4.5		6.0
Max Green Setting (Gmax), s			12.5	* 36		28.5		53.0
Max Q Clear Time (g_c+I1), s			3.1	6.4		5.1		3.3
Green Ext Time (p_c), s			1.5	4.2		1.4		2.3

Intersection Summary	
HCM 2010 Ctrl Delay	8.8
HCM 2010 LOS	A

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱	↰↰	↑↑↑					↰↰		↱↱
Traffic Volume (veh/h)	0	739	102	124	403	0	0	0	0	72	0	233
Future Volume (veh/h)	0	739	102	124	403	0	0	0	0	72	0	233
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1716	1716	1863	0				1716	0	1716
Adj Flow Rate, veh/h	0	803	111	135	438	0				78	0	253
Adj No. of Lanes	0	3	1	2	3	0				2	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	1735	498	371	3073	0				582	0	573
Arrive On Green	0.00	0.34	0.34	0.12	0.60	0.00				0.18	0.00	0.22
Sat Flow, veh/h	0	5253	1458	3170	5253	0				3170	0	2567
Grp Volume(v), veh/h	0	803	111	135	438	0				78	0	253
Grp Sat Flow(s),veh/h/ln	0	1695	1458	1585	1695	0				1585	0	1283
Q Serve(g_s), s	0.0	4.7	2.0	1.5	1.4	0.0				0.8	0.0	3.2
Cycle Q Clear(g_c), s	0.0	4.7	2.0	1.5	1.4	0.0				0.8	0.0	3.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1735	498	371	3073	0				582	0	573
V/C Ratio(X)	0.00	0.46	0.22	0.36	0.14	0.00				0.13	0.00	0.44
Avail Cap(c_a), veh/h	0	5128	1471	1094	7422	0				2439	0	2077
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.7	8.9	15.3	3.2	0.0				12.9	0.0	12.6
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.6	0.0	0.0				0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.2	0.8	0.7	0.7	0.0				0.3	0.0	1.2
LnGrp Delay(d),s/veh	0.0	9.9	9.1	15.9	3.3	0.0				13.0	0.0	13.1
LnGrp LOS		A	A	B	A					B		B
Approach Vol, veh/h		914			573						331	
Approach Delay, s/veh		9.8			6.2						13.1	
Approach LOS		A			A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			9.9	16.9		10.9		26.8
Change Period (Y+Rc), s			6.0	* 6		4.5		6.0
Max Green Setting (Gmax), s			12.5	* 36		28.5		53.0
Max Q Clear Time (g_c+I1), s			3.5	6.7		5.2		3.4
Green Ext Time (p_c), s			1.7	4.2		1.4		2.5

Intersection Summary	
HCM 2010 Ctrl Delay	9.3
HCM 2010 LOS	A

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱	↰↰	↑↑↑					↰↰		↱↱
Traffic Volume (veh/h)	0	1392	194	173	728	0	0	0	0	108	0	421
Future Volume (veh/h)	0	1392	194	173	728	0	0	0	0	108	0	421
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1716	1716	1863	0				1716	0	1716
Adj Flow Rate, veh/h	0	1513	211	188	791	0				117	0	458
Adj No. of Lanes	0	3	1	2	3	0				2	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	2175	624	408	3259	0				749	0	665
Arrive On Green	0.00	0.43	0.43	0.13	0.64	0.00				0.24	0.00	0.26
Sat Flow, veh/h	0	5253	1458	3170	5253	0				3170	0	2567
Grp Volume(v), veh/h	0	1513	211	188	791	0				117	0	458
Grp Sat Flow(s),veh/h/ln	0	1695	1458	1585	1695	0				1585	0	1283
Q Serve(g_s), s	0.0	15.8	6.3	3.6	4.3	0.0				1.9	0.0	10.5
Cycle Q Clear(g_c), s	0.0	15.8	6.3	3.6	4.3	0.0				1.9	0.0	10.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2175	624	408	3259	0				749	0	665
V/C Ratio(X)	0.00	0.70	0.34	0.46	0.24	0.00				0.16	0.00	0.69
Avail Cap(c_a), veh/h	0	2970	852	633	4299	0				1413	0	1203
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.2	12.5	26.3	5.0	0.0				19.7	0.0	21.7
Incr Delay (d2), s/veh	0.0	0.4	0.3	0.8	0.0	0.0				0.1	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.4	2.6	1.6	2.0	0.0				0.8	0.0	3.8
LnGrp Delay(d),s/veh	0.0	15.6	12.8	27.1	5.0	0.0				19.8	0.0	23.0
LnGrp LOS		B	B	C	A					B		C
Approach Vol, veh/h		1724			979						575	
Approach Delay, s/veh		15.3			9.2						22.4	
Approach LOS		B			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			13.9	31.8		19.4		45.7
Change Period (Y+Rc), s			6.0	* 6		4.5		6.0
Max Green Setting (Gmax), s			12.5	* 36		28.5		53.0
Max Q Clear Time (g_c+I1), s			5.6	17.8		12.5		6.3
Green Ext Time (p_c), s			2.6	8.1		2.4		4.7

Intersection Summary	
HCM 2010 Ctrl Delay	14.7
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱	↰↰	↑↑↑					↰↰		↱↱
Traffic Volume (veh/h)	0	1398	194	206	748	0	0	0	0	120	0	421
Future Volume (veh/h)	0	1398	194	206	748	0	0	0	0	120	0	421
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1716	1716	1863	0				1716	0	1716
Adj Flow Rate, veh/h	0	1520	211	224	813	0				130	0	458
Adj No. of Lanes	0	3	1	2	3	0				2	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	2159	619	438	3280	0				745	0	661
Arrive On Green	0.00	0.42	0.42	0.14	0.65	0.00				0.24	0.00	0.26
Sat Flow, veh/h	0	5253	1458	3170	5253	0				3170	0	2567
Grp Volume(v), veh/h	0	1520	211	224	813	0				130	0	458
Grp Sat Flow(s),veh/h/ln	0	1695	1458	1585	1695	0				1585	0	1283
Q Serve(g_s), s	0.0	16.4	6.5	4.4	4.5	0.0				2.2	0.0	10.8
Cycle Q Clear(g_c), s	0.0	16.4	6.5	4.4	4.5	0.0				2.2	0.0	10.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2159	619	438	3280	0				745	0	661
V/C Ratio(X)	0.00	0.70	0.34	0.51	0.25	0.00				0.17	0.00	0.69
Avail Cap(c_a), veh/h	0	2894	830	617	4188	0				1377	0	1172
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.8	12.9	26.7	5.0	0.0				20.4	0.0	22.4
Incr Delay (d2), s/veh	0.0	0.5	0.3	0.9	0.0	0.0				0.1	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.7	2.6	2.0	2.1	0.0				1.0	0.0	3.9
LnGrp Delay(d),s/veh	0.0	16.3	13.3	27.6	5.0	0.0				20.5	0.0	23.7
LnGrp LOS		B	B	C	A					C		C
Approach Vol, veh/h		1731			1037						588	
Approach Delay, s/veh		15.9			9.9						23.0	
Approach LOS		B			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			14.7	32.3		19.7		47.1
Change Period (Y+Rc), s			6.0	* 6		4.5		6.0
Max Green Setting (Gmax), s			12.5	* 36		28.5		53.0
Max Q Clear Time (g_c+I1), s			6.4	18.4		12.8		6.5
Green Ext Time (p_c), s			2.5	8.0		2.4		5.0

Intersection Summary	
HCM 2010 Ctrl Delay	15.3
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection 2
SR 99 NB Offramp & E Cartmill Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑	↱	↰↰		↱↱			
Traffic Volume (veh/h)	0	664	0	0	609	80	68	0	102	0	0	0
Future Volume (veh/h)	0	664	0	0	609	80	68	0	102	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	0	0	1863	1716	1716	0	1716			
Adj Flow Rate, veh/h	0	722	0	0	662	87	74	0	111			
Adj No. of Lanes	0	3	0	0	3	1	2	0	2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	0	0	2	2	2	0	2			
Cap, veh/h	0	2627	0	0	2627	753	589	0	477			
Arrive On Green	0.00	0.52	0.00	0.00	0.52	0.52	0.19	0.00	0.19			
Sat Flow, veh/h	0	5421	0	0	5253	1458	3170	0	2567			
Grp Volume(v), veh/h	0	722	0	0	662	87	74	0	111			
Grp Sat Flow(s),veh/h/ln	0	1695	0	0	1695	1458	1585	0	1283			
Q Serve(g_s), s	0.0	2.2	0.0	0.0	1.9	0.8	0.5	0.0	1.0			
Cycle Q Clear(g_c), s	0.0	2.2	0.0	0.0	1.9	0.8	0.5	0.0	1.0			
Prop In Lane	0.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2627	0	0	2627	753	589	0	477			
V/C Ratio(X)	0.00	0.27	0.00	0.00	0.25	0.12	0.13	0.00	0.23			
Avail Cap(c_a), veh/h	0	8700	0	0	8700	2495	4480	0	3627			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	3.7	0.0	0.0	3.6	3.3	9.1	0.0	9.3			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.9	0.0	0.0	0.9	0.3	0.2	0.0	0.4			
LnGrp Delay(d),s/veh	0.0	3.7	0.0	0.0	3.7	3.4	9.2	0.0	9.6			
LnGrp LOS		A			A	A	A		A			
Approach Vol, veh/h		722			749			185				
Approach Delay, s/veh		3.7			3.6			9.4				
Approach LOS		A			A			A				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		9.0		17.9				17.9
Change Period (Y+Rc), s		6.0		6.0				6.0
Max Green Setting (Gmax), s		36.0		44.0				44.0
Max Q Clear Time (g_c+I1), s		3.0		4.2				3.9
Green Ext Time (p_c), s		0.8		7.7				7.7

Intersection Summary	
HCM 2010 Ctrl Delay	4.3
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑	↱	↰↰		↱↱			
Traffic Volume (veh/h)	0	724	0	0	644	89	68	0	117	0	0	0
Future Volume (veh/h)	0	724	0	0	644	89	68	0	117	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	0	0	1863	1716	1716	0	1716			
Adj Flow Rate, veh/h	0	787	0	0	700	97	74	0	127			
Adj No. of Lanes	0	3	0	0	3	1	2	0	2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	0	0	2	2	2	0	2			
Cap, veh/h	0	2704	0	0	2704	775	586	0	474			
Arrive On Green	0.00	0.53	0.00	0.00	0.53	0.53	0.18	0.00	0.18			
Sat Flow, veh/h	0	5421	0	0	5253	1458	3170	0	2567			
Grp Volume(v), veh/h	0	787	0	0	700	97	74	0	127			
Grp Sat Flow(s),veh/h/ln	0	1695	0	0	1695	1458	1585	0	1283			
Q Serve(g_s), s	0.0	2.4	0.0	0.0	2.1	0.9	0.5	0.0	1.2			
Cycle Q Clear(g_c), s	0.0	2.4	0.0	0.0	2.1	0.9	0.5	0.0	1.2			
Prop In Lane	0.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2704	0	0	2704	775	586	0	474			
V/C Ratio(X)	0.00	0.29	0.00	0.00	0.26	0.13	0.13	0.00	0.27			
Avail Cap(c_a), veh/h	0	8288	0	0	8288	2377	4268	0	3456			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	3.7	0.0	0.0	3.6	3.3	9.6	0.0	9.9			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	1.1	0.0	0.0	1.0	0.4	0.2	0.0	0.4			
LnGrp Delay(d),s/veh	0.0	3.7	0.0	0.0	3.6	3.4	9.7	0.0	10.2			
LnGrp LOS		A			A	A	A		B			
Approach Vol, veh/h		787			797			201				
Approach Delay, s/veh		3.7			3.6			10.0				
Approach LOS		A			A			A				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		9.2		19.0				19.0
Change Period (Y+Rc), s		6.0		6.0				6.0
Max Green Setting (Gmax), s		36.0		44.0				44.0
Max Q Clear Time (g_c+I1), s		3.2		4.4				4.1
Green Ext Time (p_c), s		0.9		8.6				8.6

Intersection Summary	
HCM 2010 Ctrl Delay	4.4
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑	↱	↰↰		↱↱			
Traffic Volume (veh/h)	0	1261	0	0	717	194	123	0	184	0	0	0
Future Volume (veh/h)	0	1261	0	0	717	194	123	0	184	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	0	0	1863	1716	1716	0	1716			
Adj Flow Rate, veh/h	0	1371	0	0	779	211	134	0	200			
Adj No. of Lanes	0	3	0	0	3	1	2	0	2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	0	0	2	2	2	0	2			
Cap, veh/h	0	3105	0	0	3105	890	623	0	504			
Arrive On Green	0.00	0.61	0.00	0.00	0.61	0.61	0.20	0.00	0.20			
Sat Flow, veh/h	0	5421	0	0	5253	1458	3170	0	2567			
Grp Volume(v), veh/h	0	1371	0	0	779	211	134	0	200			
Grp Sat Flow(s),veh/h/ln	0	1695	0	0	1695	1458	1585	0	1283			
Q Serve(g_s), s	0.0	6.0	0.0	0.0	2.9	2.7	1.5	0.0	2.8			
Cycle Q Clear(g_c), s	0.0	6.0	0.0	0.0	2.9	2.7	1.5	0.0	2.8			
Prop In Lane	0.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	3105	0	0	3105	890	623	0	504			
V/C Ratio(X)	0.00	0.44	0.00	0.00	0.25	0.24	0.22	0.00	0.40			
Avail Cap(c_a), veh/h	0	5640	0	0	5640	1617	2904	0	2352			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	4.3	0.0	0.0	3.7	3.7	14.0	0.0	14.5			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.0	0.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	2.7	0.0	0.0	1.3	1.1	0.6	0.0	1.0			
LnGrp Delay(d),s/veh	0.0	4.4	0.0	0.0	3.8	3.8	14.1	0.0	15.0			
LnGrp LOS		A			A	A	B		B			
Approach Vol, veh/h		1371			990			334				
Approach Delay, s/veh		4.4			3.8			14.7				
Approach LOS		A			A			B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		12.2		29.3				29.3
Change Period (Y+Rc), s		6.0		6.0				6.0
Max Green Setting (Gmax), s		36.0		44.0				44.0
Max Q Clear Time (g_c+I1), s		4.8		8.0				4.9
Green Ext Time (p_c), s		1.5		15.4				15.8

Intersection Summary	
HCM 2010 Ctrl Delay	5.4
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑	↱	↰↰		↱↱			
Traffic Volume (veh/h)	0	1321	0	0	752	203	123	0	199	0	0	0
Future Volume (veh/h)	0	1321	0	0	752	203	123	0	199	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	0	0	1863	1716	1716	0	1716			
Adj Flow Rate, veh/h	0	1436	0	0	817	221	134	0	216			
Adj No. of Lanes	0	3	0	0	3	1	2	0	2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	2	0	0	2	2	2	0	2			
Cap, veh/h	0	3142	0	0	3142	901	630	0	510			
Arrive On Green	0.00	0.62	0.00	0.00	0.62	0.62	0.20	0.00	0.20			
Sat Flow, veh/h	0	5421	0	0	5253	1458	3170	0	2567			
Grp Volume(v), veh/h	0	1436	0	0	817	221	134	0	216			
Grp Sat Flow(s),veh/h/ln	0	1695	0	0	1695	1458	1585	0	1283			
Q Serve(g_s), s	0.0	6.6	0.0	0.0	3.2	3.0	1.5	0.0	3.2			
Cycle Q Clear(g_c), s	0.0	6.6	0.0	0.0	3.2	3.0	1.5	0.0	3.2			
Prop In Lane	0.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	3142	0	0	3142	901	630	0	510			
V/C Ratio(X)	0.00	0.46	0.00	0.00	0.26	0.25	0.21	0.00	0.42			
Avail Cap(c_a), veh/h	0	5367	0	0	5367	1539	2764	0	2238			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	4.4	0.0	0.0	3.8	3.8	14.6	0.0	15.3			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.0	0.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	3.0	0.0	0.0	1.4	1.2	0.7	0.0	1.2			
LnGrp Delay(d),s/veh	0.0	4.5	0.0	0.0	3.8	3.9	14.8	0.0	15.8			
LnGrp LOS		A			A	A	B		B			
Approach Vol, veh/h		1436			1038			350				
Approach Delay, s/veh		4.5			3.8			15.4				
Approach LOS		A			A			B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		12.7		30.9				30.9
Change Period (Y+Rc), s		6.0		6.0				6.0
Max Green Setting (Gmax), s		36.0		44.0				44.0
Max Q Clear Time (g_c+I1), s		5.2		8.6				5.2
Green Ext Time (p_c), s		1.5		16.4				17.0

Intersection Summary	
HCM 2010 Ctrl Delay	5.6
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑	↱	↰↰		↱↱			
Traffic Volume (veh/h)	1	451	0	0	396	100	65	0	62	0	0	0
Future Volume (veh/h)	1	451	0	0	396	100	65	0	62	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1750	1863	0	0	1863	1716	1716	0	1716			
Adj Flow Rate, veh/h	1	490	0	0	430	109	71	0	67			
Adj No. of Lanes	0	3	0	0	3	1	2	0	2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	164	2206	0	0	2270	651	613	0	496			
Arrive On Green	0.36	0.45	0.00	0.00	0.45	0.45	0.19	0.00	0.19			
Sat Flow, veh/h	3	5094	0	0	5253	1458	3170	0	2567			
Grp Volume(v), veh/h	185	306	0	0	430	109	71	0	67			
Grp Sat Flow(s),veh/h/ln	1860	1543	0	0	1695	1458	1585	0	1283			
Q Serve(g_s), s	0.0	1.4	0.0	0.0	1.1	1.0	0.4	0.0	0.5			
Cycle Q Clear(g_c), s	1.4	1.4	0.0	0.0	1.1	1.0	0.4	0.0	0.5			
Prop In Lane	0.01		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	826	1377	0	0	2270	651	613	0	496			
V/C Ratio(X)	0.22	0.22	0.00	0.00	0.19	0.17	0.12	0.00	0.14			
Avail Cap(c_a), veh/h	3834	6390	0	0	10534	3021	5424	0	4392			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	3.8	3.8	0.0	0.0	3.7	3.7	7.4	0.0	7.4			
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.8	0.6	0.0	0.0	0.5	0.4	0.2	0.0	0.2			
LnGrp Delay(d),s/veh	3.9	3.9	0.0	0.0	3.8	3.8	7.5	0.0	7.5			
LnGrp LOS	A	A			A	A	A		A			
Approach Vol, veh/h		491			539			138				
Approach Delay, s/veh		3.9			3.8			7.5				
Approach LOS		A			A			A				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		8.3		13.9				13.9
Change Period (Y+Rc), s		6.0		6.0				6.0
Max Green Setting (Gmax), s		36.0		44.0				44.0
Max Q Clear Time (g_c+I1), s		2.5		3.4				3.1
Green Ext Time (p_c), s		0.6		4.5				4.5

Intersection Summary	
HCM 2010 Ctrl Delay	4.3
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑	↱	↰↰		↱↱			
Traffic Volume (veh/h)	1	469	0	0	449	114	65	0	66	0	0	0
Future Volume (veh/h)	1	469	0	0	449	114	65	0	66	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1750	1863	0	0	1863	1716	1716	0	1716			
Adj Flow Rate, veh/h	1	510	0	0	488	124	71	0	72			
Adj No. of Lanes	0	3	0	0	3	1	2	0	2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	159	2269	0	0	2335	670	607	0	492			
Arrive On Green	0.37	0.46	0.00	0.00	0.46	0.46	0.19	0.00	0.19			
Sat Flow, veh/h	2	5095	0	0	5253	1458	3170	0	2567			
Grp Volume(v), veh/h	192	319	0	0	488	124	71	0	72			
Grp Sat Flow(s),veh/h/ln	1859	1543	0	0	1695	1458	1585	0	1283			
Q Serve(g_s), s	0.0	1.4	0.0	0.0	1.3	1.2	0.4	0.0	0.5			
Cycle Q Clear(g_c), s	1.5	1.4	0.0	0.0	1.3	1.2	0.4	0.0	0.5			
Prop In Lane	0.01		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	849	1417	0	0	2335	670	607	0	492			
V/C Ratio(X)	0.23	0.22	0.00	0.00	0.21	0.19	0.12	0.00	0.15			
Avail Cap(c_a), veh/h	3715	6195	0	0	10211	2928	5258	0	4258			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	3.8	3.7	0.0	0.0	3.7	3.7	7.7	0.0	7.7			
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.8	0.6	0.0	0.0	0.6	0.5	0.2	0.0	0.2			
LnGrp Delay(d),s/veh	3.9	3.8	0.0	0.0	3.8	3.8	7.7	0.0	7.8			
LnGrp LOS	A	A			A	A	A		A			
Approach Vol, veh/h		511			612			143				
Approach Delay, s/veh		3.8			3.8			7.8				
Approach LOS		A			A			A				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		8.4		14.5				14.5
Change Period (Y+Rc), s		6.0		6.0				6.0
Max Green Setting (Gmax), s		36.0		44.0				44.0
Max Q Clear Time (g_c+I1), s		2.5		3.5				3.3
Green Ext Time (p_c), s		0.6		5.1				5.1

Intersection Summary	
HCM 2010 Ctrl Delay	4.2
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑	↱	↰↰		↱↱			
Traffic Volume (veh/h)	2	857	0	0	466	218	117	0	112	0	0	0
Future Volume (veh/h)	2	857	0	0	466	218	117	0	112	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1750	1863	0	0	1863	1716	1716	0	1716			
Adj Flow Rate, veh/h	2	932	0	0	507	237	127	0	122			
Adj No. of Lanes	0	3	0	0	3	1	2	0	2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	123	2655	0	0	2731	783	611	0	495			
Arrive On Green	0.47	0.54	0.00	0.00	0.54	0.54	0.19	0.00	0.19			
Sat Flow, veh/h	2	5095	0	0	5253	1458	3170	0	2567			
Grp Volume(v), veh/h	351	583	0	0	507	237	127	0	122			
Grp Sat Flow(s),veh/h/ln	1860	1543	0	0	1695	1458	1585	0	1283			
Q Serve(g_s), s	0.0	3.2	0.0	0.0	1.5	2.7	1.0	0.0	1.2			
Cycle Q Clear(g_c), s	3.3	3.2	0.0	0.0	1.5	2.7	1.0	0.0	1.2			
Prop In Lane	0.01		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	995	1657	0	0	2731	783	611	0	495			
V/C Ratio(X)	0.35	0.35	0.00	0.00	0.19	0.30	0.21	0.00	0.25			
Avail Cap(c_a), veh/h	2871	4792	0	0	7900	2265	4068	0	3294			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	3.9	3.9	0.0	0.0	3.5	3.8	10.1	0.0	10.1			
Incr Delay (d2), s/veh	0.2	0.1	0.0	0.0	0.0	0.2	0.2	0.0	0.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.0	1.3	0.0	0.0	0.7	1.1	0.4	0.0	0.4			
LnGrp Delay(d),s/veh	4.2	4.0	0.0	0.0	3.6	4.0	10.2	0.0	10.4			
LnGrp LOS	A	A			A	A	B		B			
Approach Vol, veh/h		934			744			249				
Approach Delay, s/veh		4.1			3.7			10.3				
Approach LOS		A			A			B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		9.7		19.9				19.9
Change Period (Y+Rc), s		6.0		6.0				6.0
Max Green Setting (Gmax), s		36.0		44.0				44.0
Max Q Clear Time (g_c+I1), s		3.2		5.3				4.7
Green Ext Time (p_c), s		1.1		8.6				8.6

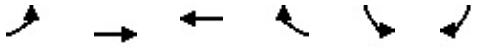
Intersection Summary	
HCM 2010 Ctrl Delay	4.7
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑	↱	↰↰		↱↱			
Traffic Volume (veh/h)	2	875	0	0	519	232	117	0	116	0	0	0
Future Volume (veh/h)	2	875	0	0	519	232	117	0	116	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1750	1863	0	0	1863	1716	1716	0	1716			
Adj Flow Rate, veh/h	2	951	0	0	564	252	127	0	126			
Adj No. of Lanes	0	3	0	0	3	1	2	0	2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	119	2704	0	0	2782	798	607	0	491			
Arrive On Green	0.48	0.55	0.00	0.00	0.55	0.55	0.19	0.00	0.19			
Sat Flow, veh/h	2	5095	0	0	5253	1458	3170	0	2567			
Grp Volume(v), veh/h	359	594	0	0	564	252	127	0	126			
Grp Sat Flow(s),veh/h/ln	1859	1543	0	0	1695	1458	1585	0	1283			
Q Serve(g_s), s	0.0	3.3	0.0	0.0	1.7	2.9	1.0	0.0	1.3			
Cycle Q Clear(g_c), s	3.4	3.3	0.0	0.0	1.7	2.9	1.0	0.0	1.3			
Prop In Lane	0.01		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	1014	1688	0	0	2782	798	607	0	491			
V/C Ratio(X)	0.35	0.35	0.00	0.00	0.20	0.32	0.21	0.00	0.26			
Avail Cap(c_a), veh/h	2780	4641	0	0	7651	2194	3940	0	3190			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	3.9	3.9	0.0	0.0	3.5	3.8	10.4	0.0	10.5			
Incr Delay (d2), s/veh	0.2	0.1	0.0	0.0	0.0	0.2	0.2	0.0	0.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.0	1.4	0.0	0.0	0.8	1.2	0.5	0.0	0.5			
LnGrp Delay(d),s/veh	4.1	4.0	0.0	0.0	3.6	4.0	10.6	0.0	10.8			
LnGrp LOS	A	A			A	A	B		B			
Approach Vol, veh/h		953			816			253				
Approach Delay, s/veh		4.1			3.7			10.7				
Approach LOS		A			A			B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		9.9		20.7				20.7
Change Period (Y+Rc), s		6.0		6.0				6.0
Max Green Setting (Gmax), s		36.0		44.0				44.0
Max Q Clear Time (g_c+I1), s		3.3		5.4				4.9
Green Ext Time (p_c), s		1.1		9.3				9.3

Intersection Summary	
HCM 2010 Ctrl Delay	4.7
HCM 2010 LOS	A

Intersection 3
Rd 100 & E Cartmill Ave



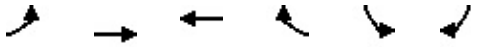
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	121	645	544	31	76	121
Future Volume (veh/h)	121	645	544	31	76	121
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1863	1716	1716	1750
Adj Flow Rate, veh/h	132	701	591	34	83	132
Adj No. of Lanes	1	3	3	1	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	193	2840	1675	480	128	204
Arrive On Green	0.12	0.56	0.33	0.33	0.22	0.21
Sat Flow, veh/h	1634	5253	5253	1458	585	930
Grp Volume(v), veh/h	132	701	591	34	216	0
Grp Sat Flow(s),veh/h/ln	1634	1695	1695	1458	1522	0
Q Serve(g_s), s	2.8	2.5	3.2	0.6	4.7	0.0
Cycle Q Clear(g_c), s	2.8	2.5	3.2	0.6	4.7	0.0
Prop In Lane	1.00			1.00	0.38	0.61
Lane Grp Cap(c), veh/h	193	2840	1675	480	334	0
V/C Ratio(X)	0.68	0.25	0.35	0.07	0.65	0.00
Avail Cap(c_a), veh/h	953	7625	4095	1174	1184	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.2	4.1	9.2	8.3	12.9	0.0
Incr Delay (d2), s/veh	4.2	0.0	0.1	0.1	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.2	1.5	0.2	2.1	0.0
LnGrp Delay(d),s/veh	19.5	4.1	9.3	8.4	15.0	0.0
LnGrp LOS	B	A	A	A	B	
Approach Vol, veh/h		833	625		216	
Approach Delay, s/veh		6.6	9.2		15.0	
Approach LOS		A	A		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				24.1		11.9	8.3	15.9
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				53.5		27.5	20.5	28.5
Max Q Clear Time (g_c+I1), s				4.5		6.7	4.8	5.2
Green Ext Time (p_c), s				6.8		0.7	0.3	6.2

Intersection Summary	
HCM 2010 Ctrl Delay	8.6
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.



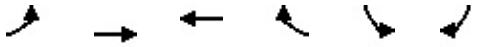
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	121	720	588	31	76	121
Future Volume (veh/h)	121	720	588	31	76	121
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1863	1716	1716	1750
Adj Flow Rate, veh/h	132	783	639	34	83	132
Adj No. of Lanes	1	3	3	1	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	192	2898	1757	504	127	201
Arrive On Green	0.12	0.57	0.35	0.35	0.22	0.20
Sat Flow, veh/h	1634	5253	5253	1458	585	930
Grp Volume(v), veh/h	132	783	639	34	216	0
Grp Sat Flow(s),veh/h/ln	1634	1695	1695	1458	1522	0
Q Serve(g_s), s	2.9	2.9	3.5	0.6	4.9	0.0
Cycle Q Clear(g_c), s	2.9	2.9	3.5	0.6	4.9	0.0
Prop In Lane	1.00			1.00	0.38	0.61
Lane Grp Cap(c), veh/h	192	2898	1757	504	329	0
V/C Ratio(X)	0.69	0.27	0.36	0.07	0.66	0.00
Avail Cap(c_a), veh/h	917	7337	3940	1130	1139	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.9	4.1	9.2	8.2	13.5	0.0
Incr Delay (d2), s/veh	4.3	0.0	0.1	0.1	2.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.3	1.6	0.2	2.3	0.0
LnGrp Delay(d),s/veh	20.2	4.1	9.3	8.3	15.8	0.0
LnGrp LOS	C	A	A	A	B	
Approach Vol, veh/h		915	673		216	
Approach Delay, s/veh		6.5	9.2		15.8	
Approach LOS		A	A		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				25.3		12.1	8.4	16.9
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				53.5		27.5	20.5	28.5
Max Q Clear Time (g_c+I1), s				4.9		6.9	4.9	5.5
Green Ext Time (p_c), s				7.8		0.7	0.3	6.9

Intersection Summary	
HCM 2010 Ctrl Delay	8.6
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.



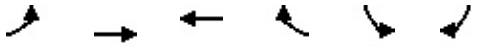
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	142	759	1147	60	111	177
Future Volume (veh/h)	142	759	1147	60	111	177
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1863	1716	1716	1750
Adj Flow Rate, veh/h	154	825	1247	65	121	192
Adj No. of Lanes	1	3	3	1	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	212	3055	2032	583	150	239
Arrive On Green	0.13	0.60	0.40	0.40	0.26	0.25
Sat Flow, veh/h	1634	5253	5253	1458	587	931
Grp Volume(v), veh/h	154	825	1247	65	314	0
Grp Sat Flow(s),veh/h/ln	1634	1695	1695	1458	1522	0
Q Serve(g_s), s	5.1	4.3	10.9	1.6	10.8	0.0
Cycle Q Clear(g_c), s	5.1	4.3	10.9	1.6	10.8	0.0
Prop In Lane	1.00			1.00	0.39	0.61
Lane Grp Cap(c), veh/h	212	3055	2032	583	390	0
V/C Ratio(X)	0.73	0.27	0.61	0.11	0.80	0.00
Avail Cap(c_a), veh/h	613	4902	2633	755	761	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.4	5.3	13.4	10.6	19.7	0.0
Incr Delay (d2), s/veh	4.7	0.0	0.3	0.1	3.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	2.0	5.1	0.6	5.0	0.0
LnGrp Delay(d),s/veh	28.1	5.4	13.7	10.6	23.6	0.0
LnGrp LOS	C	A	B	B	C	
Approach Vol, veh/h		979	1312		314	
Approach Delay, s/veh		9.0	13.5		23.6	
Approach LOS		A	B		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				37.7		18.4	11.3	26.4
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				53.5		27.5	20.5	28.5
Max Q Clear Time (g_c+I1), s				6.3		12.8	7.1	12.9
Green Ext Time (p_c), s				14.2		1.0	0.4	9.0

Intersection Summary	
HCM 2010 Ctrl Delay	13.0
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



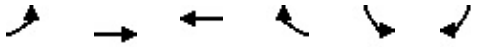
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	142	834	1191	60	111	177
Future Volume (veh/h)	142	834	1191	60	111	177
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1863	1716	1716	1750
Adj Flow Rate, veh/h	154	907	1295	65	121	192
Adj No. of Lanes	1	3	3	1	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	211	3079	2068	593	150	237
Arrive On Green	0.13	0.61	0.41	0.41	0.26	0.25
Sat Flow, veh/h	1634	5253	5253	1458	587	931
Grp Volume(v), veh/h	154	907	1295	65	314	0
Grp Sat Flow(s),veh/h/ln	1634	1695	1695	1458	1522	0
Q Serve(g_s), s	5.2	4.9	11.6	1.6	11.1	0.0
Cycle Q Clear(g_c), s	5.2	4.9	11.6	1.6	11.1	0.0
Prop In Lane	1.00			1.00	0.39	0.61
Lane Grp Cap(c), veh/h	211	3079	2068	593	388	0
V/C Ratio(X)	0.73	0.29	0.63	0.11	0.81	0.00
Avail Cap(c_a), veh/h	598	4783	2569	737	742	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.0	5.4	13.6	10.6	20.2	0.0
Incr Delay (d2), s/veh	4.8	0.1	0.3	0.1	4.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	2.3	5.5	0.6	5.1	0.0
LnGrp Delay(d),s/veh	28.8	5.5	13.9	10.7	24.3	0.0
LnGrp LOS	C	A	B	B	C	
Approach Vol, veh/h		1061	1360		314	
Approach Delay, s/veh		8.9	13.7		24.3	
Approach LOS		A	B		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				38.8		18.6	11.4	27.3
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				53.5		27.5	20.5	28.5
Max Q Clear Time (g_c+I1), s				6.9		13.1	7.2	13.6
Green Ext Time (p_c), s				15.7		1.0	0.4	9.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.1
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



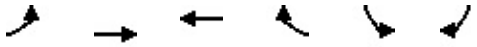
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	81	427	461	23	29	42
Future Volume (veh/h)	81	427	461	23	29	42
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1863	1716	1716	1750
Adj Flow Rate, veh/h	88	464	501	25	32	46
Adj No. of Lanes	1	3	3	1	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	145	2812	1634	469	100	143
Arrive On Green	0.09	0.55	0.32	0.32	0.16	0.14
Sat Flow, veh/h	1634	5253	5253	1458	619	890
Grp Volume(v), veh/h	88	464	501	25	79	0
Grp Sat Flow(s),veh/h/ln	1634	1695	1695	1458	1528	0
Q Serve(g_s), s	1.5	1.3	2.1	0.3	1.3	0.0
Cycle Q Clear(g_c), s	1.5	1.3	2.1	0.3	1.3	0.0
Prop In Lane	1.00			1.00	0.41	0.58
Lane Grp Cap(c), veh/h	145	2812	1634	469	246	0
V/C Ratio(X)	0.61	0.16	0.31	0.05	0.32	0.00
Avail Cap(c_a), veh/h	1227	9819	5273	1512	1530	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.3	3.1	7.1	6.6	10.5	0.0
Incr Delay (d2), s/veh	4.1	0.0	0.1	0.0	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.6	0.9	0.1	0.6	0.0
LnGrp Delay(d),s/veh	16.3	3.1	7.3	6.6	11.3	0.0
LnGrp LOS	B	A	A	A	B	
Approach Vol, veh/h		552	526		79	
Approach Delay, s/veh		5.2	7.2		11.3	
Approach LOS		A	A		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				19.5		8.5	6.5	13.0
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				53.5		27.5	20.5	28.5
Max Q Clear Time (g_c+I1), s				3.3		3.3	3.5	4.1
Green Ext Time (p_c), s				4.7		0.2	0.2	4.4

Intersection Summary	
HCM 2010 Ctrl Delay	6.5
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.



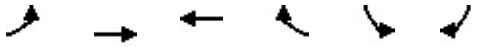
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	81	449	528	23	29	42
Future Volume (veh/h)	81	449	528	23	29	42
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1863	1716	1716	1750
Adj Flow Rate, veh/h	88	488	574	25	32	46
Adj No. of Lanes	1	3	3	1	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	143	2883	1733	497	96	139
Arrive On Green	0.09	0.57	0.34	0.34	0.16	0.14
Sat Flow, veh/h	1634	5253	5253	1458	619	890
Grp Volume(v), veh/h	88	488	574	25	79	0
Grp Sat Flow(s),veh/h/ln	1634	1695	1695	1458	1528	0
Q Serve(g_s), s	1.5	1.3	2.4	0.3	1.3	0.0
Cycle Q Clear(g_c), s	1.5	1.3	2.4	0.3	1.3	0.0
Prop In Lane	1.00			1.00	0.41	0.58
Lane Grp Cap(c), veh/h	143	2883	1733	497	238	0
V/C Ratio(X)	0.62	0.17	0.33	0.05	0.33	0.00
Avail Cap(c_a), veh/h	1189	9516	5110	1466	1482	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.7	3.0	7.1	6.4	11.0	0.0
Incr Delay (d2), s/veh	4.3	0.0	0.1	0.0	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.6	1.1	0.1	0.6	0.0
LnGrp Delay(d),s/veh	17.0	3.0	7.2	6.4	11.8	0.0
LnGrp LOS	B	A	A	A	B	
Approach Vol, veh/h		576	599		79	
Approach Delay, s/veh		5.2	7.1		11.8	
Approach LOS		A	A		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				20.4		8.5	6.5	13.8
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				53.5		27.5	20.5	28.5
Max Q Clear Time (g_c+I1), s				3.3		3.3	3.5	4.4
Green Ext Time (p_c), s				5.3		0.2	0.2	4.9

Intersection Summary	
HCM 2010 Ctrl Delay	6.5
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.



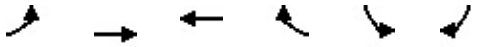
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	503	988	44	43	62
Future Volume (veh/h)	95	503	988	44	43	62
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1863	1716	1716	1750
Adj Flow Rate, veh/h	103	547	1074	48	47	67
Adj No. of Lanes	1	3	3	1	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	152	3234	2210	634	92	131
Arrive On Green	0.09	0.64	0.43	0.43	0.15	0.13
Sat Flow, veh/h	1634	5253	5253	1458	624	890
Grp Volume(v), veh/h	103	547	1074	48	115	0
Grp Sat Flow(s),veh/h/ln	1634	1695	1695	1458	1527	0
Q Serve(g_s), s	2.3	1.6	5.6	0.7	2.6	0.0
Cycle Q Clear(g_c), s	2.3	1.6	5.6	0.7	2.6	0.0
Prop In Lane	1.00			1.00	0.41	0.58
Lane Grp Cap(c), veh/h	152	3234	2210	634	225	0
V/C Ratio(X)	0.68	0.17	0.49	0.08	0.51	0.00
Avail Cap(c_a), veh/h	931	7448	4000	1147	1160	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.2	2.7	7.5	6.1	14.6	0.0
Incr Delay (d2), s/veh	5.2	0.0	0.2	0.1	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.8	2.6	0.3	1.2	0.0
LnGrp Delay(d),s/veh	21.4	2.8	7.6	6.1	16.4	0.0
LnGrp LOS	C	A	A	A	B	
Approach Vol, veh/h		650	1122		115	
Approach Delay, s/veh		5.7	7.6		16.4	
Approach LOS		A	A		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				27.4		9.4	7.4	20.0
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				53.5		27.5	20.5	28.5
Max Q Clear Time (g_c+I1), s				3.6		4.6	4.3	7.6
Green Ext Time (p_c), s				9.6		0.3	0.2	7.9

Intersection Summary	
HCM 2010 Ctrl Delay	7.5
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	525	1055	44	43	62
Future Volume (veh/h)	95	525	1055	44	43	62
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1863	1716	1716	1750
Adj Flow Rate, veh/h	103	571	1147	48	47	67
Adj No. of Lanes	1	3	3	1	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	151	3281	2276	653	90	129
Arrive On Green	0.09	0.65	0.45	0.45	0.14	0.13
Sat Flow, veh/h	1634	5253	5253	1458	624	890
Grp Volume(v), veh/h	103	571	1147	48	115	0
Grp Sat Flow(s),veh/h/ln	1634	1695	1695	1458	1527	0
Q Serve(g_s), s	2.3	1.7	6.1	0.7	2.7	0.0
Cycle Q Clear(g_c), s	2.3	1.7	6.1	0.7	2.7	0.0
Prop In Lane	1.00			1.00	0.41	0.58
Lane Grp Cap(c), veh/h	151	3281	2276	653	221	0
V/C Ratio(X)	0.68	0.17	0.50	0.07	0.52	0.00
Avail Cap(c_a), veh/h	901	7211	3873	1111	1123	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.7	2.7	7.5	6.0	15.2	0.0
Incr Delay (d2), s/veh	5.3	0.0	0.2	0.0	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.8	2.8	0.3	1.2	0.0
LnGrp Delay(d),s/veh	22.0	2.7	7.7	6.1	17.1	0.0
LnGrp LOS	C	A	A	A	B	
Approach Vol, veh/h		674	1195		115	
Approach Delay, s/veh		5.7	7.6		17.1	
Approach LOS		A	A		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				28.6		9.5	7.5	21.0
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				53.5		27.5	20.5	28.5
Max Q Clear Time (g_c+I1), s				3.7		4.7	4.3	8.1
Green Ext Time (p_c), s				10.6		0.3	0.2	8.4

Intersection Summary	
HCM 2010 Ctrl Delay	7.5
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Intersection 4
Retherford St & E Cartmill Ave

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	563	160	34	491	113	36
Future Volume (veh/h)	563	160	34	491	113	36
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1716	1716	1863	1716	1716
Adj Flow Rate, veh/h	612	174	37	534	123	39
Adj No. of Lanes	3	1	1	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1977	551	85	2024	270	241
Arrive On Green	0.39	0.39	0.05	0.57	0.17	0.17
Sat Flow, veh/h	5253	1417	1634	3632	1634	1458
Grp Volume(v), veh/h	612	174	37	534	123	39
Grp Sat Flow(s),veh/h/ln	1695	1417	1634	1770	1634	1458
Q Serve(g_s), s	2.5	2.6	0.7	2.3	2.1	0.7
Cycle Q Clear(g_c), s	2.5	2.6	0.7	2.3	2.1	0.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1977	551	85	2024	270	241
V/C Ratio(X)	0.31	0.32	0.44	0.26	0.45	0.16
Avail Cap(c_a), veh/h	6846	1908	697	6740	1288	1149
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.5	6.5	14.0	3.3	11.5	10.9
Incr Delay (d2), s/veh	0.1	0.3	3.5	0.1	1.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.1	0.4	1.1	1.0	0.3
LnGrp Delay(d),s/veh	6.6	6.8	17.5	3.4	12.7	11.2
LnGrp LOS	A	A	B	A	B	B
Approach Vol, veh/h	786			571	162	
Approach Delay, s/veh	6.6			4.3	12.3	
Approach LOS	A			A	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		9.0	5.6	15.8				21.4
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		23.5	12.5	40.5				57.5
Max Q Clear Time (g_c+I1), s		4.1	2.7	4.6				4.3
Green Ext Time (p_c), s		0.5	0.0	6.5				6.6

Intersection Summary	
HCM 2010 Ctrl Delay	6.3
HCM 2010 LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	638	160	34	535	113	36
Future Volume (veh/h)	638	160	34	535	113	36
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1716	1716	1863	1716	1716
Adj Flow Rate, veh/h	693	174	37	582	123	39
Adj No. of Lanes	3	1	1	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2086	582	83	2077	264	236
Arrive On Green	0.41	0.41	0.05	0.59	0.16	0.16
Sat Flow, veh/h	5253	1418	1634	3632	1634	1458
Grp Volume(v), veh/h	693	174	37	582	123	39
Grp Sat Flow(s),veh/h/ln	1695	1418	1634	1770	1634	1458
Q Serve(g_s), s	3.0	2.6	0.7	2.6	2.2	0.7
Cycle Q Clear(g_c), s	3.0	2.6	0.7	2.6	2.2	0.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2086	582	83	2077	264	236
V/C Ratio(X)	0.33	0.30	0.45	0.28	0.47	0.17
Avail Cap(c_a), veh/h	6556	1828	668	6455	1233	1101
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.4	6.3	14.7	3.2	12.1	11.5
Incr Delay (d2), s/veh	0.1	0.3	3.7	0.1	1.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.1	0.4	1.2	1.1	0.3
LnGrp Delay(d),s/veh	6.5	6.6	18.4	3.3	13.4	11.8
LnGrp LOS	A	A	B	A	B	B
Approach Vol, veh/h	867			619	162	
Approach Delay, s/veh	6.5			4.2	13.0	
Approach LOS	A			A	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		9.1	5.6	17.0				22.7
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		23.5	12.5	40.5				57.5
Max Q Clear Time (g_c+I1), s		4.2	2.7	5.0				4.6
Green Ext Time (p_c), s		0.5	0.0	7.4				7.6

Intersection Summary	
HCM 2010 Ctrl Delay	6.3
HCM 2010 LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↱	↰	↑↑	↰	↱
Traffic Volume (veh/h)	1098	308	65	988	309	100
Future Volume (veh/h)	1098	308	65	988	309	100
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1716	1716	1863	1716	1716
Adj Flow Rate, veh/h	1193	335	71	1074	336	109
Adj No. of Lanes	3	1	1	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2422	676	101	2147	419	374
Arrive On Green	0.48	0.48	0.06	0.61	0.26	0.26
Sat Flow, veh/h	5253	1419	1634	3632	1634	1458
Grp Volume(v), veh/h	1193	335	71	1074	336	109
Grp Sat Flow(s),veh/h/ln	1695	1419	1634	1770	1634	1458
Q Serve(g_s), s	9.4	9.5	2.5	10.0	11.3	3.5
Cycle Q Clear(g_c), s	9.4	9.5	2.5	10.0	11.3	3.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2422	676	101	2147	419	374
V/C Ratio(X)	0.49	0.50	0.70	0.50	0.80	0.29
Avail Cap(c_a), veh/h	3567	996	363	3512	671	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.5	10.5	26.9	6.5	20.3	17.5
Incr Delay (d2), s/veh	0.2	0.6	8.4	0.2	3.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	3.7	1.4	4.8	5.5	1.5
LnGrp Delay(d),s/veh	10.6	11.1	35.3	6.7	24.0	17.9
LnGrp LOS	B	B	D	A	C	B
Approach Vol, veh/h	1528			1145	445	
Approach Delay, s/veh	10.7			8.4	22.5	
Approach LOS	B			A	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		19.0	7.6	31.8				39.5
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		23.5	12.5	40.5				57.5
Max Q Clear Time (g_c+I1), s		13.3	4.5	11.5				12.0
Green Ext Time (p_c), s		1.2	0.1	15.9				19.4

Intersection Summary	
HCM 2010 Ctrl Delay	11.6
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↱	↰	↑↑	↰	↱
Traffic Volume (veh/h)	1173	308	65	1032	309	100
Future Volume (veh/h)	1173	308	65	1032	309	100
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1716	1716	1863	1716	1716
Adj Flow Rate, veh/h	1275	335	71	1122	336	109
Adj No. of Lanes	3	1	1	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2473	690	101	2173	415	371
Arrive On Green	0.49	0.49	0.06	0.61	0.25	0.25
Sat Flow, veh/h	5253	1420	1634	3632	1634	1458
Grp Volume(v), veh/h	1275	335	71	1122	336	109
Grp Sat Flow(s),veh/h/ln	1695	1420	1634	1770	1634	1458
Q Serve(g_s), s	10.4	9.6	2.6	10.9	11.7	3.7
Cycle Q Clear(g_c), s	10.4	9.6	2.6	10.9	11.7	3.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2473	690	101	2173	415	371
V/C Ratio(X)	0.52	0.49	0.70	0.52	0.81	0.29
Avail Cap(c_a), veh/h	3435	959	350	3382	646	577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.7	10.5	27.9	6.6	21.3	18.2
Incr Delay (d2), s/veh	0.2	0.5	8.5	0.2	4.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	3.8	1.4	5.2	5.7	1.5
LnGrp Delay(d),s/veh	10.9	11.0	36.4	6.8	25.6	18.7
LnGrp LOS	B	B	D	A	C	B
Approach Vol, veh/h	1610			1193	445	
Approach Delay, s/veh	10.9			8.6	23.9	
Approach LOS	B			A	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		19.4	7.8	33.5				41.3
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		23.5	12.5	40.5				57.5
Max Q Clear Time (g_c+I1), s		13.7	4.6	12.4				12.9
Green Ext Time (p_c), s		1.2	0.1	16.6				20.9

Intersection Summary	
HCM 2010 Ctrl Delay	11.8
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↱	↰	↑↑	↰	↱
Traffic Volume (veh/h)	417	43	5	478	17	1
Future Volume (veh/h)	417	43	5	478	17	1
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1716	1716	1863	1716	1716
Adj Flow Rate, veh/h	453	47	5	520	18	1
Adj No. of Lanes	3	1	1	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1768	492	40	1856	280	250
Arrive On Green	0.35	0.35	0.02	0.52	0.17	0.17
Sat Flow, veh/h	5253	1416	1634	3632	1634	1458
Grp Volume(v), veh/h	453	47	5	520	18	1
Grp Sat Flow(s),veh/h/ln	1695	1416	1634	1770	1634	1458
Q Serve(g_s), s	1.7	0.6	0.1	2.2	0.2	0.0
Cycle Q Clear(g_c), s	1.7	0.6	0.1	2.2	0.2	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1768	492	40	1856	280	250
V/C Ratio(X)	0.26	0.10	0.13	0.28	0.06	0.00
Avail Cap(c_a), veh/h	7933	2209	808	7810	1492	1332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.1	5.8	12.5	3.5	9.1	9.0
Incr Delay (d2), s/veh	0.1	0.1	1.4	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.2	0.1	1.0	0.1	0.0
LnGrp Delay(d),s/veh	6.2	5.9	13.9	3.6	9.2	9.0
LnGrp LOS	A	A	B	A	A	A
Approach Vol, veh/h	500			525	19	
Approach Delay, s/veh	6.2			3.7	9.2	
Approach LOS	A			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		8.5	4.6	13.1				17.8
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		23.5	12.5	40.5				57.5
Max Q Clear Time (g_c+I1), s		2.2	2.1	3.7				4.2
Green Ext Time (p_c), s		0.0	0.0	4.7				4.8

Intersection Summary	
HCM 2010 Ctrl Delay	5.0
HCM 2010 LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↱	↰	↑↑	↰	↱
Traffic Volume (veh/h)	439	43	5	545	17	1
Future Volume (veh/h)	439	43	5	545	17	1
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1716	1716	1863	1716	1716
Adj Flow Rate, veh/h	477	47	5	592	18	1
Adj No. of Lanes	3	1	1	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1849	515	39	1897	273	244
Arrive On Green	0.36	0.36	0.02	0.54	0.17	0.17
Sat Flow, veh/h	5253	1416	1634	3632	1634	1458
Grp Volume(v), veh/h	477	47	5	592	18	1
Grp Sat Flow(s),veh/h/ln	1695	1416	1634	1770	1634	1458
Q Serve(g_s), s	1.8	0.6	0.1	2.5	0.3	0.0
Cycle Q Clear(g_c), s	1.8	0.6	0.1	2.5	0.3	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1849	515	39	1897	273	244
V/C Ratio(X)	0.26	0.09	0.13	0.31	0.07	0.00
Avail Cap(c_a), veh/h	7737	2155	788	7618	1455	1299
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.0	5.6	12.9	3.5	9.5	9.4
Incr Delay (d2), s/veh	0.1	0.1	1.4	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.2	0.1	1.2	0.1	0.0
LnGrp Delay(d),s/veh	6.1	5.7	14.3	3.6	9.6	9.4
LnGrp LOS	A	A	B	A	A	A
Approach Vol, veh/h	524			597	19	
Approach Delay, s/veh	6.1			3.7	9.5	
Approach LOS	A			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		8.5	4.6	13.8				18.4
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		23.5	12.5	40.5				57.5
Max Q Clear Time (g_c+I1), s		2.3	2.1	3.8				4.5
Green Ext Time (p_c), s		0.0	0.0	5.3				5.4

Intersection Summary	
HCM 2010 Ctrl Delay	4.9
HCM 2010 LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	842	83	11	933	47	6
Future Volume (veh/h)	842	83	11	933	47	6
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1716	1716	1863	1716	1716
Adj Flow Rate, veh/h	915	90	12	1014	51	7
Adj No. of Lanes	3	1	1	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2615	730	43	2308	205	183
Arrive On Green	0.51	0.51	0.03	0.65	0.13	0.13
Sat Flow, veh/h	5253	1420	1634	3632	1634	1458
Grp Volume(v), veh/h	915	90	12	1014	51	7
Grp Sat Flow(s),veh/h/ln	1695	1420	1634	1770	1634	1458
Q Serve(g_s), s	3.8	1.2	0.3	5.0	1.0	0.2
Cycle Q Clear(g_c), s	3.8	1.2	0.3	5.0	1.0	0.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2615	730	43	2308	205	183
V/C Ratio(X)	0.35	0.12	0.28	0.44	0.25	0.04
Avail Cap(c_a), veh/h	5804	1621	591	5715	1092	974
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.2	4.5	17.1	3.0	14.2	13.8
Incr Delay (d2), s/veh	0.1	0.1	3.4	0.1	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.5	0.2	2.4	0.5	0.1
LnGrp Delay(d),s/veh	5.2	4.6	20.6	3.2	14.8	13.9
LnGrp LOS	A	A	C	A	B	B
Approach Vol, veh/h	1005			1026	58	
Approach Delay, s/veh	5.2			3.4	14.7	
Approach LOS	A			A	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		8.5	5.0	22.5				27.4
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		23.5	12.5	40.5				57.5
Max Q Clear Time (g_c+I1), s		3.0	2.3	5.8				7.0
Green Ext Time (p_c), s		0.1	0.0	12.0				13.0

Intersection Summary	
HCM 2010 Ctrl Delay	4.6
HCM 2010 LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↱	↰	↑↑	↰	↱
Traffic Volume (veh/h)	864	83	11	1000	47	6
Future Volume (veh/h)	864	83	11	1000	47	6
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1716	1716	1863	1716	1716
Adj Flow Rate, veh/h	939	90	12	1087	51	7
Adj No. of Lanes	3	1	1	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2681	749	43	2342	199	178
Arrive On Green	0.53	0.53	0.03	0.66	0.12	0.12
Sat Flow, veh/h	5253	1420	1634	3632	1634	1458
Grp Volume(v), veh/h	939	90	12	1087	51	7
Grp Sat Flow(s),veh/h/ln	1695	1420	1634	1770	1634	1458
Q Serve(g_s), s	4.0	1.2	0.3	5.5	1.0	0.2
Cycle Q Clear(g_c), s	4.0	1.2	0.3	5.5	1.0	0.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2681	749	43	2342	199	178
V/C Ratio(X)	0.35	0.12	0.28	0.46	0.26	0.04
Avail Cap(c_a), veh/h	5644	1576	575	5557	1062	948
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.1	4.4	17.6	3.1	14.7	14.3
Incr Delay (d2), s/veh	0.1	0.1	3.5	0.1	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.5	0.2	2.6	0.5	0.1
LnGrp Delay(d),s/veh	5.1	4.5	21.2	3.2	15.4	14.4
LnGrp LOS	A	A	C	A	B	B
Approach Vol, veh/h	1029			1099	58	
Approach Delay, s/veh	5.1			3.4	15.3	
Approach LOS	A			A	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		8.5	5.0	23.5				28.4
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		23.5	12.5	40.5				57.5
Max Q Clear Time (g_c+I1), s		3.0	2.3	6.0				7.5
Green Ext Time (p_c), s		0.1	0.0	12.9				14.1

Intersection Summary	
HCM 2010 Ctrl Delay	4.5
HCM 2010 LOS	A

Intersection 5
Hillman St & E Cartmill Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	291	119	50	246	42	79	388	62	70	346	201
Future Volume (veh/h)	185	291	119	50	246	42	79	388	62	70	346	201
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	201	316	129	54	267	46	86	422	67	76	376	218
Adj No. of Lanes	2	3	0	2	2	0	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	391	1022	389	226	698	118	280	1068	432	272	1058	428
Arrive On Green	0.12	0.28	0.25	0.07	0.23	0.20	0.09	0.30	0.30	0.09	0.30	0.30
Sat Flow, veh/h	3170	3605	1373	3170	3017	512	3170	3539	1432	3170	3539	1432
Grp Volume(v), veh/h	201	296	149	54	155	158	86	422	67	76	376	218
Grp Sat Flow(s),veh/h/ln	1585	1695	1588	1585	1770	1759	1585	1770	1432	1585	1770	1432
Q Serve(g_s), s	3.7	4.3	4.7	1.0	4.6	4.7	1.6	5.9	2.1	1.4	5.2	7.8
Cycle Q Clear(g_c), s	3.7	4.3	4.7	1.0	4.6	4.7	1.6	5.9	2.1	1.4	5.2	7.8
Prop In Lane	1.00		0.86	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	391	961	450	226	409	407	280	1068	432	272	1058	428
V/C Ratio(X)	0.51	0.31	0.33	0.24	0.38	0.39	0.31	0.40	0.16	0.28	0.36	0.51
Avail Cap(c_a), veh/h	511	2567	1203	306	1226	1219	368	2258	913	327	2212	895
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	17.5	18.3	27.2	20.1	20.4	26.5	17.2	15.9	26.6	17.1	18.0
Incr Delay (d2), s/veh	1.0	0.2	0.4	0.5	0.6	0.6	0.6	0.2	0.2	0.6	0.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.0	2.1	0.5	2.3	2.4	0.7	2.9	0.9	0.6	2.5	3.2
LnGrp Delay(d),s/veh	26.5	17.6	18.7	27.8	20.7	21.0	27.1	17.4	16.0	27.1	17.3	18.9
LnGrp LOS	C	B	B	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		646			367			575			670	
Approach Delay, s/veh		20.6			21.9			18.7			18.9	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	22.7	8.4	21.6	9.5	22.6	11.7	18.4
Change Period (Y+Rc), s	6.4	6.4	6.0	6.0	6.4	6.4	6.0	6.0
Max Green Setting (Gmax), s	4.0	37.2	4.0	45.0	4.8	36.4	8.0	41.0
Max Q Clear Time (g_c+I1), s	3.4	7.9	3.0	6.7	3.6	9.8	5.7	6.7
Green Ext Time (p_c), s	0.0	4.8	0.0	3.0	0.0	4.7	0.2	3.0

Intersection Summary	
HCM 2010 Ctrl Delay	19.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	366	119	52	290	42	79	388	65	70	346	201
Future Volume (veh/h)	185	366	119	52	290	42	79	388	65	70	346	201
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	201	398	129	57	315	46	86	422	71	76	376	218
Adj No. of Lanes	2	3	0	2	2	0	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	386	1136	351	226	761	110	274	1054	426	266	1045	423
Arrive On Green	0.12	0.30	0.27	0.07	0.25	0.21	0.09	0.30	0.30	0.08	0.30	0.30
Sat Flow, veh/h	3170	3832	1185	3170	3095	447	3170	3539	1431	3170	3539	1431
Grp Volume(v), veh/h	201	350	177	57	179	182	86	422	71	76	376	218
Grp Sat Flow(s),veh/h/ln	1585	1695	1626	1585	1770	1773	1585	1770	1431	1585	1770	1431
Q Serve(g_s), s	3.8	5.2	5.6	1.1	5.4	5.6	1.6	6.1	2.3	1.4	5.4	8.1
Cycle Q Clear(g_c), s	3.8	5.2	5.6	1.1	5.4	5.6	1.6	6.1	2.3	1.4	5.4	8.1
Prop In Lane	1.00		0.73	1.00		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	386	1005	482	226	435	436	274	1054	426	266	1045	423
V/C Ratio(X)	0.52	0.35	0.37	0.25	0.41	0.42	0.31	0.40	0.17	0.29	0.36	0.52
Avail Cap(c_a), veh/h	496	2495	1197	298	1191	1193	357	2194	888	318	2150	870
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.3	17.6	18.4	28.1	20.2	20.5	27.4	17.9	16.6	27.5	17.7	18.7
Incr Delay (d2), s/veh	1.1	0.2	0.5	0.6	0.6	0.6	0.6	0.2	0.2	0.6	0.2	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.5	2.6	0.5	2.7	2.8	0.7	3.0	0.9	0.7	2.6	3.3
LnGrp Delay(d),s/veh	27.4	17.8	18.8	28.6	20.8	21.1	28.0	18.1	16.7	28.0	18.0	19.7
LnGrp LOS	C	B	B	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		728			418			579			670	
Approach Delay, s/veh		20.7			22.0			19.4			19.7	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	23.0	8.5	22.9	9.5	22.9	11.8	19.7
Change Period (Y+Rc), s	6.4	6.4	6.0	6.0	6.4	6.4	6.0	6.0
Max Green Setting (Gmax), s	4.0	37.2	4.0	45.0	4.8	36.4	8.0	41.0
Max Q Clear Time (g_c+I1), s	3.4	8.1	3.1	7.6	3.6	10.1	5.8	7.6
Green Ext Time (p_c), s	0.0	4.8	0.0	3.6	0.0	4.8	0.2	3.6

Intersection Summary	
HCM 2010 Ctrl Delay	20.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	319	610	205	187	414	64	98	479	99	147	688	400
Future Volume (veh/h)	319	610	205	187	414	64	98	479	99	147	688	400
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	347	663	223	203	450	70	107	521	108	160	748	435
Adj No. of Lanes	2	3	0	2	2	0	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	429	1133	374	235	735	114	258	1230	498	251	1222	495
Arrive On Green	0.14	0.30	0.28	0.07	0.24	0.22	0.08	0.35	0.35	0.08	0.35	0.35
Sat Flow, veh/h	3170	3763	1242	3170	3063	473	3170	3539	1433	3170	3539	1433
Grp Volume(v), veh/h	347	596	290	203	259	261	107	521	108	160	748	435
Grp Sat Flow(s),veh/h/ln	1585	1695	1615	1585	1770	1767	1585	1770	1433	1585	1770	1433
Q Serve(g_s), s	8.6	12.1	12.5	5.1	10.5	10.7	2.6	9.1	4.3	4.0	14.2	12.7
Cycle Q Clear(g_c), s	8.6	12.1	12.5	5.1	10.5	10.7	2.6	9.1	4.3	4.0	14.2	12.7
Prop In Lane	1.00		0.77	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	429	1020	486	235	425	424	258	1230	498	251	1222	495
V/C Ratio(X)	0.81	0.58	0.60	0.86	0.61	0.62	0.41	0.42	0.22	0.64	0.61	0.88
Avail Cap(c_a), veh/h	429	1971	939	235	941	940	282	1734	702	251	1699	688
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	24.0	24.8	37.0	27.3	27.6	35.3	20.2	18.6	36.1	22.0	7.6
Incr Delay (d2), s/veh	11.1	0.5	1.2	26.4	1.4	1.5	1.1	0.2	0.2	5.3	0.5	9.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	5.7	5.7	3.1	5.3	5.4	1.2	4.5	1.7	1.9	6.9	7.6
LnGrp Delay(d),s/veh	45.0	24.5	26.0	63.4	28.8	29.1	36.4	20.4	18.8	41.4	22.5	17.1
LnGrp LOS	D	C	C	E	C	C	D	C	B	D	C	B
Approach Vol, veh/h		1233			723			736			1343	
Approach Delay, s/veh		30.6			38.6			22.5			23.0	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	32.1	10.0	28.3	10.6	31.9	14.9	23.4
Change Period (Y+Rc), s	6.4	6.4	6.0	6.0	6.4	6.4	6.0	6.0
Max Green Setting (Gmax), s	4.0	37.2	4.0	45.0	4.8	36.4	8.0	41.0
Max Q Clear Time (g_c+I1), s	6.0	11.1	7.1	14.5	4.6	16.2	10.6	12.7
Green Ext Time (p_c), s	0.0	9.2	0.0	5.4	0.0	8.4	0.0	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	28.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	319	685	205	189	458	64	98	479	102	147	688	400
Future Volume (veh/h)	319	685	205	189	458	64	98	479	102	147	688	400
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	347	745	223	205	498	70	107	521	111	160	748	435
Adj No. of Lanes	2	3	0	2	2	0	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	439	1204	356	313	842	118	207	1283	519	222	1300	527
Arrive On Green	0.14	0.31	0.29	0.10	0.27	0.25	0.07	0.36	0.36	0.07	0.37	0.37
Sat Flow, veh/h	3170	3878	1147	3170	3110	435	3170	3539	1433	3170	3539	1433
Grp Volume(v), veh/h	347	650	318	205	282	286	107	521	111	160	748	435
Grp Sat Flow(s),veh/h/ln	1585	1695	1635	1585	1770	1776	1585	1770	1433	1585	1770	1433
Q Serve(g_s), s	10.7	16.6	17.0	6.3	14.0	14.2	3.3	11.1	5.4	5.0	17.2	27.9
Cycle Q Clear(g_c), s	10.7	16.6	17.0	6.3	14.0	14.2	3.3	11.1	5.4	5.0	17.2	27.9
Prop In Lane	1.00		0.70	1.00		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	439	1052	507	313	479	481	207	1283	519	222	1300	527
V/C Ratio(X)	0.79	0.62	0.63	0.65	0.59	0.59	0.52	0.41	0.21	0.72	0.58	0.83
Avail Cap(c_a), veh/h	439	1575	759	313	752	755	207	1396	565	222	1413	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.2	29.8	30.5	43.9	32.0	32.3	45.7	24.1	22.3	46.1	25.7	29.1
Incr Delay (d2), s/veh	9.5	0.6	1.3	4.8	1.2	1.2	2.2	0.2	0.2	10.7	0.5	9.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	7.9	7.8	3.0	7.0	7.1	1.5	5.5	2.2	2.5	8.5	12.3
LnGrp Delay(d),s/veh	51.7	30.4	31.8	48.8	33.2	33.5	48.0	24.3	22.5	56.8	26.2	38.1
LnGrp LOS	D	C	C	D	C	C	D	C	C	E	C	D
Approach Vol, veh/h		1315			773			739			1343	
Approach Delay, s/veh		36.3			37.4			27.5			33.7	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	40.7	14.0	35.4	10.6	41.2	18.0	31.4
Change Period (Y+Rc), s	6.4	6.4	6.0	6.0	6.4	6.4	6.0	6.0
Max Green Setting (Gmax), s	4.7	37.5	8.0	45.0	4.2	38.0	12.0	41.0
Max Q Clear Time (g_c+I1), s	7.0	13.1	8.3	19.0	5.3	29.9	12.7	16.2
Green Ext Time (p_c), s	0.0	9.0	0.0	6.9	0.0	4.9	0.0	6.8

Intersection Summary	
HCM 2010 Ctrl Delay	34.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	236	53	25	289	66	40	258	41	41	194	157
Future Volume (veh/h)	135	236	53	25	289	66	40	258	41	41	194	157
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	147	257	58	27	314	72	43	280	45	45	211	171
Adj No. of Lanes	2	3	0	2	2	0	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	348	1280	275	193	736	166	249	931	376	252	935	378
Arrive On Green	0.11	0.31	0.27	0.06	0.26	0.22	0.08	0.26	0.26	0.08	0.26	0.26
Sat Flow, veh/h	3170	4177	897	3170	2858	645	3170	3539	1430	3170	3539	1430
Grp Volume(v), veh/h	147	206	109	27	193	193	43	280	45	45	211	171
Grp Sat Flow(s),veh/h/ln	1585	1695	1684	1585	1770	1733	1585	1770	1430	1585	1770	1430
Q Serve(g_s), s	2.4	2.5	2.7	0.4	5.0	5.2	0.7	3.5	1.3	0.7	2.6	5.5
Cycle Q Clear(g_c), s	2.4	2.5	2.7	0.4	5.0	5.2	0.7	3.5	1.3	0.7	2.6	5.5
Prop In Lane	1.00		0.53	1.00		0.37	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	348	1039	516	193	456	446	249	931	376	252	935	378
V/C Ratio(X)	0.42	0.20	0.21	0.14	0.42	0.43	0.17	0.30	0.12	0.18	0.23	0.45
Avail Cap(c_a), veh/h	575	2888	1435	345	1379	1351	414	2541	1027	368	2489	1006
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.9	14.1	14.6	24.5	17.1	17.5	23.7	16.3	15.5	23.7	15.9	17.0
Incr Delay (d2), s/veh	0.8	0.1	0.2	0.3	0.6	0.7	0.3	0.2	0.1	0.3	0.1	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.2	1.3	0.2	2.5	2.6	0.3	1.7	0.5	0.3	1.3	2.3
LnGrp Delay(d),s/veh	23.7	14.2	14.8	24.9	17.7	18.1	24.1	16.5	15.6	24.0	16.0	17.8
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		462			413			368			427	
Approach Delay, s/veh		17.4			18.4			17.2			17.6	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	18.5	7.4	20.9	8.3	18.6	10.1	18.2
Change Period (Y+Rc), s	6.4	6.4	6.0	6.0	6.4	6.4	6.0	6.0
Max Green Setting (Gmax), s	4.0	37.2	4.0	45.0	4.8	36.4	8.0	41.0
Max Q Clear Time (g_c+I1), s	2.7	5.5	2.4	4.7	2.7	7.5	4.4	7.2
Green Ext Time (p_c), s	0.0	2.9	0.0	2.7	0.0	2.9	0.2	2.7

Intersection Summary	
HCM 2010 Ctrl Delay	17.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	258	53	28	356	66	40	258	42	41	194	157
Future Volume (veh/h)	135	258	53	28	356	66	40	258	42	41	194	157
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	147	280	58	30	387	72	43	280	46	45	211	171
Adj No. of Lanes	2	3	0	2	2	0	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	343	1363	270	195	817	151	243	916	370	247	920	372
Arrive On Green	0.11	0.32	0.29	0.06	0.27	0.24	0.08	0.26	0.26	0.08	0.26	0.26
Sat Flow, veh/h	3170	4244	842	3170	2975	548	3170	3539	1430	3170	3539	1430
Grp Volume(v), veh/h	147	221	117	30	229	230	43	280	46	45	211	171
Grp Sat Flow(s),veh/h/ln	1585	1695	1695	1585	1770	1753	1585	1770	1430	1585	1770	1430
Q Serve(g_s), s	2.5	2.7	2.9	0.5	6.1	6.3	0.7	3.6	1.4	0.8	2.7	5.7
Cycle Q Clear(g_c), s	2.5	2.7	2.9	0.5	6.1	6.3	0.7	3.6	1.4	0.8	2.7	5.7
Prop In Lane	1.00		0.50	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	343	1089	545	195	486	481	243	916	370	247	920	372
V/C Ratio(X)	0.43	0.20	0.21	0.15	0.47	0.48	0.18	0.31	0.12	0.18	0.23	0.46
Avail Cap(c_a), veh/h	556	2793	1397	333	1334	1321	400	2457	993	356	2407	973
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.8	14.1	14.5	25.4	17.2	17.6	24.6	17.0	16.2	24.6	16.6	17.7
Incr Delay (d2), s/veh	0.8	0.1	0.2	0.4	0.7	0.7	0.3	0.2	0.1	0.4	0.1	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.3	1.4	0.2	3.1	3.1	0.3	1.8	0.6	0.3	1.3	2.3
LnGrp Delay(d),s/veh	24.6	14.1	14.7	25.7	17.9	18.3	25.0	17.2	16.3	25.0	16.7	18.6
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		485			489			369			427	
Approach Delay, s/veh		17.5			18.6			18.0			18.4	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	18.8	7.5	22.3	8.4	18.8	10.2	19.7
Change Period (Y+Rc), s	6.4	6.4	6.0	6.0	6.4	6.4	6.0	6.0
Max Green Setting (Gmax), s	4.0	37.2	4.0	45.0	4.8	36.4	8.0	41.0
Max Q Clear Time (g_c+I1), s	2.8	5.6	2.5	4.9	2.7	7.7	4.5	8.3
Green Ext Time (p_c), s	0.0	2.9	0.0	3.1	0.0	2.9	0.1	3.1

Intersection Summary	
HCM 2010 Ctrl Delay	18.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	233	549	91	58	427	76	49	319	103	98	386	312
Future Volume (veh/h)	233	549	91	58	427	76	49	319	103	98	386	312
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	253	597	99	63	464	83	53	347	112	107	420	339
Adj No. of Lanes	2	3	0	2	2	0	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	392	1495	244	197	834	148	203	1133	459	251	1187	480
Arrive On Green	0.12	0.34	0.32	0.06	0.28	0.25	0.06	0.32	0.32	0.08	0.34	0.34
Sat Flow, veh/h	3170	4394	717	3170	2994	532	3170	3539	1432	3170	3539	1433
Grp Volume(v), veh/h	253	458	238	63	273	274	53	347	112	107	420	339
Grp Sat Flow(s),veh/h/ln	1585	1695	1721	1585	1770	1756	1585	1770	1432	1585	1770	1433
Q Serve(g_s), s	6.1	8.3	8.6	1.5	10.6	10.8	1.3	6.0	4.7	2.6	7.2	16.6
Cycle Q Clear(g_c), s	6.1	8.3	8.6	1.5	10.6	10.8	1.3	6.0	4.7	2.6	7.2	16.6
Prop In Lane	1.00		0.42	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	392	1153	585	197	493	489	203	1133	459	251	1187	480
V/C Ratio(X)	0.64	0.40	0.41	0.32	0.55	0.56	0.26	0.31	0.24	0.43	0.35	0.71
Avail Cap(c_a), veh/h	392	1973	1001	235	942	935	283	1735	702	251	1700	688
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.7	20.3	20.7	36.2	24.8	25.2	36.0	20.7	20.2	35.4	20.2	23.4
Incr Delay (d2), s/veh	3.6	0.2	0.5	0.9	1.0	1.0	0.7	0.2	0.3	1.1	0.2	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.9	4.1	0.7	5.3	5.3	0.6	2.9	1.9	1.2	3.5	6.8
LnGrp Delay(d),s/veh	37.3	20.5	21.2	37.2	25.8	26.2	36.6	20.8	20.5	36.6	20.4	25.3
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		949			610			512			866	
Approach Delay, s/veh		25.2			27.2			22.4			24.3	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	29.9	9.0	31.5	9.2	31.1	14.0	26.5
Change Period (Y+Rc), s	6.4	6.4	6.0	6.0	6.4	6.4	6.0	6.0
Max Green Setting (Gmax), s	4.0	37.2	4.0	45.0	4.8	36.4	8.0	41.0
Max Q Clear Time (g_c+I1), s	4.6	8.0	3.5	10.6	3.3	18.6	8.1	12.8
Green Ext Time (p_c), s	0.0	5.6	0.0	5.3	0.0	5.0	0.0	5.2

Intersection Summary	
HCM 2010 Ctrl Delay	24.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	233	571	91	61	494	76	49	319	104	98	386	312
Future Volume (veh/h)	233	571	91	61	494	76	49	319	104	98	386	312
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	253	621	99	66	537	83	53	347	113	107	420	339
Adj No. of Lanes	2	3	0	2	2	0	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	380	1559	245	195	903	139	199	1123	454	243	1173	475
Arrive On Green	0.12	0.35	0.33	0.06	0.29	0.27	0.06	0.32	0.32	0.08	0.33	0.33
Sat Flow, veh/h	3170	4421	695	3170	3066	472	3170	3539	1432	3170	3539	1432
Grp Volume(v), veh/h	253	474	246	66	309	311	53	347	113	107	420	339
Grp Sat Flow(s),veh/h/ln	1585	1695	1725	1585	1770	1769	1585	1770	1432	1585	1770	1432
Q Serve(g_s), s	6.4	8.8	9.1	1.7	12.5	12.6	1.3	6.2	4.9	2.7	7.5	17.3
Cycle Q Clear(g_c), s	6.4	8.8	9.1	1.7	12.5	12.6	1.3	6.2	4.9	2.7	7.5	17.3
Prop In Lane	1.00		0.40	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	380	1196	609	195	521	521	199	1123	454	243	1173	475
V/C Ratio(X)	0.67	0.40	0.40	0.34	0.59	0.60	0.27	0.31	0.25	0.44	0.36	0.71
Avail Cap(c_a), veh/h	380	1910	972	228	912	912	274	1680	680	243	1646	666
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	20.3	20.7	37.5	25.2	25.4	37.3	21.6	21.1	36.8	21.2	24.4
Incr Delay (d2), s/veh	4.4	0.2	0.4	1.0	1.1	1.1	0.7	0.2	0.3	1.3	0.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.1	4.4	0.8	6.3	6.3	0.6	3.1	1.9	1.2	3.7	7.0
LnGrp Delay(d),s/veh	39.5	20.5	21.1	38.5	26.2	26.5	38.0	21.7	21.4	38.1	21.4	26.6
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		973			686			513			866	
Approach Delay, s/veh		25.6			27.6			23.3			25.5	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	30.5	9.1	33.4	9.2	31.6	14.0	28.6
Change Period (Y+Rc), s	6.4	6.4	6.0	6.0	6.4	6.4	6.0	6.0
Max Green Setting (Gmax), s	4.0	37.2	4.0	45.0	4.8	36.4	8.0	41.0
Max Q Clear Time (g_c+I1), s	4.7	8.2	3.7	11.1	3.3	19.3	8.4	14.6
Green Ext Time (p_c), s	0.0	5.6	0.0	5.8	0.0	4.9	0.0	5.6

Intersection Summary	
HCM 2010 Ctrl Delay	25.6
HCM 2010 LOS	C

Intersection 6
De La Vina St & E Cartmill Ave

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	30	290	106	0	115	235	6	0	70	5	59	0	15	13	33
Future Vol, veh/h	0	30	290	106	0	115	235	6	0	70	5	59	0	15	13	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	33	315	115	0	125	255	7	0	76	5	64	0	16	14	36
Number of Lanes	0	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	11	10.5	11.7	10.2
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	52%	100%	0%	0%	100%	0%	0%	25%
Vol Thru, %	4%	0%	100%	48%	0%	100%	93%	21%
Vol Right, %	44%	0%	0%	52%	0%	0%	7%	54%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	134	30	193	203	115	157	84	61
LT Vol	70	30	0	0	115	0	0	15
Through Vol	5	0	193	97	0	157	78	13
RT Vol	59	0	0	106	0	0	6	33
Lane Flow Rate	146	33	210	220	125	170	92	66
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.266	0.057	0.337	0.331	0.22	0.276	0.147	0.121
Departure Headway (Hd)	6.578	6.282	5.775	5.404	6.348	5.841	5.791	6.56
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	546	570	622	665	566	615	619	546
Service Time	4.321	4.016	3.51	3.139	4.084	3.577	3.527	4.308
HCM Lane V/C Ratio	0.267	0.058	0.338	0.331	0.221	0.276	0.149	0.121
HCM Control Delay	11.7	9.4	11.4	10.8	10.9	10.8	9.5	10.2
HCM Lane LOS	B	A	B	B	B	B	A	B
HCM 95th-tile Q	1.1	0.2	1.5	1.4	0.8	1.1	0.5	0.4

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	108	290	106	0	115	235	29	0	70	5	59	0	28	13	79
Future Vol, veh/h	0	108	290	106	0	115	235	29	0	70	5	59	0	28	13	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	117	315	115	0	125	255	32	0	76	5	64	0	30	14	86
Number of Lanes	0	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	11.8	11.3	12.6	11.8
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	52%	100%	0%	0%	100%	0%	0%	23%
Vol Thru, %	4%	0%	100%	48%	0%	100%	73%	11%
Vol Right, %	44%	0%	0%	52%	0%	0%	27%	66%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	134	108	193	203	115	157	107	120
LT Vol	70	108	0	0	115	0	0	28
Through Vol	5	0	193	97	0	157	78	13
RT Vol	59	0	0	106	0	0	29	79
Lane Flow Rate	146	117	210	220	125	170	117	130
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.284	0.217	0.358	0.352	0.236	0.297	0.197	0.246
Departure Headway (Hd)	7.029	6.64	6.131	5.758	6.796	6.287	6.094	6.782
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	508	539	584	621	526	569	586	527
Service Time	4.804	4.403	3.893	3.52	4.564	4.054	3.861	4.559
HCM Lane V/C Ratio	0.287	0.217	0.36	0.354	0.238	0.299	0.2	0.247
HCM Control Delay	12.6	11.3	12.3	11.6	11.7	11.7	10.4	11.8
HCM Lane LOS	B	B	B	B	B	B	B	B
HCM 95th-tile Q	1.2	0.8	1.6	1.6	0.9	1.2	0.7	1

Intersection	
Intersection Delay, s/veh	40.3
Intersection LOS	E

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	82	512	127	0	158	341	8	0	219	15	182	0	50	40	104
Future Vol, veh/h	0	82	512	127	0	158	341	8	0	219	15	182	0	50	40	104
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	89	557	138	0	172	371	9	0	238	16	198	0	54	43	113
Number of Lanes	0	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	38.3	20.8	75.7	22.8
HCM LOS	E	C	F	C

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	53%	100%	0%	0%	100%	0%	0%	26%
Vol Thru, %	4%	0%	100%	57%	0%	100%	93%	21%
Vol Right, %	44%	0%	0%	43%	0%	0%	7%	54%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	416	82	341	298	158	227	122	194
LT Vol	219	82	0	0	158	0	0	50
Through Vol	15	0	341	171	0	227	114	40
RT Vol	182	0	0	127	0	0	8	104
Lane Flow Rate	452	89	371	324	172	247	132	211
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	1	0.225	0.886	0.746	0.447	0.609	0.324	0.547
Departure Headway (Hd)	9.017	9.093	8.593	8.295	9.372	8.873	8.827	9.343
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	402	396	423	437	385	408	409	388
Service Time	6.771	6.823	6.324	6.025	7.102	6.603	6.557	7.08
HCM Lane V/C Ratio	1.124	0.225	0.877	0.741	0.447	0.605	0.323	0.544
HCM Control Delay	75.7	14.5	49.7	31.7	19.5	24.5	15.7	22.8
HCM Lane LOS	F	B	E	D	C	C	C	C
HCM 95th-tile Q	12.2	0.9	9.2	6.1	2.2	3.9	1.4	3.2

Intersection	
Intersection Delay, s/veh	44
Intersection LOS	E

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	160	512	127	0	158	341	31	0	219	15	182	0	63	40	150
Future Vol, veh/h	0	160	512	127	0	158	341	31	0	219	15	182	0	63	40	150
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	174	557	138	0	172	371	34	0	238	16	198	0	68	43	163
Number of Lanes	0	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	42.9	22.9	78.6	34.9
HCM LOS	E	C	F	D

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	53%	100%	0%	0%	100%	0%	0%	25%
Vol Thru, %	4%	0%	100%	57%	0%	100%	79%	16%
Vol Right, %	44%	0%	0%	43%	0%	0%	21%	59%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	416	160	341	298	158	227	145	253
LT Vol	219	160	0	0	158	0	0	63
Through Vol	15	0	341	171	0	227	114	40
RT Vol	182	0	0	127	0	0	31	150
Lane Flow Rate	452	174	371	324	172	247	157	275
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	1	0.459	0.928	0.782	0.469	0.641	0.401	0.735
Departure Headway (Hd)	9.651	9.502	9.002	8.704	9.834	9.335	9.185	9.617
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	375	379	404	417	368	388	393	377
Service Time	7.427	7.245	6.745	6.447	7.575	7.075	6.925	7.366
HCM Lane V/C Ratio	1.205	0.459	0.918	0.777	0.467	0.637	0.399	0.729
HCM Control Delay	78.6	20.1	59.1	36.5	21	27.4	18	34.9
HCM Lane LOS	F	C	F	E	C	D	C	D
HCM 95th-tile Q	11.8	2.3	10.1	6.7	2.4	4.3	1.9	5.7

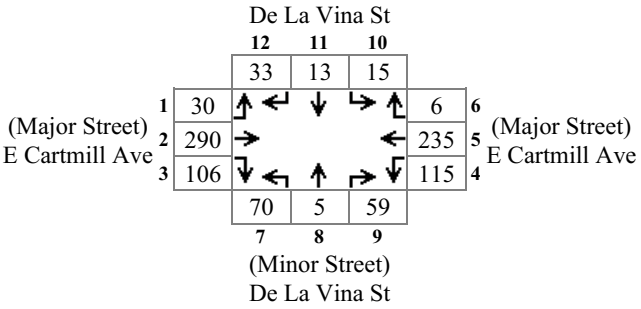
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	512	127	158	341	31	219	15	182	63	40	150
Future Volume (veh/h)	160	512	127	158	341	31	219	15	182	63	40	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1750	1863	1750	1750	1863	1750
Adj Flow Rate, veh/h	174	557	138	172	371	34	238	16	198	68	43	163
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	781	193	138	911	83	366	34	221	189	138	340
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1634	2815	695	1634	3281	299	709	98	629	266	393	967
Grp Volume(v), veh/h	174	349	346	172	199	206	452	0	0	274	0	0
Grp Sat Flow(s),veh/h/ln	1634	1770	1740	1634	1770	1810	1435	0	0	1626	0	0
Q Serve(g_s), s	4.0	8.4	8.4	4.0	4.3	4.4	7.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.0	8.4	8.4	4.0	4.3	4.4	13.8	0.0	0.0	6.0	0.0	0.0
Prop In Lane	1.00		0.40	1.00		0.17	0.53		0.44	0.25		0.59
Lane Grp Cap(c), veh/h	138	491	483	138	491	502	621	0	0	667	0	0
V/C Ratio(X)	1.26	0.71	0.72	1.24	0.41	0.41	0.73	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	138	675	664	138	675	690	661	0	0	711	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.6	15.3	15.4	21.6	13.9	13.9	14.1	0.0	0.0	11.8	0.0	0.0
Incr Delay (d2), s/veh	161.0	2.2	2.3	155.6	0.5	0.5	3.8	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	4.4	4.3	7.8	2.2	2.2	6.1	0.0	0.0	2.8	0.0	0.0
LnGrp Delay(d),s/veh	182.6	17.5	17.7	177.1	14.4	14.4	17.9	0.0	0.0	12.3	0.0	0.0
LnGrp LOS	F	B	B	F	B	B	B			B		
Approach Vol, veh/h		869			577			452			274	
Approach Delay, s/veh		50.6			62.9			17.9			12.3	
Approach LOS		D			E			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		21.1	8.5	17.6		21.1	8.5	17.6
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	4.0	18.0		18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s		15.8	6.0	10.4		8.0	6.0	6.4
Green Ext Time (p_c), s		0.8	0.0	2.7		2.4	0.0	3.3

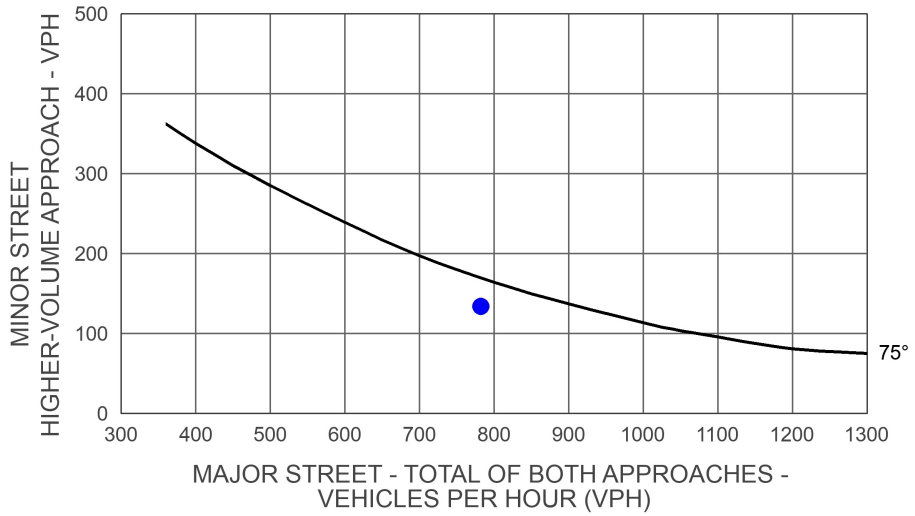
Intersection Summary	
HCM 2010 Ctrl Delay	42.2
HCM 2010 LOS	D

Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 6

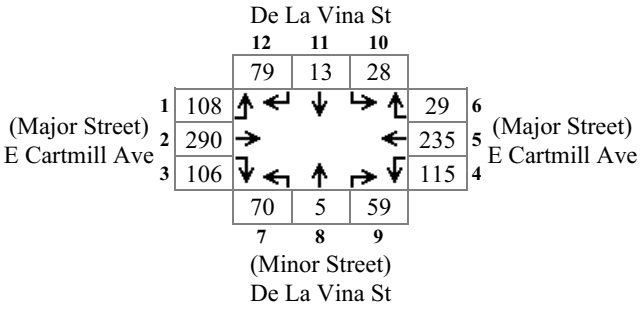


Major Total: 782
Minor High Volume: 134

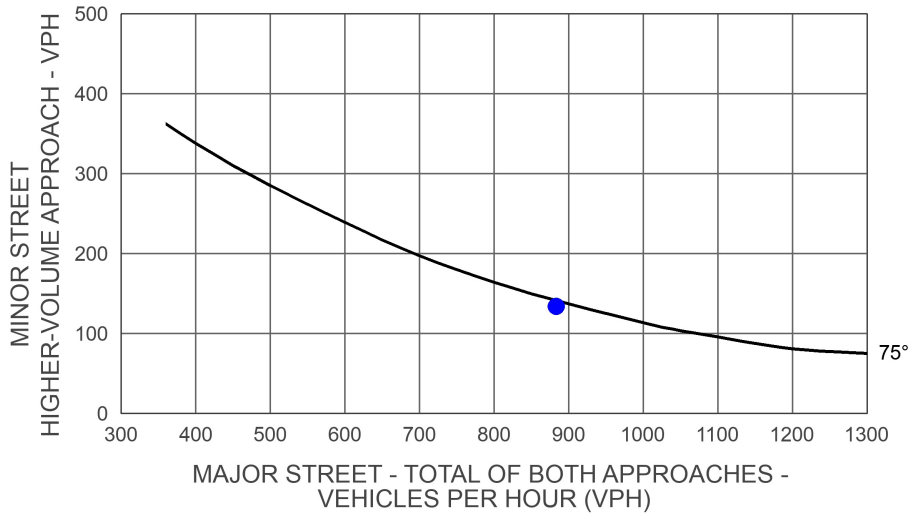


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing+Project
Intersection #: 6

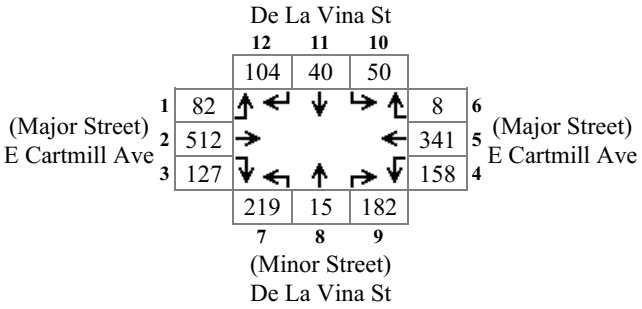


Major Total: 883
Minor High Volume: 134

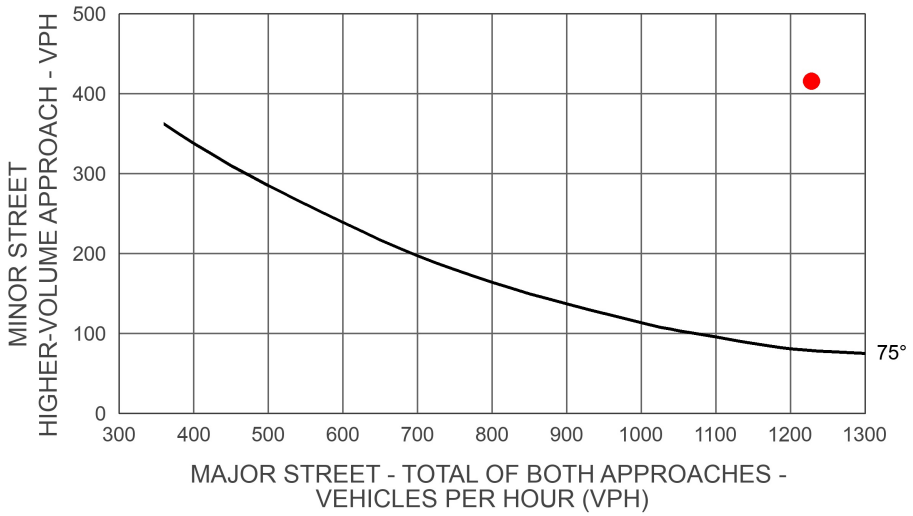


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future
Intersection #: 6

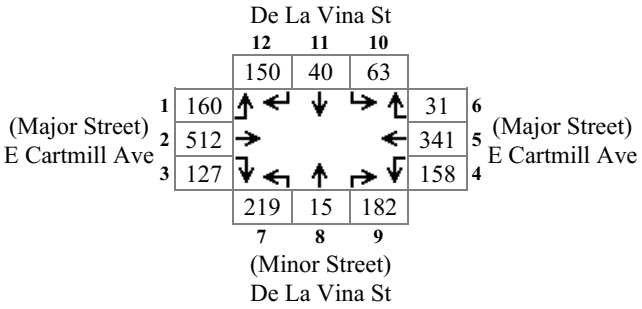


Major Total: 1228
Minor High Volume: 416

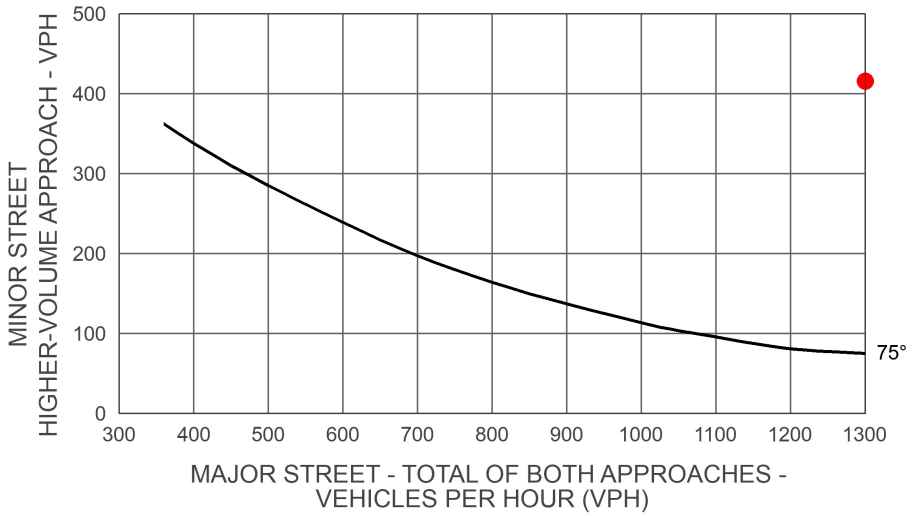


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future+Project
Intersection #: 6



Major Total: 1329
Minor High Volume: 416



Intersection	
Intersection Delay, s/veh	12.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	70	186	47	0	81	199	29	0	139	47	103	0	16	17	49
Future Vol, veh/h	0	70	186	47	0	81	199	29	0	139	47	103	0	16	17	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	76	202	51	0	88	216	32	0	151	51	112	0	17	18	53
Number of Lanes	0	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	10.9	11.1	17.2	10.7
HCM LOS	B	B	C	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	48%	100%	0%	0%	100%	0%	0%	20%
Vol Thru, %	16%	0%	100%	57%	0%	100%	70%	21%
Vol Right, %	36%	0%	0%	43%	0%	0%	30%	60%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	289	70	124	109	81	133	95	82
LT Vol	139	70	0	0	81	0	0	16
Through Vol	47	0	124	62	0	133	66	17
RT Vol	103	0	0	47	0	0	29	49
Lane Flow Rate	314	76	135	118	88	144	104	89
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.561	0.147	0.242	0.202	0.17	0.258	0.179	0.163
Departure Headway (Hd)	6.43	6.969	6.457	6.148	6.955	6.443	6.225	6.597
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	559	512	554	581	513	555	573	540
Service Time	4.192	4.741	4.229	3.919	4.726	4.214	3.996	4.382
HCM Lane V/C Ratio	0.562	0.148	0.244	0.203	0.172	0.259	0.182	0.165
HCM Control Delay	17.2	11	11.3	10.5	11.2	11.5	10.4	10.7
HCM Lane LOS	C	B	B	B	B	B	B	B
HCM 95th-tile Q	3.4	0.5	0.9	0.7	0.6	1	0.6	0.6

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	92	186	47	0	81	199	36	0	139	47	103	0	37	17	119
Future Vol, veh/h	0	92	186	47	0	81	199	36	0	139	47	103	0	37	17	119
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	100	202	51	0	88	216	39	0	151	51	112	0	40	18	129
Number of Lanes	0	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	12	12	19.7	13.4
HCM LOS	B	B	C	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	48%	100%	0%	0%	100%	0%	0%	21%
Vol Thru, %	16%	0%	100%	57%	0%	100%	65%	10%
Vol Right, %	36%	0%	0%	43%	0%	0%	35%	69%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	289	92	124	109	81	133	102	173
LT Vol	139	92	0	0	81	0	0	37
Through Vol	47	0	124	62	0	133	66	17
RT Vol	103	0	0	47	0	0	36	119
Lane Flow Rate	314	100	135	118	88	144	111	188
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.604	0.21	0.263	0.221	0.185	0.282	0.21	0.359
Departure Headway (Hd)	6.926	7.551	7.035	6.724	7.566	7.05	6.796	6.877
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	521	476	511	534	475	509	528	523
Service Time	4.664	5.294	4.778	4.466	5.309	4.793	4.539	4.622
HCM Lane V/C Ratio	0.603	0.21	0.264	0.221	0.185	0.283	0.21	0.359
HCM Control Delay	19.7	12.3	12.3	11.4	12	12.6	11.3	13.4
HCM Lane LOS	C	B	B	B	B	B	B	B
HCM 95th-tile Q	4	0.8	1	0.8	0.7	1.1	0.8	1.6

Intersection	
Intersection Delay, s/veh	45
Intersection LOS	E

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	131	319	52	0	121	407	37	0	434	145	317	0	55	52	154
Future Vol, veh/h	0	131	319	52	0	121	407	37	0	434	145	317	0	55	52	154
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	142	347	57	0	132	442	40	0	472	158	345	0	60	57	167
Number of Lanes	0	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	20	24.4	75.9	31.3
HCM LOS	C	C	F	D

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	48%	100%	0%	0%	100%	0%	0%	21%
Vol Thru, %	16%	0%	100%	67%	0%	100%	79%	20%
Vol Right, %	35%	0%	0%	33%	0%	0%	21%	59%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	896	131	213	158	121	271	173	261
LT Vol	434	131	0	0	121	0	0	55
Through Vol	145	0	213	106	0	271	136	52
RT Vol	317	0	0	52	0	0	37	154
Lane Flow Rate	974	142	231	172	132	295	188	284
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	1	0.372	0.572	0.415	0.34	0.721	0.451	0.713
Departure Headway (Hd)	9.103	9.524	9.024	8.794	9.403	8.904	8.754	9.052
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	409	380	402	411	385	410	415	403
Service Time	6.817	7.224	6.724	6.494	7.103	6.604	6.454	6.752
HCM Lane V/C Ratio	2.381	0.374	0.575	0.418	0.343	0.72	0.453	0.705
HCM Control Delay	75.9	17.8	23.1	17.6	16.9	31.5	18.4	31.3
HCM Lane LOS	F	C	C	C	C	D	C	D
HCM 95th-tile Q	12.2	1.7	3.5	2	1.5	5.6	2.3	5.4

Intersection	
Intersection Delay, s/veh	53
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	153	319	52	0	121	407	44	0	434	145	317	0	76	52	224
Future Vol, veh/h	0	153	319	52	0	121	407	44	0	434	145	317	0	76	52	224
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	166	347	57	0	132	442	48	0	472	158	345	0	83	57	243
Number of Lanes	0	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	22.7	28.6	79.1	71.5
HCM LOS	C	D	F	F

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	48%	100%	0%	0%	100%	0%	0%	22%
Vol Thru, %	16%	0%	100%	67%	0%	100%	76%	15%
Vol Right, %	35%	0%	0%	33%	0%	0%	24%	64%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	896	153	213	158	121	271	180	352
LT Vol	434	153	0	0	121	0	0	76
Through Vol	145	0	213	106	0	271	136	52
RT Vol	317	0	0	52	0	0	44	224
Lane Flow Rate	974	166	231	172	132	295	195	383
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	1	0.464	0.613	0.445	0.363	0.774	0.503	0.98
Departure Headway (Hd)	9.78	10.043	9.543	9.313	9.946	9.447	9.275	9.225
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	380	359	379	387	363	383	389	394
Service Time	7.545	7.782	7.282	7.053	7.686	7.186	7.015	6.961
HCM Lane V/C Ratio	2.563	0.462	0.609	0.444	0.364	0.77	0.501	0.972
HCM Control Delay	79.1	21.2	26.3	19.3	18.3	38.1	21.1	71.5
HCM Lane LOS	F	C	D	C	C	E	C	F
HCM 95th-tile Q	11.7	2.4	3.9	2.2	1.6	6.4	2.7	11.5

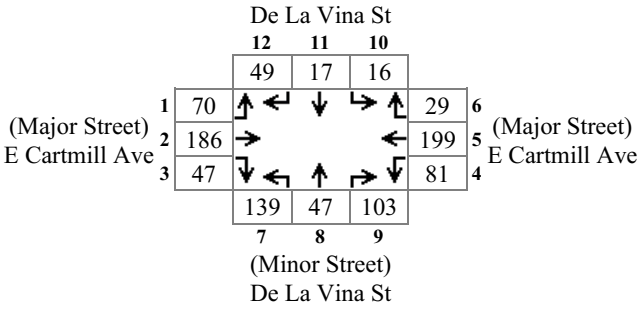
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	319	52	121	407	44	434	145	317	76	52	224
Future Volume (veh/h)	153	319	52	121	407	44	434	145	317	76	52	224
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1750	1863	1750	1750	1863	1750
Adj Flow Rate, veh/h	166	347	57	132	442	48	472	158	345	83	57	243
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	678	110	143	717	77	362	82	179	190	137	401
Arrive On Green	0.09	0.22	0.22	0.09	0.22	0.22	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1634	3049	496	1634	3222	348	622	208	454	238	347	1016
Grp Volume(v), veh/h	166	200	204	132	242	248	975	0	0	383	0	0
Grp Sat Flow(s),veh/h/ln	1634	1770	1775	1634	1770	1801	1284	0	0	1601	0	0
Q Serve(g_s), s	4.0	4.5	4.6	3.7	5.6	5.7	9.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.0	4.5	4.6	3.7	5.6	5.7	18.0	0.0	0.0	8.4	0.0	0.0
Prop In Lane	1.00		0.28	1.00		0.19	0.48		0.35	0.22		0.63
Lane Grp Cap(c), veh/h	143	394	395	143	394	401	623	0	0	727	0	0
V/C Ratio(X)	1.16	0.51	0.52	0.92	0.61	0.62	1.56	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	143	698	700	143	698	710	623	0	0	727	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.8	15.6	15.6	20.7	16.0	16.0	15.6	0.0	0.0	10.9	0.0	0.0
Incr Delay (d2), s/veh	124.5	1.0	1.0	52.4	1.6	1.6	261.6	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	2.3	2.3	3.7	2.9	3.0	52.9	0.0	0.0	3.9	0.0	0.0
LnGrp Delay(d),s/veh	145.3	16.6	16.6	73.0	17.5	17.6	277.3	0.0	0.0	11.6	0.0	0.0
LnGrp LOS	F	B	B	E	B	B	F			B		
Approach Vol, veh/h		570			622			975			383	
Approach Delay, s/veh		54.1			29.3			277.3			11.6	
Approach LOS		D			C			F			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		22.5	8.5	14.7		22.5	8.5	14.7
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	4.0	18.0		18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s		20.0	5.7	6.6		10.4	6.0	7.7
Green Ext Time (p_c), s		0.0	0.0	2.6		4.4	0.0	2.5

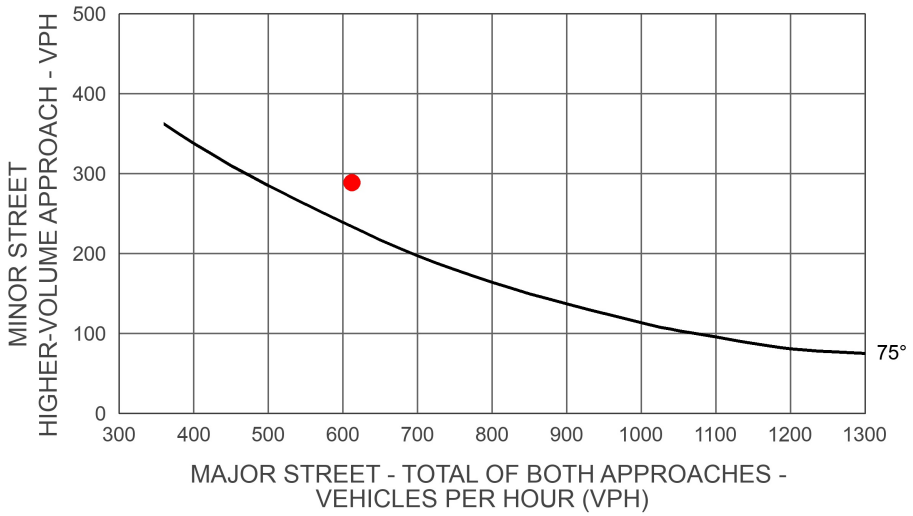
Intersection Summary	
HCM 2010 Ctrl Delay	127.0
HCM 2010 LOS	F

Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Existing
Intersection #: 6

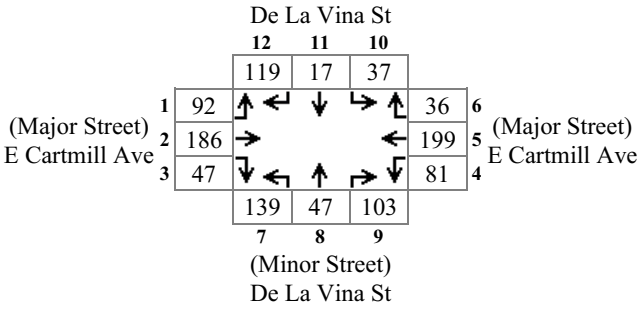


Major Total: 612
Minor High Volume: 289

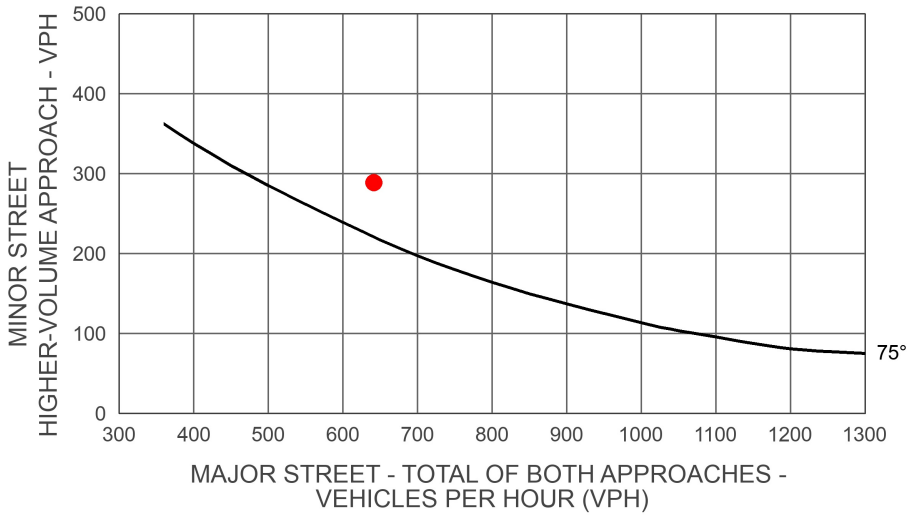


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Existing+Project
Intersection #: 6

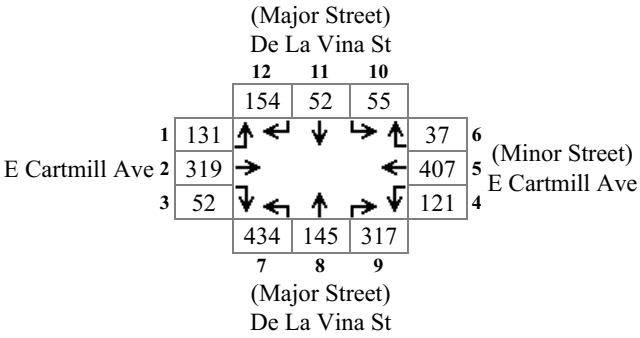


Major Total: 641
Minor High Volume: 289

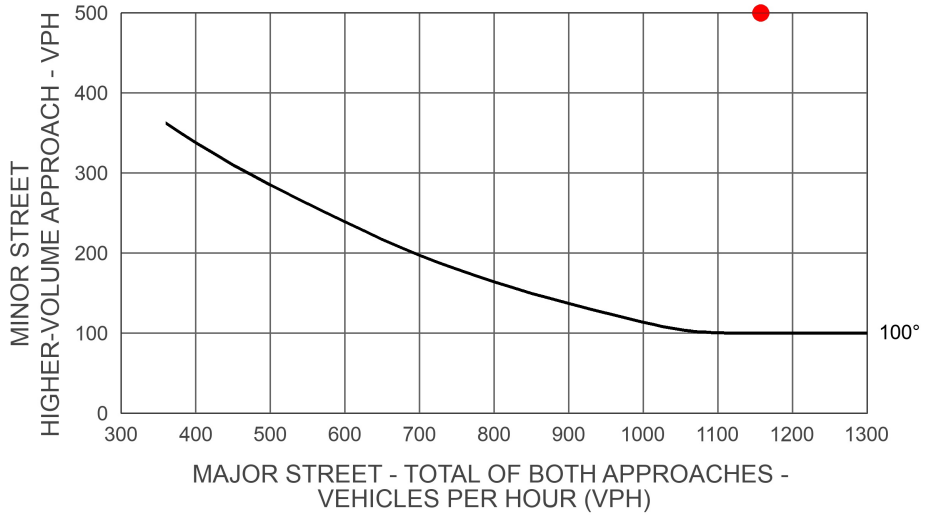


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future
Intersection #: 6

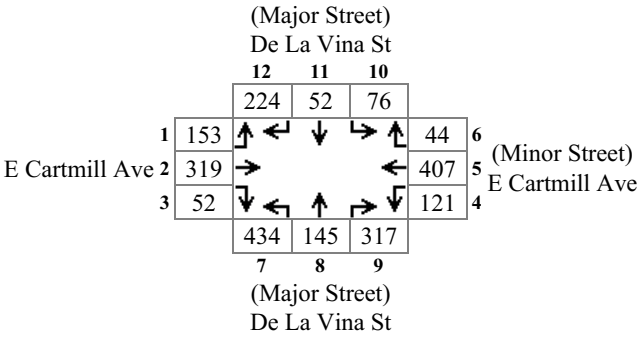


Major Total: 1157
Minor High Volume: 565

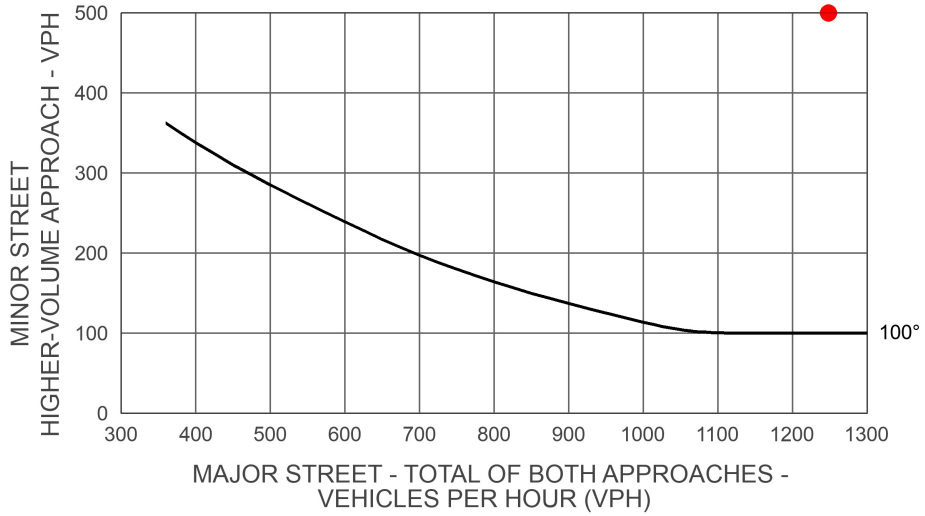


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future+Project
Intersection #: 6



Major Total: 1248
Minor High Volume: 572



Intersection 7
N Mooney Blvd & E Cartmill Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	103	78	7	90	5	66	686	14	8	913	196
Future Volume (veh/h)	147	103	78	7	90	5	66	686	14	8	913	196
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1750	1716	1863	1750	1716	1863	1750
Adj Flow Rate, veh/h	160	112	85	8	98	5	72	746	15	9	992	213
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	298	228	143	250	13	100	1742	35	26	1212	260
Arrive On Green	0.13	0.16	0.16	0.09	0.14	0.11	0.06	0.49	0.46	0.02	0.42	0.39
Sat Flow, veh/h	1634	1863	1423	1634	1754	90	1634	3546	71	1634	2891	619
Grp Volume(v), veh/h	160	112	85	8	0	103	72	372	389	9	606	599
Grp Sat Flow(s),veh/h/ln	1634	1863	1423	1634	0	1844	1634	1770	1848	1634	1770	1741
Q Serve(g_s), s	6.8	3.8	3.8	0.3	0.0	3.6	3.1	9.7	9.7	0.4	21.6	21.8
Cycle Q Clear(g_c), s	6.8	3.8	3.8	0.3	0.0	3.6	3.1	9.7	9.7	0.4	21.6	21.8
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.04	1.00		0.36
Lane Grp Cap(c), veh/h	206	298	228	143	0	263	100	869	907	26	742	730
V/C Ratio(X)	0.78	0.38	0.37	0.06	0.00	0.39	0.72	0.43	0.43	0.34	0.82	0.82
Avail Cap(c_a), veh/h	257	1018	778	143	0	835	128	918	958	103	890	876
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.2	26.8	26.8	29.8	0.0	27.8	32.9	11.7	11.7	34.7	18.3	18.7
Incr Delay (d2), s/veh	11.3	0.8	1.0	0.2	0.0	1.0	13.0	0.3	0.3	7.4	5.1	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	2.0	1.6	0.2	0.0	1.9	1.8	4.7	4.9	0.2	11.5	11.4
LnGrp Delay(d),s/veh	41.5	27.6	27.8	30.0	0.0	28.8	45.9	12.0	12.1	42.1	23.4	24.1
LnGrp LOS	D	C	C	C		C	D	B	B	D	C	C
Approach Vol, veh/h		357			111			833			1214	
Approach Delay, s/veh		33.9			28.9			15.0			23.9	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	39.0	11.7	15.4	10.3	33.9	13.0	14.2
Change Period (Y+Rc), s	4.5	6.4	6.0	* 6	6.4	* 6.4	4.5	6.0
Max Green Setting (Gmax), s	4.0	34.6	4.0	* 37	5.1	* 34	10.7	30.3
Max Q Clear Time (g_c+I1), s	2.4	11.7	2.3	5.8	5.1	23.8	8.8	5.6
Green Ext Time (p_c), s	0.0	3.0	0.0	0.7	0.0	3.7	0.1	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	22.6
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	107	81	7	94	5	75	686	14	8	913	206
Future Volume (veh/h)	153	107	81	7	94	5	75	686	14	8	913	206
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1750	1716	1863	1750	1716	1863	1750
Adj Flow Rate, veh/h	166	116	88	8	102	5	82	746	15	9	992	224
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	297	227	149	250	12	113	1760	35	26	1195	269
Arrive On Green	0.13	0.16	0.16	0.09	0.14	0.12	0.07	0.50	0.46	0.02	0.42	0.39
Sat Flow, veh/h	1634	1863	1423	1634	1758	86	1634	3546	71	1634	2861	644
Grp Volume(v), veh/h	166	116	88	8	0	107	82	372	389	9	613	603
Grp Sat Flow(s),veh/h/ln	1634	1863	1423	1634	0	1845	1634	1770	1848	1634	1770	1736
Q Serve(g_s), s	7.3	4.1	4.1	0.3	0.0	3.9	3.6	9.9	9.9	0.4	22.8	23.1
Cycle Q Clear(g_c), s	7.3	4.1	4.1	0.3	0.0	3.9	3.6	9.9	9.9	0.4	22.8	23.1
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.04	1.00		0.37
Lane Grp Cap(c), veh/h	211	297	227	149	0	262	113	878	917	26	739	725
V/C Ratio(X)	0.79	0.39	0.39	0.05	0.00	0.41	0.73	0.42	0.42	0.35	0.83	0.83
Avail Cap(c_a), veh/h	248	983	751	149	0	806	124	886	925	99	859	843
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	27.8	27.8	30.7	0.0	28.9	33.7	11.9	11.9	36.0	19.2	19.6
Incr Delay (d2), s/veh	13.4	0.8	1.1	0.1	0.0	1.0	17.7	0.3	0.3	7.7	6.0	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	2.2	1.7	0.2	0.0	2.1	2.2	4.8	5.1	0.2	12.3	12.2
LnGrp Delay(d),s/veh	44.6	28.7	28.9	30.8	0.0	29.9	51.4	12.2	12.2	43.7	25.2	25.9
LnGrp LOS	D	C	C	C		C	D	B	B	D	C	C
Approach Vol, veh/h		370			115			843			1225	
Approach Delay, s/veh		35.9			30.0			16.0			25.7	
Approach LOS		D			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	40.7	12.3	15.8	11.0	34.9	13.5	14.5
Change Period (Y+Rc), s	4.5	6.4	6.0	* 6	6.4	* 6.4	4.5	6.0
Max Green Setting (Gmax), s	4.0	34.6	4.0	* 37	5.1	* 34	10.7	30.3
Max Q Clear Time (g_c+I1), s	2.4	11.9	2.3	6.1	5.6	25.1	9.3	5.9
Green Ext Time (p_c), s	0.0	3.0	0.0	0.7	0.0	3.4	0.1	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	24.2
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	289	195	112	8	103	6	82	821	17	10	1112	261
Future Volume (veh/h)	289	195	112	8	103	6	82	821	17	10	1112	261
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1750	1716	1863	1750	1716	1863	1750
Adj Flow Rate, veh/h	314	212	122	9	112	7	89	892	18	11	1209	284
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	523	402	21	212	13	82	1981	40	24	1488	345
Arrive On Green	0.16	0.28	0.28	0.01	0.12	0.11	0.05	0.56	0.54	0.01	0.52	0.50
Sat Flow, veh/h	1634	1863	1431	1634	1731	108	1634	3546	72	1634	2844	660
Grp Volume(v), veh/h	314	212	122	9	0	119	89	445	465	11	747	746
Grp Sat Flow(s),veh/h/ln	1634	1863	1431	1634	0	1840	1634	1770	1848	1634	1770	1734
Q Serve(g_s), s	19.0	11.1	8.0	0.7	0.0	7.3	6.0	17.8	17.8	0.8	41.8	43.5
Cycle Q Clear(g_c), s	19.0	11.1	8.0	0.7	0.0	7.3	6.0	17.8	17.8	0.8	41.8	43.5
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.04	1.00		0.38
Lane Grp Cap(c), veh/h	259	523	402	21	0	226	82	989	1033	24	926	907
V/C Ratio(X)	1.21	0.41	0.30	0.43	0.00	0.53	1.09	0.45	0.45	0.47	0.81	0.82
Avail Cap(c_a), veh/h	259	716	550	61	0	484	82	989	1033	61	926	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.5	35.0	33.9	58.8	0.0	49.4	57.0	15.6	15.6	58.7	23.6	24.4
Incr Delay (d2), s/veh	126.3	0.5	0.4	13.3	0.0	1.9	126.0	1.5	1.4	13.7	7.5	8.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.6	5.8	3.2	0.4	0.0	3.8	5.6	9.1	9.5	0.5	22.2	22.9
LnGrp Delay(d),s/veh	176.8	35.5	34.4	72.1	0.0	51.3	183.4	17.1	17.1	72.4	31.1	32.7
LnGrp LOS	F	D	C	E		D	F	B	B	E	C	C
Approach Vol, veh/h		648			128			999			1504	
Approach Delay, s/veh		103.7			52.8			31.9			32.2	
Approach LOS		F			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	71.1	5.5	37.7	10.0	66.8	24.5	18.7
Change Period (Y+Rc), s	4.5	6.4	4.5	6.0	4.5	6.4	6.0	* 6
Max Green Setting (Gmax), s	4.0	46.5	4.0	44.1	5.5	45.0	18.5	* 30
Max Q Clear Time (g_c+I1), s	2.8	19.8	2.7	13.1	8.0	45.5	21.0	9.3
Green Ext Time (p_c), s	0.0	12.7	0.0	2.4	0.0	0.0	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	47.0
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	295	199	115	8	107	6	91	821	17	10	1112	271
Future Volume (veh/h)	295	199	115	8	107	6	91	821	17	10	1112	271
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1750	1716	1863	1750	1716	1863	1750
Adj Flow Rate, veh/h	321	216	125	9	116	7	99	892	18	11	1209	295
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	299	347	266	185	228	14	110	1832	37	25	1259	303
Arrive On Green	0.18	0.19	0.19	0.11	0.13	0.11	0.07	0.52	0.49	0.02	0.45	0.42
Sat Flow, veh/h	1634	1863	1426	1634	1736	105	1634	3546	72	1634	2820	679
Grp Volume(v), veh/h	321	216	125	9	0	123	99	445	465	11	753	751
Grp Sat Flow(s),veh/h/ln	1634	1863	1426	1634	0	1841	1634	1770	1848	1634	1770	1730
Q Serve(g_s), s	19.0	11.1	8.1	0.5	0.0	6.5	6.3	16.9	16.9	0.7	42.6	44.3
Cycle Q Clear(g_c), s	19.0	11.1	8.1	0.5	0.0	6.5	6.3	16.9	16.9	0.7	42.6	44.3
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.04	1.00		0.39
Lane Grp Cap(c), veh/h	299	347	266	185	0	242	110	914	955	25	790	772
V/C Ratio(X)	1.07	0.62	0.47	0.05	0.00	0.51	0.90	0.49	0.49	0.44	0.95	0.97
Avail Cap(c_a), veh/h	299	826	632	185	0	560	110	914	955	71	790	772
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	38.9	37.7	41.1	0.0	42.1	48.1	16.2	16.3	50.7	27.7	28.6
Incr Delay (d2), s/veh	73.4	1.8	1.3	0.1	0.0	1.7	55.5	0.4	0.4	11.7	21.3	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.6	5.9	3.3	0.2	0.0	3.4	4.5	8.3	8.6	0.4	25.4	26.6
LnGrp Delay(d),s/veh	115.9	40.7	39.0	41.2	0.0	43.7	103.6	16.6	16.6	62.5	49.0	54.5
LnGrp LOS	F	D	D	D		D	F	B	B	E	D	D
Approach Vol, veh/h		662			132			1009			1515	
Approach Delay, s/veh		76.8			43.6			25.2			51.8	
Approach LOS		E			D			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.6	57.7	17.3	23.4	12.9	50.4	23.0	17.6
Change Period (Y+Rc), s	4.5	6.4	6.0	* 6	6.4	* 6.4	4.5	6.0
Max Green Setting (Gmax), s	4.0	46.5	4.0	* 44	6.5	* 44	18.5	29.6
Max Q Clear Time (g_c+I1), s	2.7	18.9	2.5	13.1	8.3	46.3	21.0	8.5
Green Ext Time (p_c), s	0.0	3.9	0.0	1.2	0.0	0.0	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	48.4
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	106	87	15	85	7	74	597	12	8	361	82
Future Volume (veh/h)	109	106	87	15	85	7	74	597	12	8	361	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1750	1716	1863	1750	1716	1863	1750
Adj Flow Rate, veh/h	118	115	95	16	92	8	80	649	13	9	392	89
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	165	372	285	69	291	25	120	1300	26	33	781	175
Arrive On Green	0.10	0.20	0.20	0.04	0.17	0.13	0.07	0.37	0.32	0.02	0.27	0.22
Sat Flow, veh/h	1634	1863	1427	1634	1686	147	1634	3546	71	1634	2861	642
Grp Volume(v), veh/h	118	115	95	16	0	100	80	324	338	9	241	240
Grp Sat Flow(s),veh/h/ln	1634	1863	1427	1634	0	1832	1634	1770	1848	1634	1770	1733
Q Serve(g_s), s	3.3	2.5	2.7	0.4	0.0	2.3	2.2	6.7	6.7	0.3	5.4	5.6
Cycle Q Clear(g_c), s	3.3	2.5	2.7	0.4	0.0	2.3	2.2	6.7	6.7	0.3	5.4	5.6
Prop In Lane	1.00		1.00	1.00		0.08	1.00		0.04	1.00		0.37
Lane Grp Cap(c), veh/h	165	372	285	69	0	317	120	649	677	33	483	473
V/C Ratio(X)	0.71	0.31	0.33	0.23	0.00	0.32	0.67	0.50	0.50	0.27	0.50	0.51
Avail Cap(c_a), veh/h	388	1541	1181	156	0	1256	194	1389	1450	156	1348	1320
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.5	16.1	16.2	21.8	0.0	17.1	21.3	11.6	11.6	22.8	14.4	14.9
Incr Delay (d2), s/veh	5.6	0.5	0.7	1.7	0.0	0.6	6.3	0.6	0.6	4.4	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.3	1.1	0.2	0.0	1.2	1.2	3.3	3.5	0.2	2.7	2.8
LnGrp Delay(d),s/veh	26.1	16.5	16.8	23.5	0.0	17.7	27.6	12.2	12.2	27.2	15.2	15.7
LnGrp LOS	C	B	B	C		B	C	B	B	C	B	B
Approach Vol, veh/h		328			116			742			490	
Approach Delay, s/veh		20.1			18.5			13.8			15.7	
Approach LOS		C			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	21.3	7.5	13.4	9.4	16.9	8.8	12.1
Change Period (Y+Rc), s	4.5	6.4	6.0	* 6	6.4	* 6.4	4.5	6.0
Max Green Setting (Gmax), s	4.0	34.6	4.0	* 37	5.1	* 34	10.7	30.3
Max Q Clear Time (g_c+I1), s	2.3	8.7	2.4	4.7	4.2	7.6	5.3	4.3
Green Ext Time (p_c), s	0.0	2.7	0.0	0.7	0.3	1.7	0.1	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	15.9
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	112	92	15	86	7	77	597	12	8	361	85
Future Volume (veh/h)	119	112	92	15	86	7	77	597	12	8	361	85
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1750	1716	1863	1750	1716	1863	1750
Adj Flow Rate, veh/h	129	122	100	16	93	8	84	649	13	9	392	92
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	179	375	288	79	290	25	124	1301	26	32	771	179
Arrive On Green	0.11	0.20	0.20	0.05	0.17	0.13	0.08	0.37	0.32	0.02	0.27	0.22
Sat Flow, veh/h	1634	1863	1427	1634	1687	145	1634	3546	71	1634	2841	659
Grp Volume(v), veh/h	129	122	100	16	0	101	84	324	338	9	243	241
Grp Sat Flow(s),veh/h/ln	1634	1863	1427	1634	0	1832	1634	1770	1848	1634	1770	1730
Q Serve(g_s), s	3.7	2.7	2.9	0.5	0.0	2.3	2.4	6.8	6.8	0.3	5.6	5.8
Cycle Q Clear(g_c), s	3.7	2.7	2.9	0.5	0.0	2.3	2.4	6.8	6.8	0.3	5.6	5.8
Prop In Lane	1.00		1.00	1.00		0.08	1.00		0.04	1.00		0.38
Lane Grp Cap(c), veh/h	179	375	288	79	0	314	124	649	678	32	480	470
V/C Ratio(X)	0.72	0.32	0.35	0.20	0.00	0.32	0.68	0.50	0.50	0.28	0.50	0.51
Avail Cap(c_a), veh/h	380	1508	1155	153	0	1229	190	1359	1419	153	1319	1289
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.7	16.4	16.5	22.0	0.0	17.6	21.7	11.8	11.9	23.3	14.8	15.3
Incr Delay (d2), s/veh	5.3	0.5	0.7	1.2	0.0	0.6	6.4	0.6	0.6	4.6	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	1.4	1.2	0.2	0.0	1.2	1.3	3.4	3.6	0.2	2.8	2.8
LnGrp Delay(d),s/veh	26.1	16.9	17.2	23.2	0.0	18.1	28.1	12.4	12.4	27.8	15.6	16.1
LnGrp LOS	C	B	B	C		B	C	B	B	C	B	B
Approach Vol, veh/h		351			117			746			493	
Approach Delay, s/veh		20.4			18.8			14.2			16.1	
Approach LOS		C			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	21.7	7.8	13.7	9.5	17.1	9.3	12.3
Change Period (Y+Rc), s	4.5	6.4	6.0	* 6	6.4	* 6.4	4.5	6.0
Max Green Setting (Gmax), s	4.0	34.6	4.0	* 37	5.1	* 34	10.7	30.3
Max Q Clear Time (g_c+I1), s	2.3	8.8	2.5	4.9	4.4	7.8	5.7	4.3
Green Ext Time (p_c), s	0.0	2.7	0.0	0.8	0.2	1.7	0.1	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	16.3
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	137	123	17	97	8	99	714	14	10	440	122
Future Volume (veh/h)	155	137	123	17	97	8	99	714	14	10	440	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1750	1716	1863	1750	1716	1863	1750
Adj Flow Rate, veh/h	168	149	134	18	105	9	108	776	15	11	478	133
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	391	300	106	280	24	148	1401	27	33	794	219
Arrive On Green	0.14	0.21	0.21	0.06	0.17	0.13	0.09	0.39	0.35	0.02	0.29	0.25
Sat Flow, veh/h	1634	1863	1428	1634	1688	145	1634	3549	69	1634	2728	754
Grp Volume(v), veh/h	168	149	134	18	0	114	108	387	404	11	309	302
Grp Sat Flow(s),veh/h/ln	1634	1863	1428	1634	0	1833	1634	1770	1848	1634	1770	1712
Q Serve(g_s), s	5.6	3.9	4.6	0.6	0.0	3.1	3.6	9.6	9.6	0.4	8.5	8.7
Cycle Q Clear(g_c), s	5.6	3.9	4.6	0.6	0.0	3.1	3.6	9.6	9.6	0.4	8.5	8.7
Prop In Lane	1.00		1.00	1.00		0.08	1.00		0.04	1.00		0.44
Lane Grp Cap(c), veh/h	222	391	300	106	0	304	148	699	730	33	515	498
V/C Ratio(X)	0.76	0.38	0.45	0.17	0.00	0.38	0.73	0.55	0.55	0.34	0.60	0.61
Avail Cap(c_a), veh/h	324	1287	986	130	0	1048	162	1160	1211	130	1125	1089
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	19.1	19.4	25.0	0.0	21.0	25.0	13.2	13.3	27.3	17.2	17.7
Incr Delay (d2), s/veh	5.8	0.6	1.0	0.7	0.0	0.8	14.2	0.7	0.7	5.9	1.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.1	1.9	0.3	0.0	1.7	2.2	4.8	5.0	0.2	4.3	4.2
LnGrp Delay(d),s/veh	29.3	19.8	20.5	25.7	0.0	21.8	39.2	13.9	13.9	33.2	18.3	18.9
LnGrp LOS	C	B	C	C		C	D	B	B	C	B	B
Approach Vol, veh/h		451			132			899			622	
Approach Delay, s/veh		23.5			22.3			17.0			18.9	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	26.3	9.2	15.9	11.0	20.4	11.7	13.4
Change Period (Y+Rc), s	4.5	6.4	6.0	* 6	6.4	* 6.4	4.5	6.0
Max Green Setting (Gmax), s	4.0	34.6	4.0	* 37	5.1	* 34	10.7	30.3
Max Q Clear Time (g_c+I1), s	2.4	11.6	2.6	6.6	5.6	10.7	7.6	5.1
Green Ext Time (p_c), s	0.0	3.3	0.0	1.0	0.0	2.2	0.1	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	19.3
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	143	128	17	98	8	102	714	14	10	440	125
Future Volume (veh/h)	165	143	128	17	98	8	102	714	14	10	440	125
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1716	1716	1863	1750	1716	1863	1750	1716	1863	1750
Adj Flow Rate, veh/h	179	155	139	18	107	9	111	776	15	11	478	136
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	394	302	115	279	23	151	1402	27	32	785	222
Arrive On Green	0.14	0.21	0.21	0.07	0.17	0.13	0.09	0.39	0.35	0.02	0.29	0.25
Sat Flow, veh/h	1634	1863	1428	1634	1691	142	1634	3549	69	1634	2713	766
Grp Volume(v), veh/h	179	155	139	18	0	116	111	387	404	11	311	303
Grp Sat Flow(s),veh/h/ln	1634	1863	1428	1634	0	1833	1634	1770	1848	1634	1770	1709
Q Serve(g_s), s	6.1	4.1	4.9	0.6	0.0	3.3	3.8	9.8	9.8	0.4	8.7	9.0
Cycle Q Clear(g_c), s	6.1	4.1	4.9	0.6	0.0	3.3	3.8	9.8	9.8	0.4	8.7	9.0
Prop In Lane	1.00		1.00	1.00		0.08	1.00		0.04	1.00		0.45
Lane Grp Cap(c), veh/h	234	394	302	115	0	302	151	699	730	32	512	495
V/C Ratio(X)	0.77	0.39	0.46	0.16	0.00	0.38	0.73	0.55	0.55	0.34	0.61	0.61
Avail Cap(c_a), veh/h	317	1258	965	127	0	1026	159	1134	1185	127	1101	1063
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.8	19.6	19.9	25.2	0.0	21.6	25.5	13.5	13.6	27.9	17.7	18.2
Incr Delay (d2), s/veh	7.5	0.6	1.1	0.6	0.0	0.8	15.5	0.7	0.7	6.0	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	2.2	2.0	0.3	0.0	1.7	2.4	4.9	5.1	0.2	4.4	4.3
LnGrp Delay(d),s/veh	31.3	20.2	21.0	25.8	0.0	22.4	41.0	14.2	14.2	33.9	18.8	19.5
LnGrp LOS	C	C	C	C		C	D	B	B	C	B	B
Approach Vol, veh/h		473			134			902			625	
Approach Delay, s/veh		24.6			22.8			17.5			19.4	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	26.8	9.6	16.2	11.2	20.7	12.3	13.5
Change Period (Y+Rc), s	4.5	6.4	6.0	* 6	6.4	* 6.4	4.5	6.0
Max Green Setting (Gmax), s	4.0	34.6	4.0	* 37	5.1	* 34	10.7	30.3
Max Q Clear Time (g_c+I1), s	2.4	11.8	2.6	6.9	5.8	11.0	8.1	5.3
Green Ext Time (p_c), s	0.0	3.3	0.0	1.1	0.0	2.2	0.1	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	20.0
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Vehicle Turn Movement Volumes

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
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Turning Movement Report

Prepared For:
Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

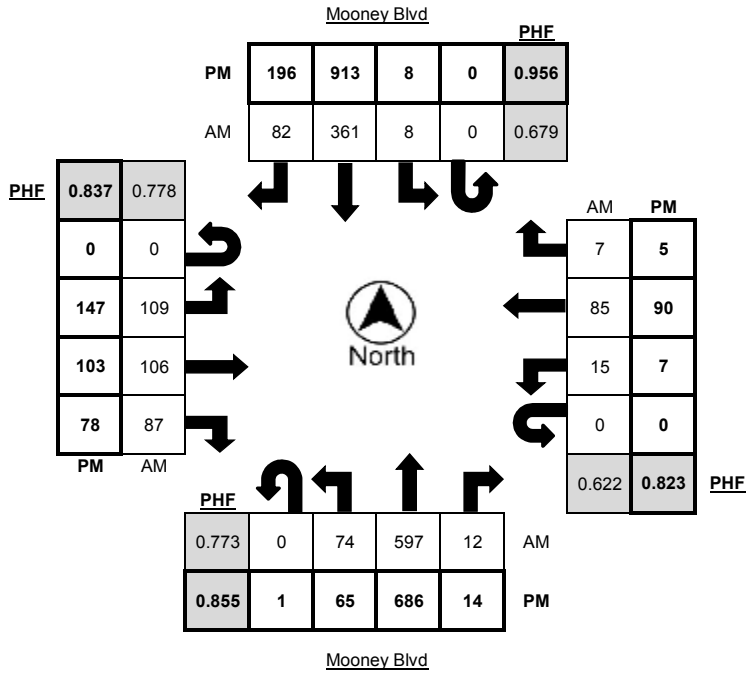
LOCATION Mooney Blvd @ Cartmill Ave
LATITUDE 36.2404
COUNTY Tulare
LONGITUDE -119.3130
COLLECTION DATE Wednesday, October 13, 2021
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	6	39	1	0	0	1	43	6	2	0	11	5	1	0	0	1	6	0	0
6:15 AM - 6:30 AM	0	5	56	1	1	0	0	43	2	1	0	4	14	5	0	0	1	9	0	0
6:30 AM - 6:45 AM	1	7	108	3	2	0	1	57	7	3	0	14	21	3	0	0	4	8	1	3
6:45 AM - 7:00 AM	0	2	109	2	2	0	1	65	13	3	0	11	33	15	1	0	1	14	3	1
7:00 AM - 7:15 AM	0	11	99	1	0	0	4	53	16	0	0	20	15	14	2	0	4	17	1	2
7:15 AM - 7:30 AM	0	11	123	2	3	0	0	77	12	2	0	26	29	19	3	0	2	14	3	0
7:30 AM - 7:45 AM	0	21	188	6	0	0	2	95	26	4	0	27	26	29	1	0	2	21	0	3
7:45 AM - 8:00 AM	0	31	187	3	3	0	2	136	28	3	0	36	36	25	2	0	7	33	3	3
TOTAL	**1**	**94**	**909**	**19**	**11**	**0**	**11**	**569**	**110**	**18**	**0**	**149**	**179**	**111**	**9**	**0**	**22**	**122**	**11**	**12**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	20	172	3	4	0	2	180	32	2	0	40	21	23	3	0	6	17	1	0
4:15 PM - 4:30 PM	0	11	138	4	3	0	0	226	44	3	0	42	27	17	3	0	0	20	2	1
4:30 PM - 4:45 PM	0	18	184	3	1	0	1	156	41	2	0	47	22	16	1	0	2	18	1	2
4:45 PM - 5:00 PM	1	12	152	3	0	0	4	240	48	1	0	28	28	15	4	0	3	23	5	1
5:00 PM - 5:15 PM	0	10	184	3	1	0	2	235	49	3	0	38	31	29	4	0	2	21	0	1
5:15 PM - 5:30 PM	0	23	197	4	2	0	2	227	44	1	0	41	26	15	1	0	0	29	0	1
5:30 PM - 5:45 PM	0	20	153	4	1	0	0	211	55	0	0	40	18	19	4	0	2	17	0	1
5:45 PM - 6:00 PM	0	15	192	4	0	0	1	203	46	2	0	29	15	22	4	0	5	25	0	3
TOTAL	**1**	**129**	**1372**	**28**	**12**	**0**	**12**	**1678**	**359**	**14**	**0**	**305**	**188**	**156**	**24**	**0**	**20**	**170**	**9**	**10**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	74	597	12	6	0	8	361	82	9	0	109	106	87	8	0	15	85	7	8
4:45 PM - 5:45 PM	1	65	686	14	4	0	8	913	196	5	0	147	103	78	13	0	7	90	5	4

	PHF	Trucks
AM	0.732	2.0%
PM	0.951	1.1%



Metro Traffic Data Inc.
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Hanford, CA 93230

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Turning Movement Report

Prepared For:
Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

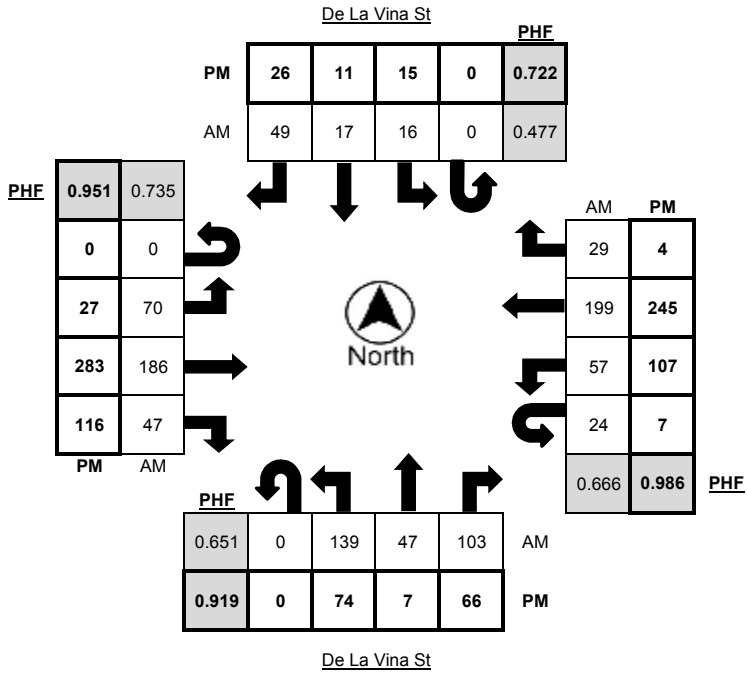
LOCATION De La Vina St @ Cartmill Ave
LATITUDE 36.2404
COUNTY Tulare
LONGITUDE -119.3220
COLLECTION DATE Wednesday, October 13, 2021
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	5	1	8	0	0	0	1	3	0	0	2	10	4	0	0	3	21	0	3
6:15 AM - 6:30 AM	0	17	0	6	0	0	1	0	3	0	0	2	20	6	0	1	2	20	1	0
6:30 AM - 6:45 AM	0	16	0	11	0	0	0	0	3	0	1	3	29	3	0	1	4	19	0	3
6:45 AM - 7:00 AM	0	19	0	10	0	0	1	1	8	0	0	3	50	2	1	2	9	26	1	1
7:00 AM - 7:15 AM	0	23	0	16	2	0	2	0	5	0	0	8	35	10	2	5	9	37	3	1
7:15 AM - 7:30 AM	0	20	7	22	1	0	1	2	11	0	0	11	47	10	3	8	13	35	1	3
7:30 AM - 7:45 AM	0	43	17	30	1	0	4	4	10	0	0	12	51	16	1	7	16	54	5	6
7:45 AM - 8:00 AM	0	53	23	35	2	0	9	11	23	0	0	39	53	11	4	4	19	73	20	4
TOTAL	**0**	**196**	**48**	**138**	**6**	**0**	**18**	**19**	**66**	**0**	**1**	**80**	**295**	**62**	**11**	**28**	**75**	**285**	**31**	**21**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	18	7	25	0	0	3	3	4	0	0	9	66	21	2	3	17	54	1	1
4:15 PM - 4:30 PM	0	25	3	21	1	0	3	0	9	0	1	11	73	37	3	2	18	61	1	2
4:30 PM - 4:45 PM	0	7	5	24	0	0	1	6	4	0	0	8	61	25	1	4	17	52	3	2
4:45 PM - 5:00 PM	0	16	2	9	1	0	2	3	10	0	0	10	74	26	4	3	24	54	3	2
5:00 PM - 5:15 PM	0	16	2	16	0	0	3	5	9	0	0	10	76	21	4	1	23	62	2	3
5:15 PM - 5:30 PM	0	15	0	18	0	0	4	2	5	0	0	5	77	30	3	4	30	58	0	2
5:30 PM - 5:45 PM	0	23	1	16	1	0	6	3	9	0	0	5	63	29	2	0	30	61	1	2
5:45 PM - 6:00 PM	0	20	4	16	0	0	2	1	3	0	0	7	67	36	5	2	24	64	1	3
TOTAL	**0**	**140**	**24**	**145**	**3**	**0**	**24**	**23**	**53**	**0**	**1**	**65**	**557**	**225**	**24**	**19**	**183**	**466**	**12**	**17**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	139	47	103	6	0	16	17	49	0	0	70	186	47	10	24	57	199	29	14
5:00 PM - 6:00 PM	0	74	7	66	1	0	15	11	26	0	0	27	283	116	14	7	107	245	4	10

	PHF	Trucks
AM	0.659	3.1%
PM	0.996	2.5%



Metro Traffic Data Inc.
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Turning Movement Report

Prepared For:
Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

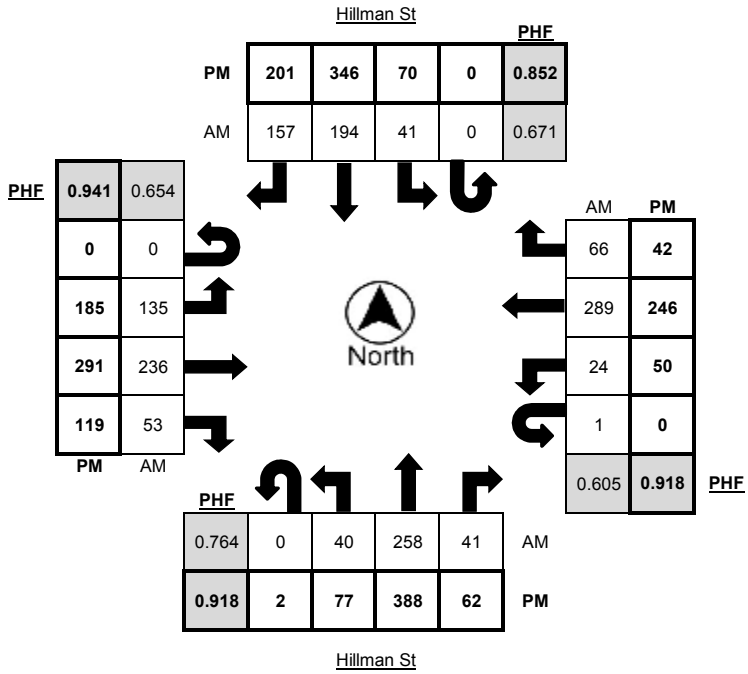
LOCATION Hillman St @ Cartmill Ave
LATITUDE 36.2405
COUNTY Tulare
LONGITUDE -119.3310
COLLECTION DATE Wednesday, October 13, 2021
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	5	17	1	1	0	4	24	14	1	0	10	16	2	0	0	3	18	2	3
6:15 AM - 6:30 AM	0	5	31	1	0	0	6	18	37	2	0	22	22	2	0	0	3	36	4	0
6:30 AM - 6:45 AM	0	3	50	5	1	0	3	31	23	1	0	17	28	2	0	1	4	26	5	3
6:45 AM - 7:00 AM	0	10	40	2	1	0	10	38	33	0	0	27	42	2	2	1	4	44	4	1
7:00 AM - 7:15 AM	0	4	39	7	0	0	9	25	26	0	0	15	41	7	5	0	1	53	8	4
7:15 AM - 7:30 AM	0	11	57	10	2	0	10	37	38	1	0	23	44	10	4	0	4	53	11	2
7:30 AM - 7:45 AM	0	15	77	8	2	0	9	59	33	0	0	44	62	16	4	1	7	60	25	4
7:45 AM - 8:00 AM	0	10	85	16	1	0	13	73	60	1	0	53	89	20	3	0	12	123	22	7
TOTAL	**0**	**63**	**396**	**50**	**8**	**0**	**64**	**305**	**264**	**6**	**0**	**211**	**344**	**61**	**18**	**3**	**38**	**413**	**81**	**24**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	12	70	12	0	0	18	109	50	1	0	40	72	22	2	0	6	63	8	5
4:15 PM - 4:30 PM	0	11	89	23	0	0	18	73	54	1	0	44	73	21	3	0	11	65	20	2
4:30 PM - 4:45 PM	0	18	84	18	2	0	21	98	50	1	0	39	63	23	2	1	13	43	4	2
4:45 PM - 5:00 PM	0	17	95	11	1	0	18	79	54	1	0	42	74	30	4	0	14	60	8	3
5:00 PM - 5:15 PM	1	17	112	14	1	0	18	74	46	0	0	54	79	25	6	0	11	61	9	4
5:15 PM - 5:30 PM	0	21	96	20	1	0	18	106	57	2	0	37	64	35	3	0	11	62	10	2
5:30 PM - 5:45 PM	1	22	85	17	1	0	16	87	44	2	0	52	74	29	3	0	14	63	15	1
5:45 PM - 6:00 PM	0	16	75	10	1	0	13	54	41	0	0	42	81	28	6	0	13	59	7	2
TOTAL	**2**	**134**	**706**	**125**	**7**	**0**	**140**	**680**	**396**	**8**	**0**	**350**	**580**	**213**	**29**	**1**	**93**	**476**	**81**	**21**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	40	258	41	5	0	41	194	157	2	0	135	236	53	16	1	24	289	66	17
4:45 PM - 5:45 PM	2	77	388	62	4	0	70	346	201	5	0	185	291	119	16	0	50	246	42	10

	PHF	Trucks
AM	0.666	2.6%
PM	0.968	1.7%



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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
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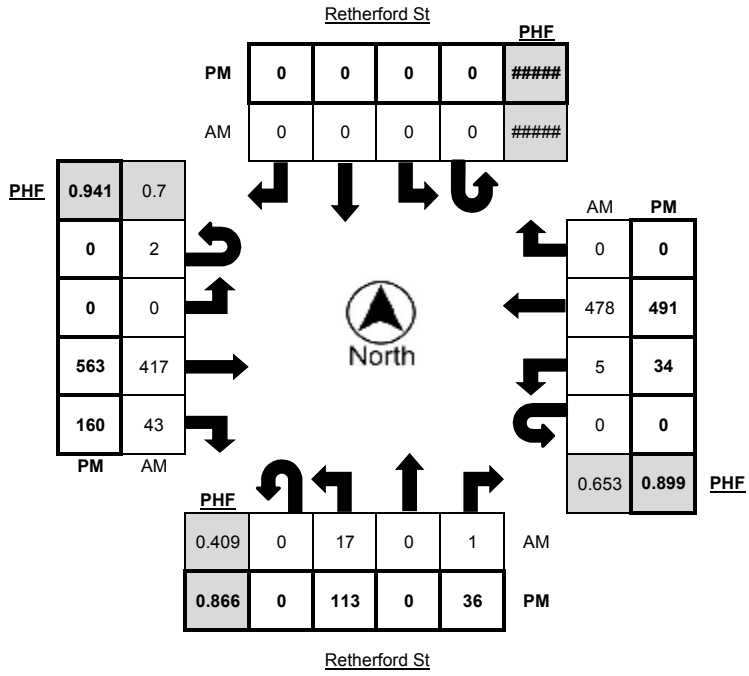
LOCATION Retherford St @ Cartmill Ave
LATITUDE 36.2404
COUNTY Tulare
LONGITUDE -119.3356
COLLECTION DATE Wednesday, October 13, 2021
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	29	3	0	0	1	37	0	5
6:15 AM - 6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	45	3	1	0	0	75	0	2
6:30 AM - 6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	51	2	0	0	1	52	0	3
6:45 AM - 7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	67	6	2	0	2	85	0	1
7:00 AM - 7:15 AM	0	1	0	0	0	0	0	0	0	0	1	0	65	7	4	0	1	86	0	4
7:15 AM - 7:30 AM	0	2	0	0	0	0	0	0	0	0	0	0	80	5	5	0	1	99	0	3
7:30 AM - 7:45 AM	0	3	0	1	0	0	0	0	0	0	1	0	125	13	4	0	1	110	0	4
7:45 AM - 8:00 AM	0	11	0	0	0	0	0	0	0	0	0	0	147	18	3	0	2	183	0	8
TOTAL	**0**	**19**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**609**	**57**	**19**	**0**	**9**	**727**	**0**	**30**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	22	0	4	0	0	0	0	0	0	0	0	139	37	1	0	15	109	0	3
4:15 PM - 4:30 PM	0	32	0	15	0	0	0	0	0	0	0	0	123	30	3	0	10	124	0	2
4:30 PM - 4:45 PM	0	30	0	6	1	0	0	0	0	0	0	0	112	32	2	0	11	97	0	3
4:45 PM - 5:00 PM	0	33	0	10	2	0	0	0	0	0	0	0	144	48	6	0	6	126	0	3
5:00 PM - 5:15 PM	0	29	0	9	0	0	0	0	0	0	0	0	146	30	6	0	4	122	0	3
5:15 PM - 5:30 PM	0	23	0	7	0	0	0	0	0	0	0	0	130	46	6	0	12	134	0	3
5:30 PM - 5:45 PM	0	28	0	10	0	0	0	0	0	0	0	0	143	36	4	0	12	109	0	3
5:45 PM - 6:00 PM	0	28	0	9	0	0	0	0	0	0	1	0	142	41	6	0	13	107	0	3
TOTAL	**0**	**225**	**0**	**70**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1079**	**300**	**34**	**0**	**83**	**928**	**0**	**23**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	17	0	1	0	0	0	0	0	0	2	0	417	43	16	0	5	478	0	19
4:45 PM - 5:45 PM	0	113	0	36	2	0	0	0	0	0	0	0	563	160	22	0	34	491	0	12

	PHF	Trucks
AM	0.667	3.6%
PM	0.952	2.6%



Metro Traffic Data Inc.
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Turning Movement Report

Prepared For:
Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

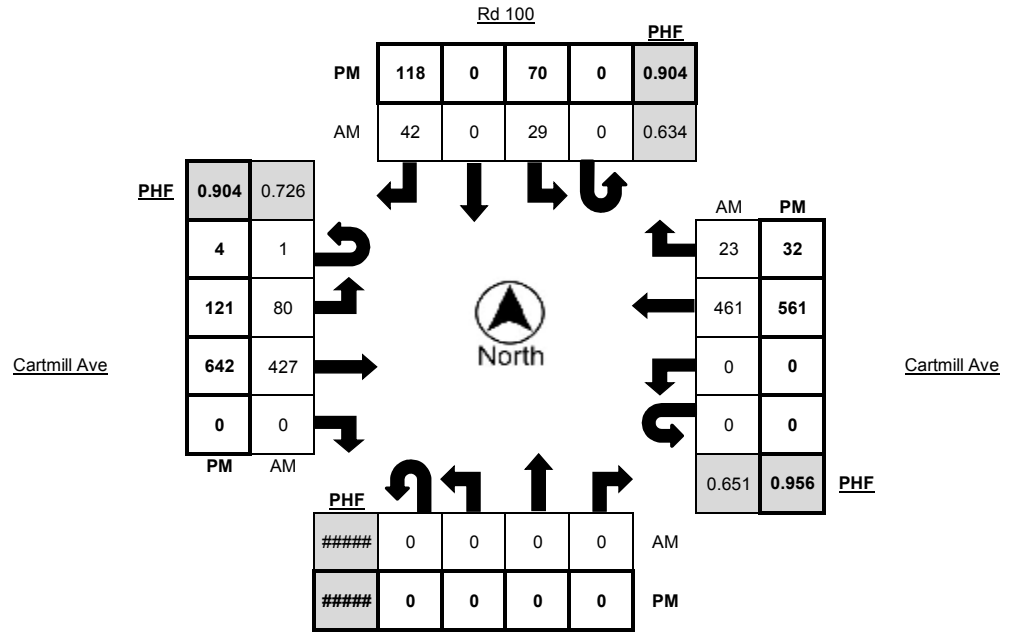
LOCATION Rd 100 @ Cartmill Ave
LATITUDE 36.2402
COUNTY Tulare
LONGITUDE -119.3403
COLLECTION DATE Wednesday, October 13, 2021
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	0	0	0	0	0	3	0	2	0	0	7	31	0	1	0	0	39	1	4
6:15 AM - 6:30 AM	0	0	0	0	0	0	2	0	8	0	0	7	45	0	1	0	0	70	3	1
6:30 AM - 6:45 AM	0	0	0	0	0	0	1	0	12	0	0	13	54	0	0	0	0	54	1	5
6:45 AM - 7:00 AM	0	0	0	0	0	0	3	0	11	0	1	15	75	0	2	0	0	83	3	0
7:00 AM - 7:15 AM	0	0	0	0	0	0	3	0	5	0	1	10	71	0	4	0	0	77	7	3
7:15 AM - 7:30 AM	0	0	0	0	0	0	7	0	12	0	0	20	77	0	6	0	0	98	3	3
7:30 AM - 7:45 AM	0	0	0	0	0	0	9	0	7	1	0	27	127	0	3	0	0	104	9	4
7:45 AM - 8:00 AM	0	0	0	0	0	0	10	0	18	1	0	23	152	0	3	0	0	182	4	7
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**38**	**0**	**75**	**2**	**2**	**122**	**632**	**0**	**20**	**0**	**0**	**707**	**31**	**27**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	0	0	0	0	0	14	0	18	0	0	39	161	0	1	0	0	116	7	3
4:15 PM - 4:30 PM	0	0	0	0	0	0	11	0	20	0	1	27	140	0	3	0	0	143	9	1
4:30 PM - 4:45 PM	0	0	0	0	0	0	11	0	23	0	0	29	139	0	2	0	0	119	7	5
4:45 PM - 5:00 PM	0	0	0	0	0	0	22	0	29	0	1	18	163	0	6	1	0	114	10	5
5:00 PM - 5:15 PM	0	0	0	0	0	0	17	0	28	0	0	33	156	0	6	0	0	149	6	2
5:15 PM - 5:30 PM	0	0	0	0	0	0	17	0	35	0	2	39	171	0	4	0	0	141	9	3
5:30 PM - 5:45 PM	0	0	0	0	0	0	20	0	29	0	2	26	155	0	3	0	0	140	6	4
5:45 PM - 6:00 PM	0	0	0	0	0	0	16	0	26	0	0	23	160	0	5	0	0	131	11	3
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**128**	**0**	**208**	**0**	**6**	**234**	**1245**	**0**	**30**	**1**	**0**	**1053**	**65**	**26**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	0	0	0	0	0	29	0	42	2	1	80	427	0	16	0	0	461	23	17
5:00 PM - 6:00 PM	0	0	0	0	0	0	70	0	118	0	4	121	642	0	18	0	0	561	32	12

	PHF	Trucks
AM	0.683	3.3%
PM	0.935	1.9%



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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

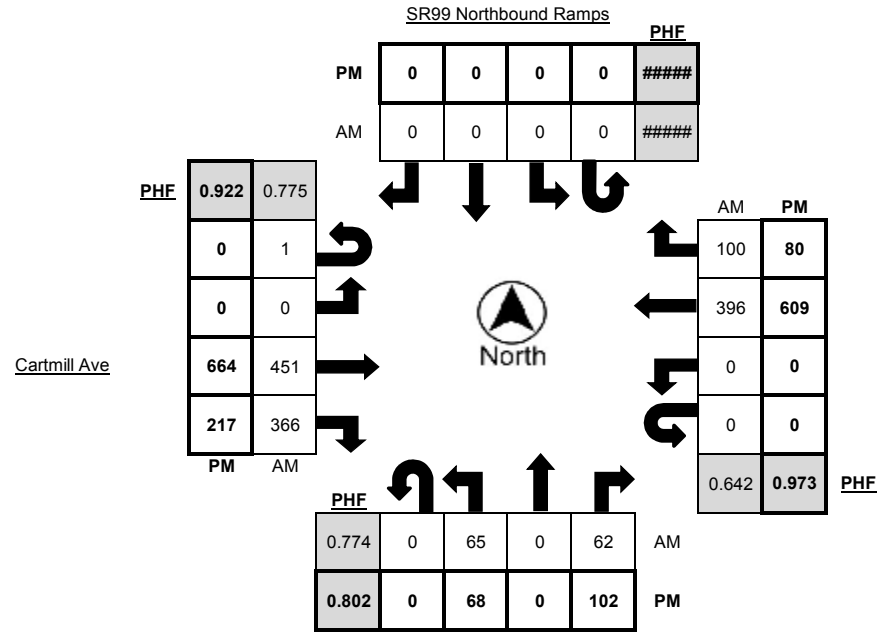
LOCATION SR99 Northbound Ramps @ Cartmill Ave
LATITUDE 36.2401
COUNTY Tulare
LONGITUDE -119.3432
COLLECTION DATE Wednesday, October 13, 2021
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	5	0	4	0	0	0	0	0	0	0	0	34	41	0	0	0	43	3	5
6:15 AM - 6:30 AM	0	6	0	8	1	0	0	0	0	0	0	0	48	57	5	0	0	65	11	2
6:30 AM - 6:45 AM	0	14	0	8	2	0	0	0	0	0	0	0	57	68	4	0	0	52	13	3
6:45 AM - 7:00 AM	0	11	0	12	1	0	0	0	0	0	0	0	78	65	9	0	0	74	20	2
7:00 AM - 7:15 AM	0	10	0	9	4	0	0	0	0	0	0	0	70	63	7	0	0	63	18	4
7:15 AM - 7:30 AM	0	17	0	11	2	0	0	0	0	0	0	0	91	79	11	0	0	89	20	3
7:30 AM - 7:45 AM	0	17	0	24	1	0	0	0	0	0	0	0	128	136	14	0	0	81	32	4
7:45 AM - 8:00 AM	0	21	0	18	4	0	0	0	0	0	1	0	162	88	8	0	0	163	30	8
TOTAL	**0**	**101**	**0**	**94**	**15**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**668**	**597**	**58**	**0**	**0**	**630**	**147**	**31**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	17	0	25	2	0	0	0	0	0	0	0	166	73	4	0	0	122	13	1
4:15 PM - 4:30 PM	0	19	0	27	0	0	0	0	0	0	0	0	140	54	7	0	0	147	16	2
4:30 PM - 4:45 PM	0	15	0	21	0	0	0	0	0	0	0	0	158	46	3	0	0	131	10	4
4:45 PM - 5:00 PM	0	11	0	19	0	0	0	0	0	0	0	0	163	51	10	0	0	155	22	4
5:00 PM - 5:15 PM	0	13	0	27	4	0	0	0	0	0	0	0	171	63	8	0	0	138	24	2
5:15 PM - 5:30 PM	0	24	0	23	2	0	0	0	0	0	0	0	183	56	5	0	0	164	12	3
5:30 PM - 5:45 PM	0	20	0	33	1	0	0	0	0	0	0	0	147	47	6	0	0	152	22	3
5:45 PM - 6:00 PM	0	11	0	27	3	0	0	0	0	0	0	0	163	40	6	0	0	141	16	1
TOTAL	**0**	**130**	**0**	**202**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1291**	**430**	**49**	**0**	**0**	**1150**	**135**	**20**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	65	0	62	11	0	0	0	0	0	1	0	451	366	40	0	0	396	100	19
4:45 PM - 5:45 PM	0	68	0	102	7	0	0	0	0	0	0	0	664	217	29	0	0	609	80	12

	PHF	Trucks
AM	0.746	4.9%
PM	0.942	2.8%



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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

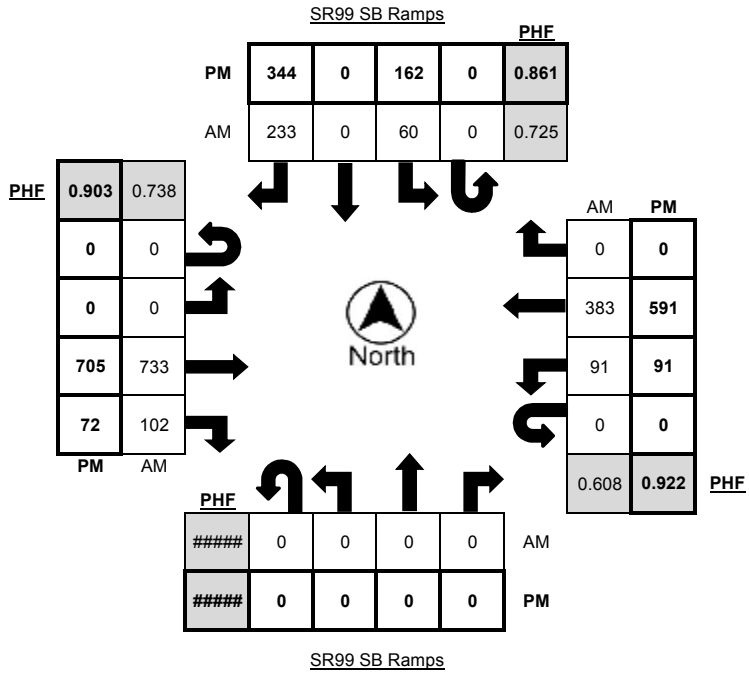
LOCATION SR99 SB Ramps @ Cartmill Ave
LATITUDE 36.2402
COUNTY Tulare
LONGITUDE -119.3466
COLLECTION DATE Wednesday, October 13, 2021
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	0	0	0	0	0	3	0	19	2	0	0	71	15	3	0	10	32	0	1
6:15 AM - 6:30 AM	0	0	0	0	0	0	14	0	20	3	0	0	89	17	6	0	24	39	0	1
6:30 AM - 6:45 AM	0	0	0	0	0	0	9	0	23	2	0	0	117	10	4	0	10	50	0	4
6:45 AM - 7:00 AM	0	0	0	0	0	0	13	0	26	5	0	0	132	4	6	0	24	58	0	1
7:00 AM - 7:15 AM	0	0	0	0	0	0	17	0	38	5	0	0	112	22	6	0	21	58	0	4
7:15 AM - 7:30 AM	0	0	0	0	0	0	14	0	57	6	0	0	154	28	8	0	24	78	0	5
7:30 AM - 7:45 AM	0	0	0	0	0	0	12	0	54	5	0	0	251	32	11	0	17	81	0	4
7:45 AM - 8:00 AM	0	0	0	0	0	0	17	0	84	9	0	0	216	20	3	0	29	166	0	9
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**99**	**0**	**321**	**37**	**0**	**0**	**1142**	**148**	**47**	**0**	**159**	**562**	**0**	**29**

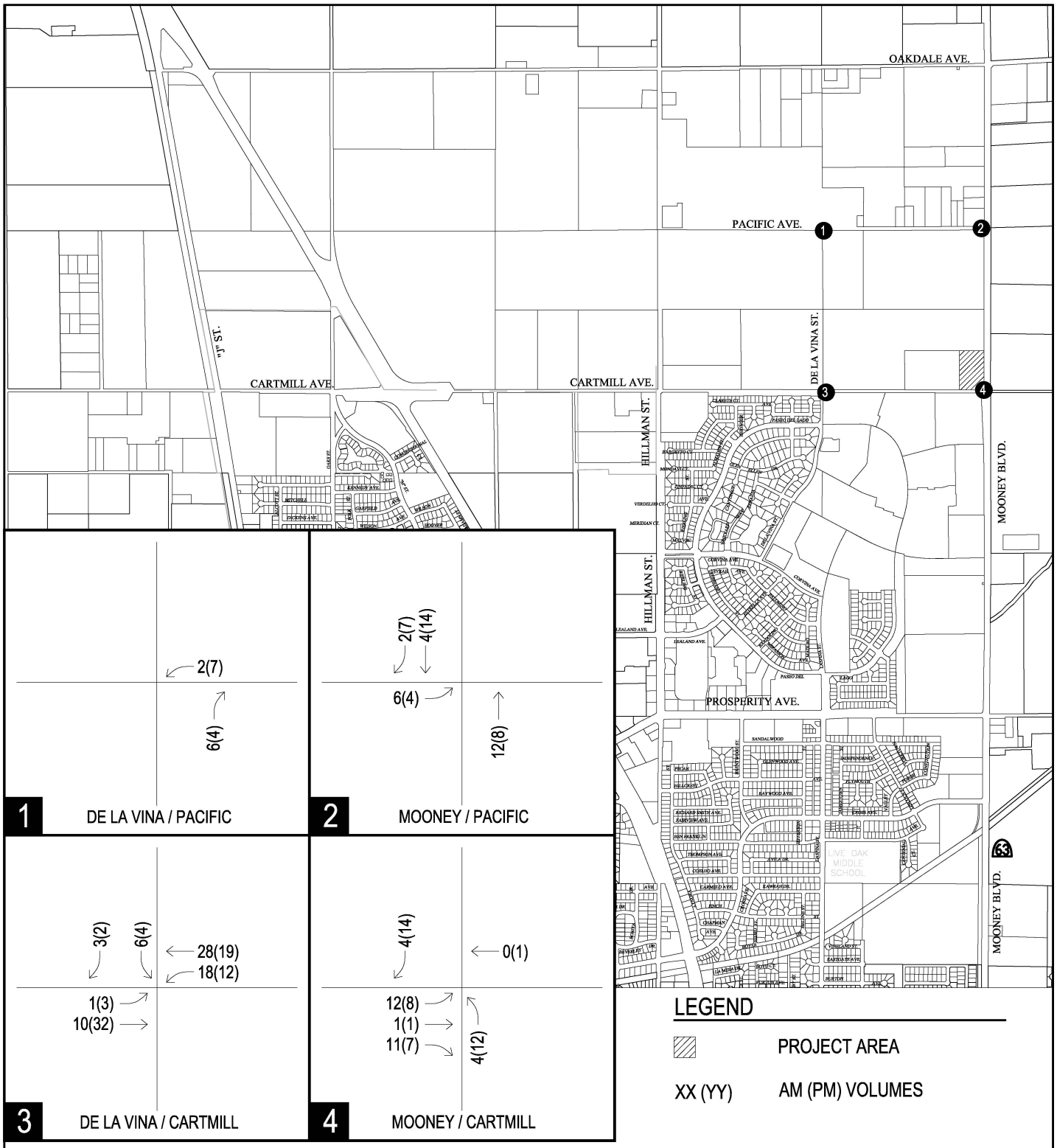
	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	0	0	0	0	0	47	0	71	1	0	0	181	14	4	0	14	133	0	5
4:15 PM - 4:30 PM	0	0	0	0	0	0	40	0	96	3	0	0	154	12	6	0	19	143	0	2
4:30 PM - 4:45 PM	0	0	0	0	0	0	34	0	68	4	0	0	158	20	1	0	12	130	0	1
4:45 PM - 5:00 PM	0	0	0	0	0	0	45	0	88	4	0	0	171	21	9	0	20	155	0	1
5:00 PM - 5:15 PM	0	0	0	0	0	0	34	0	76	5	0	0	195	20	4	0	20	134	0	2
5:15 PM - 5:30 PM	0	0	0	0	0	0	47	0	100	5	0	0	189	15	3	0	29	156	0	1
5:30 PM - 5:45 PM	0	0	0	0	0	0	36	0	80	4	0	0	150	16	4	0	22	146	0	3
5:45 PM - 6:00 PM	0	0	0	0	0	0	45	0	70	5	0	0	149	19	1	0	20	130	0	1
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**328**	**0**	**649**	**31**	**0**	**0**	**1347**	**137**	**32**	**0**	**156**	**1127**	**0**	**16**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	0	0	0	0	0	60	0	233	25	0	0	733	102	28	0	91	383	0	22
4:45 PM - 5:45 PM	0	0	0	0	0	0	162	0	344	18	0	0	705	72	20	0	91	591	0	7

	PHF	Trucks
AM	0.753	4.7%
PM	0.917	2.3%



Cumulative Projects



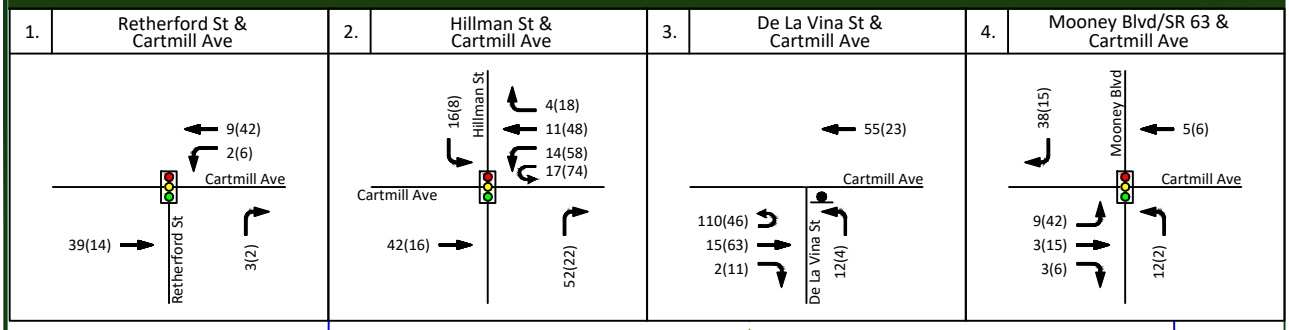
Proposed Kensington 3 Tentative Subdivision Map
Tulare, California

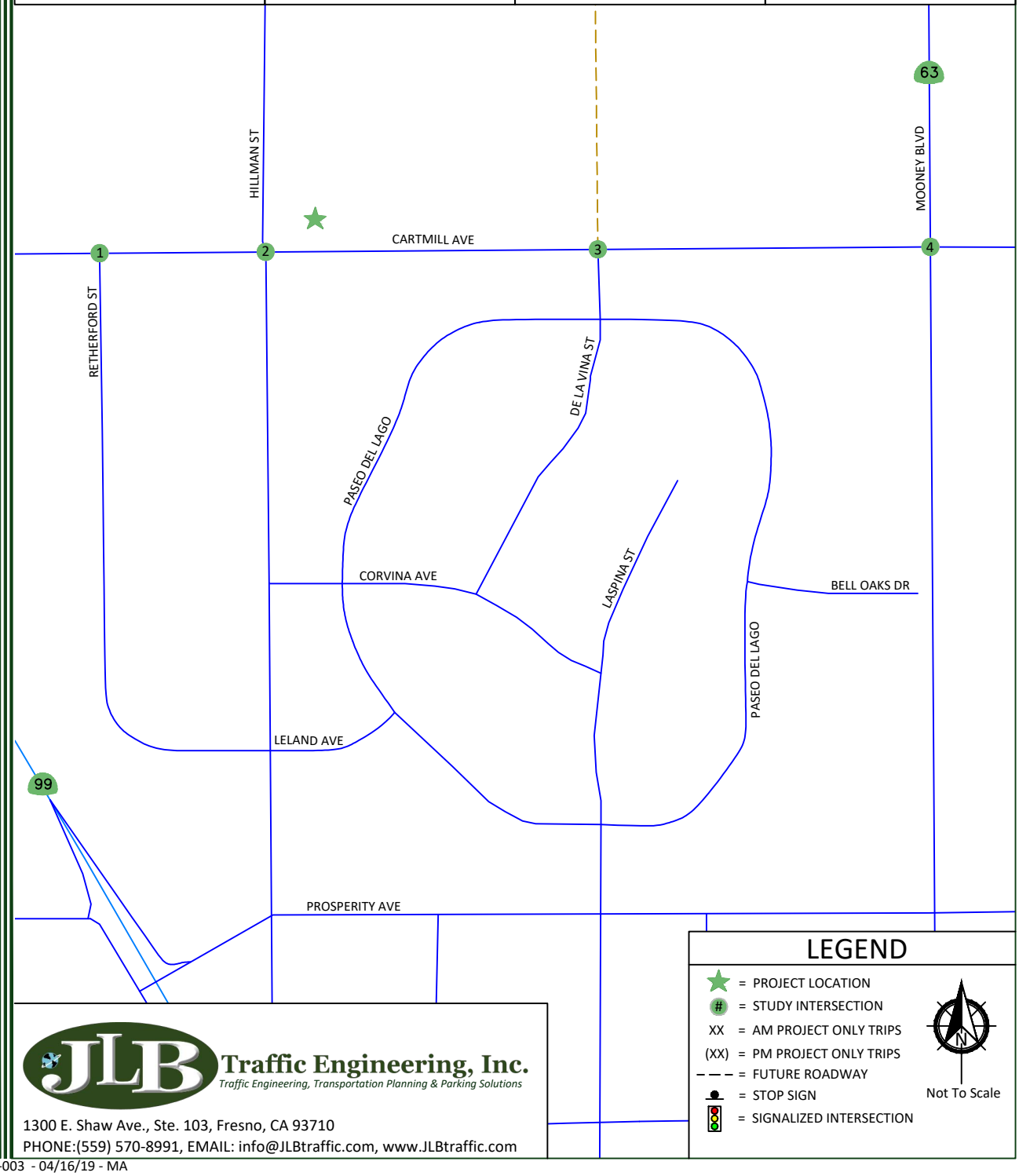
PEAK-HOUR PROJECT TRAFFIC VOLUMES

Not to Scale

Altura Centers for Health - City of Tulare
Project Only Trips (Buildout)

Figure 6





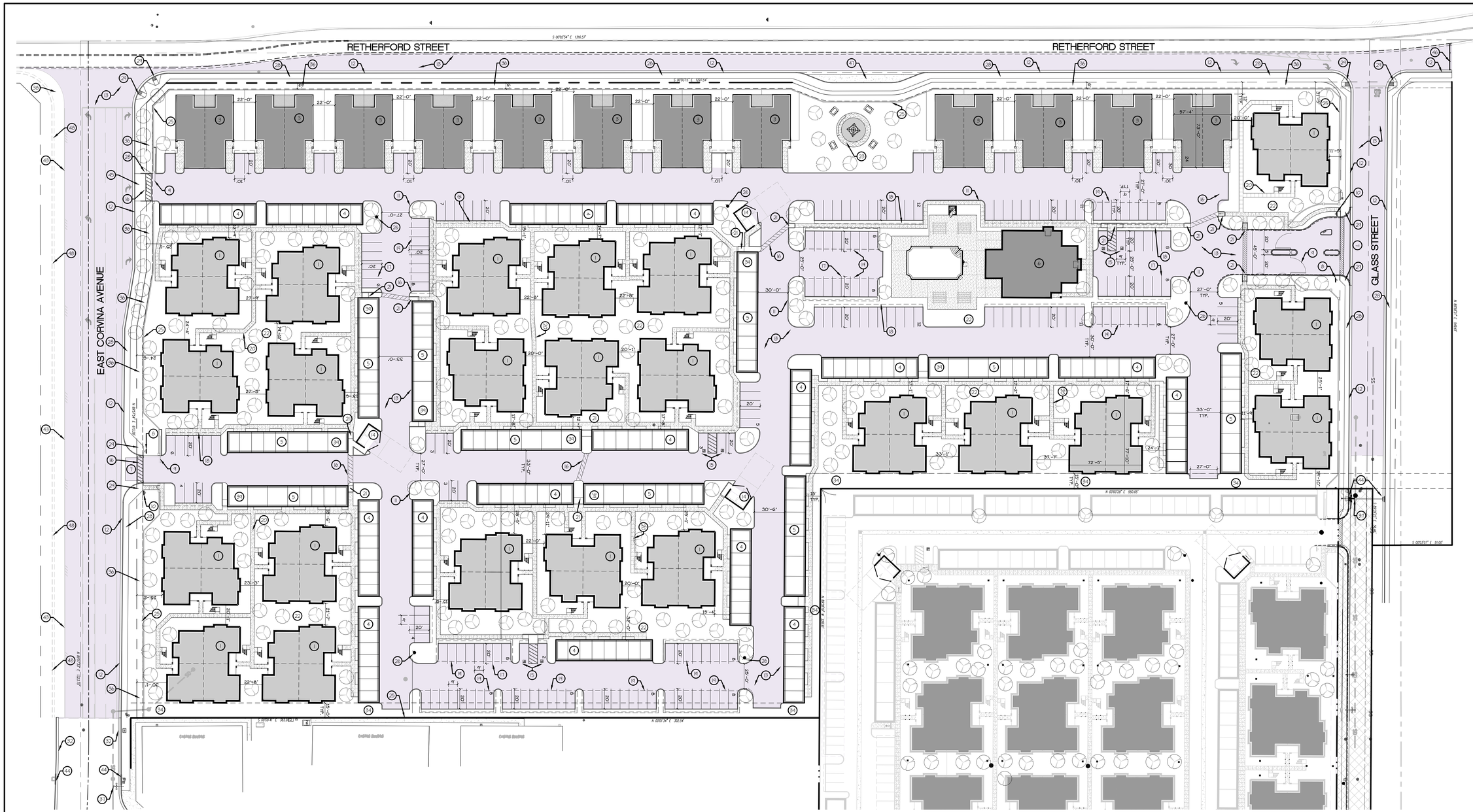
LEGEND

- ★ = PROJECT LOCATION
- (#) = STUDY INTERSECTION
- XX = AM PROJECT ONLY TRIPS
- (XX) = PM PROJECT ONLY TRIPS
- – – – = FUTURE ROADWAY
- = STOP SIGN
- = SIGNALIZED INTERSECTION

N

Not To Scale

JLB Traffic Engineering, Inc.
Traffic Engineering, Transportation Planning & Parking Solutions
1300 E. Shaw Ave., Ste. 103, Fresno, CA 93710
PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com



SITE PLAN
SCALE: 1"=40'-0"

Site Plan Notes

1. ANY SURVEY MONUMENTS WITHIN THE AREA OF CONSTRUCTION SHALL BE PRESERVED OR RESET BY A PERSON LICENSED TO PRACTICE LAND SURVEYING IN THE STATE OF CALIFORNIA.
2. REPAIR ALL DAMAGED AND/OR OFF-GRADE CONCRETE STREET IMPROVEMENTS, AS DETERMINED BY THE CONSTRUCTION MANAGEMENT ENGINEER, PRIOR TO OCCUPANCY.
3. TWO (2) WORKING DAYS BEFORE COMMENCING EXCAVATION OPERATIONS WITHIN THE STREET RIGHT OF WAY AND/OR UTILITY EASEMENTS, ALL EXISTING UNDERGROUND FACILITIES SHALL HAVE BEEN LOCATED BY UNDERGROUND SERVICES ALERT (USA). CALL 1-800-642-2444
4. THE REQUIRED 4' MINIMUM PATH OF TRAVEL SHALL BE PROVIDED ALONG THE PUBLIC SIDEWALK DIRECTLY IN FRONT OF PROPERTY, AS REQUIRED BY THE CALIFORNIA ADMINISTRATION CODE (TITLE 24). A PEDESTRIAN EASEMENT MAY BE REQUIRED IF REQUIREMENTS ARE NOT MET.
5. ALL GATES OR COMMON ACCESS DRIVES SHALL BE EQUIPPED WITH APPROVED POLICE/FIRE BYPASS LOCKS (BEST LOCKS' PADLOCK 21B700 SERIES OR CYLINDER LOCK 1W7B2).
6. HYDRANTS ARE NOTED ON PLANS. PROVIDE FIRE HYDRANT FLOW OF 1500 GPM WITH A MIN. 8" WATER MAIN.
7. TWO MEANS OF INGRESS/EGRESS MUST BE PROVIDED. THIS ACCESS MUST BE MAINTAINED DURING ALL PHASES OF DEVELOPMENT. ALL CONSTRUCTION WORK ON THIS PROJECT IS SUBJECT TO INTERRUPTION IF THE ROAD SYSTEM BECOMES IMPASSABLE FOR FIRE APPARATUS DUE TO RAIN OR OTHER OBSTACLES. ALL REQUIRED FIRE ACCESS LANES SHALL BE PROVIDED AND MAINTAINED WITH AN APPROVED ALL WEATHER SURFACE CAPABLE OF SUPPORTING 80,000 lbs. VEHICLES (MIN. 4" BASE ROCK OVER COMPACTED OR UNDISTURBED NATIVE SOIL OR PER APPROVED ENGINEERED PLANS) YEAR ROUND AND WITH 24 FOOT MIN. WIDTH OR OTHER APPROVED METHOD THAT WOULD PREVENT SHOULDER DEGRADATION.
8. PROVIDE SIGN(S) (17"x22" MINIMUM) AT ALL PUBLIC ACCESS DRIVES TO THE PROPERTY "WARNING-VEHICLES STOPPED, PARKED, OR LEFT STANDING IN FIRE LANES WILL BE IMMEDIATELY REMOVED AT OWNER'S EXPENSE-22658 CALIFORNIA VEHICLE CODE-TULARE POLICE DEPARTMENT 734-8116."
9. STREETS DESIGNATED ON THE PLAN SHALL BE IDENTIFIED AS FIRE LANES AS PROVIDED IN THE CALIFORNIA VEHICLE CODE, SECTION 22500.1. DESIGNATE HIGHLIGHTED CURBS AS FIRE LANES (RED CURB WITH 'FIRE LANE' IN 3" LETTERS EVERY 50 FEET). FIRE LANES ARE REPRESENTED AS ▬▬▬ ON THE PLANS.
10. VERTICAL CLEARANCE AT ACCESSIBLE PARKING SPACES WITHIN PARKING FACILITIES SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 8'-2" FROM THE FLOOR TO THE LOWEST PROJECTION OF THE CEILING.
11. EXTERIOR ACCESSIBLE ROUTES OVER 200 FEET IN LENGTH WITH A CLEAR WIDTH OF LESS THAN 60 INCHES, SHALL PROVIDE PASSING SPACES AT INTERVALS OF 200 FEET MAXIMUM. PASSING SPACES SHALL BE EITHER: A SPACE 60 INCHES MINIMUM BY 60 INCHES MINIMUM, OR AN INTERSECTION OF TWO WALKING SURFACES PROVIDING A "T" SHAPE SPACE.
12. ALL GARAGES TO BE PRE-WIRED FOR SOLAR PANELS

Keyed Notes

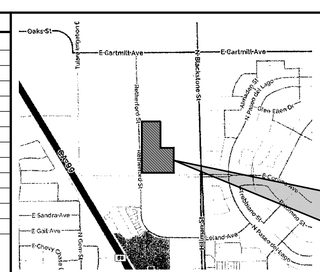
1. NEW BUILDING TYPE 1 - 9,488 Sq.Ft. 2-STORY APARTMENT BUILDING - (4,744 Sq.Ft. FOOTPRINT INCLUDING LIVING AREA, PATIO'S + COVERED ENTRY)
2. RESERVED
3. NEW BUILDING TYPE 3 - 3,300 Sq.Ft. 1-STORY 3 BEDROOM, 2 BATH DUPLEX APARTMENT BUILDING. (SEE PLAN FOR EXTERIOR ELEVATION OPTION)
4. NEW 2,022 Sq.Ft. 1-STORY 8 CAR GARAGE BUILDING TYPE "G-1"
5. NEW 2,524 Sq.Ft. 1-STORY 11 CAR GARAGE BUILDING TYPE "G-2"
6. NEW 1-STORY CLUBHOUSE BUILDING TYPE "H"- (4,750 Sq.Ft. FOOTPRINT INCLUDES COVERED PATIO)
7. NEW COMMERCIAL DRIVEWAY APPROACH PER CITY OF TULARE STD. 2114.
8. INSTALL 30" STATE STANDARD "STOP" SIGN(S) AT LOCATION(S) SHOWN. SIGN SHALL BE MOUNTED ON A 2" GALV POST WITH THE BOTTOM OF THE SIGN 7' ABOVE GROUND, LOCATED BEHIND CURB AND BEHIND STREET SIDEWALK. LOCATE ON PRIVATE PROPERTY.
9. NEW SECURITY GATE w/KEYPAD + KNOX BOX
10. NEW SITE ENTRANCE SIGN. (REGARDING UNAUTHORIZED VEHICLE PARKING) PER CBC DIV. 2 SITE ACCESSIBILITY STANDARDS (SEC. 11B-502.6).
11. NEW 6" CONCRETE CURB PER CITY OF TULARE STD. 4010.
12. NEW 6" CONC. CURB + GUTTER PER CITY OF TULARE STD. 4010.
13. NEW A.C. PAVING PER SOILS REPORT + CITY OF TULARE DESIGN GUIDELINES SECTION B OR WHICH EVER IS MOST STRINGENT.
14. NEW TRASH ENCLOSURE - PER CITY OF TULARE STD. "DRAFT" 9016. SEE DETAIL 4/A0.2
15. NEW ACCESSIBLE PARKING STALL WITH DESIGNATED UNLOADING ZONE AND ACCESSIBLE RAMP WITH SIGNAGE PER CBC DIV. 2 SITE ACCESSIBILITY STANDARDS (SEC. 11B-406 & 11B-502).
16. NEW 4' WIDE CROSSWALK WITH 4" WIDE STRIPES AT 36" OC
17. NEW WHITE PAINT PARKING STRIPING, TYP.
18. LIMIT OF 36" VEHICLE OVERHANG NOTHING OVER 6" IN HEIGHT IN THIS AREA. (TYPICAL)
19. NEW PRE ENGINEERED COVERED PARKING CANOPY.
20. NEW CONC WALK WITH TOOLED CONTROL JOINTS AND EXPANSION JOINTS AND BROOM FINISH (7'-0" MIN. WALK WHEN ADJ. TO PARKING TYP.
21. NEW CURB RAMP.
22. NEW LANDSCAPE AREA.
23. NEW PRE-MANUFACTURED PLAY SET. (UNDER SEPARATE PERMIT.)
24. NEW 6'-0" HIGH ORNAMENTAL IRON FENCE SEE CIVIL DRAWINGS FOR ADDITIONAL
25. NEW 7'-0" HIGH MASONRY BLOCK FENCE SEE CIVIL DRAWINGS FOR ADDITIONAL
26. NEW FIRE HYDRANT.
27. NEW STREET LIGHT PER CITY OF TULARE PW STD.
28. NEW CONC WALK PER CITY OF TULARE STD. 4410.
29. NEW CURB RAMP PER CITY OF TULARE STD. 4120.
30. NEW STREET TREE PER CITY OF TULARE STD.
31. NEW FIRE HYDRANT PER CITY OF TULARE STD. G310, G315, + G320.
32. EXISTING CURB + GUTTER TO REMAIN + COMPLY w/ CITY OF TULARE STD. 4010.
33. NEW CURB RAMP PER CBC DIV. 2 EXTERIOR FACILITIES (SEC. 1112A + 1114A)
34. EXISTING 15' WIDE TULARE IRRIGATION DISTRICT EASEMENT
35. EXISTING 6' WIDE PUBLIC UTILITY EASEMENT
36. NEW 6' WIDE PUBLIC UTILITY EASEMENT
37. EXISTING STREET LIGHT TO REMAIN.
38. FUTURE (BY OTHERS) CURB RAMP PER CITY OF TULARE STD. 4110.
39. LOCATION OF ACCESSIBLE GARAGE UNIT.
40. NEW 4' WIDE CONCRETE VALLEY GUTTER
41. NEW STORM DRAIN INLET
42. NEW SANITARY SEWER MANHOLE
43. NEW TEMPORARY A.C. CURB (SEE CIVIL DWG'S)
44. EXISTING STORM DRAIN INLET
45. NEW EMERGENCY VEHICLE ACCESS PER CITY OF TULARE PUBLIC WORKS DEPT.
46. NEW BARRICADE PER CITY OF TULARE STANDARDS.
47. NEW BUS STOP PER CITY OF TULARE STANDARDS.
48. FUTURE 6" CONC. CURB + GUTTER PER CITY OF TULARE STD. 4010.

Site Area Breakdown

DESCRIPTION	AREA / NO.
GENERAL PLAN LAND USE/ZONING	
SITE	
BLDG.-23 APT., 26 GAR., 12 DUP., 1 CLUB	
LANDSCAPE ON-SITE	
LANDSCAPE OFF-SITE	
AC PAVING ON-SITE	
HARDSCAPE (WALKS & S.O.G.) ON-SITE	
HARDSCAPE (WALKS & PATIO) OFF-SITE	
UNITS	208
GARAGE PARKING	286 Spaces
COVERED PARKING	80 Spaces
OPEN PARKING	140 Spaces
REQUIRED PARKING	
(24) 3 BDR. x 2 + 1 GUEST PER 5 SPCS.	58 Spaces
(138) 2 BDR. x 2 + 1 GUEST PER 5 SPCS.	332 Spaces
(46) 1 BDR. x 1.5 + 1 GUEST PER 5 SPCS	83 Spaces
TOTAL REQUIRED PARKING	473 Spaces
TOTAL PARKING	506 Spaces.

LEGEND:

- INDICATES PROPERTY LINES
- INDICATES EASEMENTS
- INDICATES CENTER LINE



VICINITY MAP

JEFF CAZALY ARCHITECT
735 W. ALLUVIAL, SUITE 104
FRESNO, CA. 93711
COMMERCIAL AND INDUSTRIAL DESIGN
Tel: (559) 291-1889
Fax: (559) 291-1882
jeff@jcazalyconsulting.com

PROJECT :

NEW DEVELOPMENT FOR:
CORVINA APARTMENTS
GLASS AVE. & HEREFORD ST.

A.P.N. 166-230-005

CITY OF TULARE CALIFORNIA

CONSULTANTS:

SHEET CONTENTS :
ARCHITECTURAL SITE PLAN

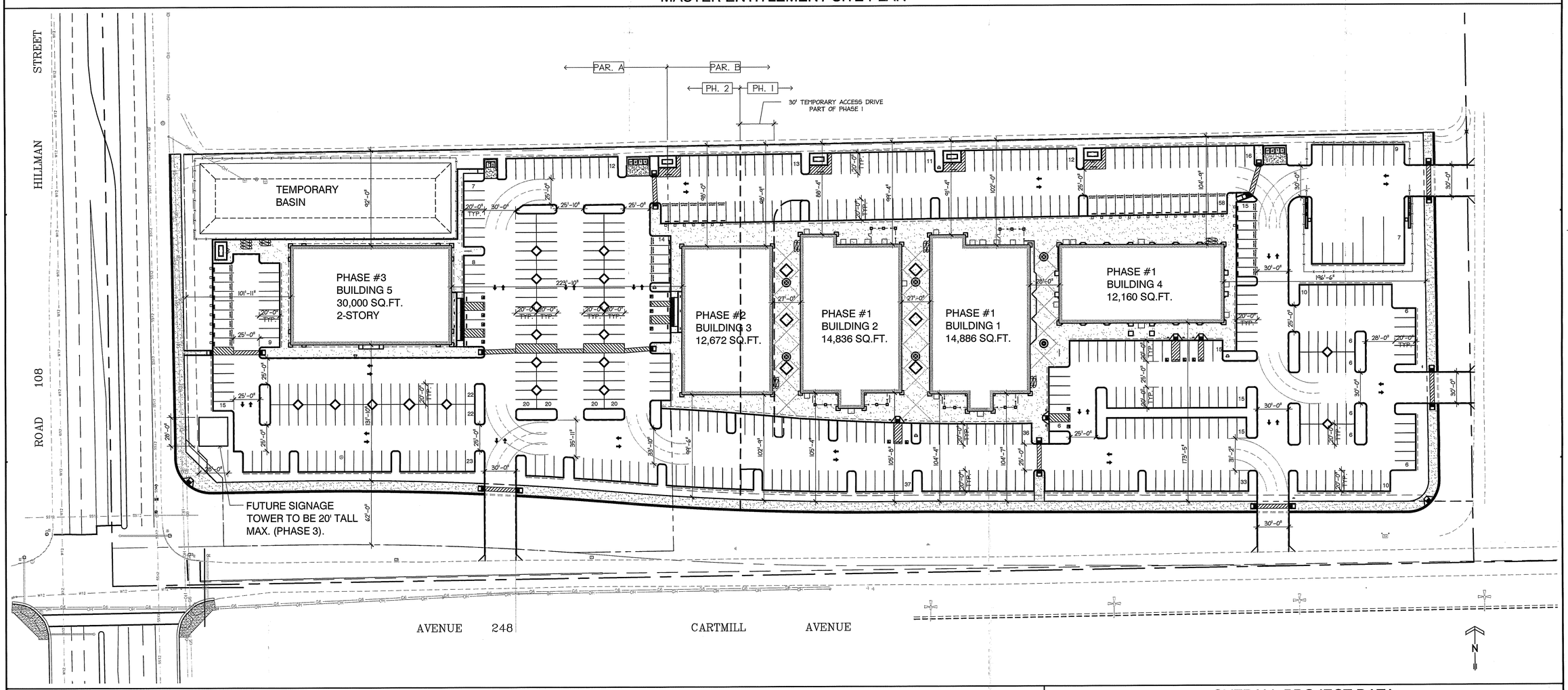
REVISED :

JOB NUMBER : 2020_022

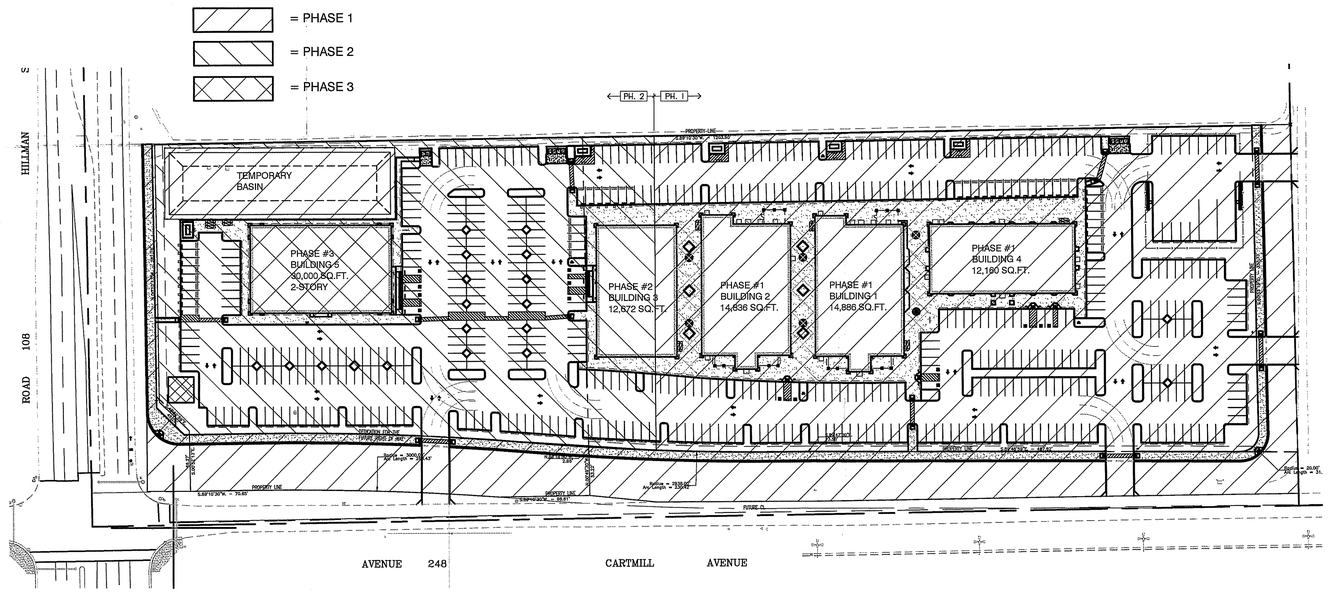
LICENSED ARCHITECT
JEFFRY A. CAZALY
No. 17206
RENEWAL DATE
8-31-21
STATE OF CALIFORNIA

Designed By :	Scale : As noted
Drawn By : KGS	
Checked By :	A0.1
Reviewed By : JAC	Sheet of
Date : 4-7-17	

MASTER ENTITLEMENT SITE PLAN



REFERENCE SITE MAP



OVERALL PROJECT DATA

SITE DATA:

PARCEL "A" APN:	149-060-024
PARCEL "B" APN:	149-060-016
ZONING:	C-3 (RETAIL COMMERCIAL)
NUMBER OF STORIES:	SINGLE & 2-STORY
TYPE OF CONSTRUCTION:	TYPE VB (SPRINKLERED)
PARCEL "A" GROSS AREA:	±4.09 ACRE (±178,160 SQ. FT.)
PARCEL "B" GROSS AREA:	±5.92 ACRE (±257,875 SQ. FT.)
GROSS SITE AREA:	±10.01 ACRE (±436,035 SQ. FT.)
PARCEL "A" NET AREA:	±3.50 ACRE (±152,460 SQ. FT.)
PARCEL "B" NET AREA:	±5.92 ACRE (±257,875 SQ. FT.)
NET SITE AREA:	±9.42 ACRE (±410,335 SQ. FT.)

BUILDING DATA :

BUILDING "1" GROSS BUILDING AREA:	±14,886 SQ. FT.
BUILDING "2" GROSS BUILDING AREA:	±14,836 SQ. FT.
BUILDING "3" GROSS BUILDING AREA:	±12,672 SQ. FT.
BUILDING "4" GROSS BUILDING AREA:	±12,160 SQ. FT.
BUILDING "5" GROSS BUILDING AREA:	±30,000 SQ. FT.
TOTAL GROSS BUILDING AREA:	±84,554 SQ. FT.
TOTAL GROSS BUILDING AREA ±84,554 SQ. FT. / NET SITE AREA ±410,335 SQ. FT. = 20.60% LOT COVERAGE:	20.60%

REQUIRED PARKING DATA:

FOR THE FIRST 2,000 SQ. FT. OF BUILDING AREA REQUIRES TEN (10) STALLS AND ONE STALL PER EVERY 175 SQ. FT. BUILDING AREA AFTER.

±84,554 SQ. FT. - 2,000 SQ. FT. = ±82,554. 10 STALLS
±82,554 SQ. FT. / 175 = 472 PARKING STALLS
472 + 10 = 482 PARKING STALLS REQUIRED

PROVIDED PARKING DATA:

STANDARD VEHICLE PARKING PROVIDED:	489 STALLS
ACCESSIBLE VEHICLE PARKING:	14 STALLS
MOBILE CLINIC VEHICLE PARKING:	2 STALLS
7 PASSENGER VEHICLE PARKING:	14 STALLS
CLEAN AIR/EV VEHICLE PARKING:	44 STALLS
TOTAL AVAILABLE STALLS:	563 STALLS
PARKING RATIO:	6.62/1000
OVER PARKED:	81 STALLS

PHASE - 1 PROJECT DATA

SITE DATA:

PARCEL "B" APN:	149-060-016
ZONING:	C-3 (RETAIL COMMERCIAL)
NUMBER OF STORIES:	SINGLE-STORY
TYPE OF CONSTRUCTION:	TYPE VB
PARCEL "B" GROSS AREA:	±5.92 ACRE (±257,875 SQ. FT.)
GROSS SITE AREA:	±5.92 ACRE (±257,875 SQ. FT.)
PARCEL "B" NET AREA:	±5.92 ACRE (±257,875 SQ. FT.)
NET SITE AREA:	±5.92 ACRE (±257,875 SQ. FT.)

BUILDING DATA :

BUILDING "1" GROSS BUILDING AREA:	±14,886 SQ. FT.
BUILDING "2" GROSS BUILDING AREA:	±14,836 SQ. FT.
BUILDING "4" GROSS BUILDING AREA:	±12,160 SQ. FT.
TOTAL GROSS BUILDING AREA ±41,882 SQ. FT. / NET SITE AREA ±410,335 SQ. FT. = 10.20% LOT COVERAGE:	10.20%

REQUIRED PARKING DATA:

FOR THE FIRST 2,000 SQ. FT. OF BUILDING AREA REQUIRES TEN (10) STALLS AND ONE STALL PER EVERY 175 SQ. FT. BUILDING AREA AFTER.

±41,882 SQ. FT. - 2,000 SQ. FT. = ±39,882. 10 STALLS
±39,882 SQ. FT. / 175 = 227 PARKING STALLS
227 + 10 = 237 PARKING STALLS REQUIRED

PROVIDED PARKING DATA:

STANDARD VEHICLE PARKING PROVIDED:	256 STALLS
ACCESSIBLE VEHICLE PARKING:	7 STALLS
MOBILE CLINIC VEHICLE PARKING:	2 STALLS
7 PASSENGER VEHICLE PARKING:	14 STALLS
CLEAN AIR/EV VEHICLE PARKING:	23 STALLS
TOTAL AVAILABLE STALLS:	302 STALLS
PARKING RATIO:	7.57/1000
OVER PARKED:	75 STALLS

MASTER ENTITLEMENT SITE AND PHASE PLAN

CENTERLINE DESIGN, LLC
PLANNING - DESIGN - CONSULTING
1508 TOLLHOUSE ROAD, SUITE 'C'
CLOVIS, CALIFORNIA 93611
559-298-3060 (OFFICE)
559-298-3267 (FAX)

PROJECT
CONCEPTUAL DESIGN FOR:
ALTURA CENTERS FOR HEALTH - CARTMILL
NEC OF HILLMAN STREET AND CARTMILL AVENUE
TULARE, CA 93274

STATUS

Current Release Date
06-11-2018
Planning Submittal
06-11-2018
Plan Check Submittal
--

REVISIONS

IDENTIFICATION

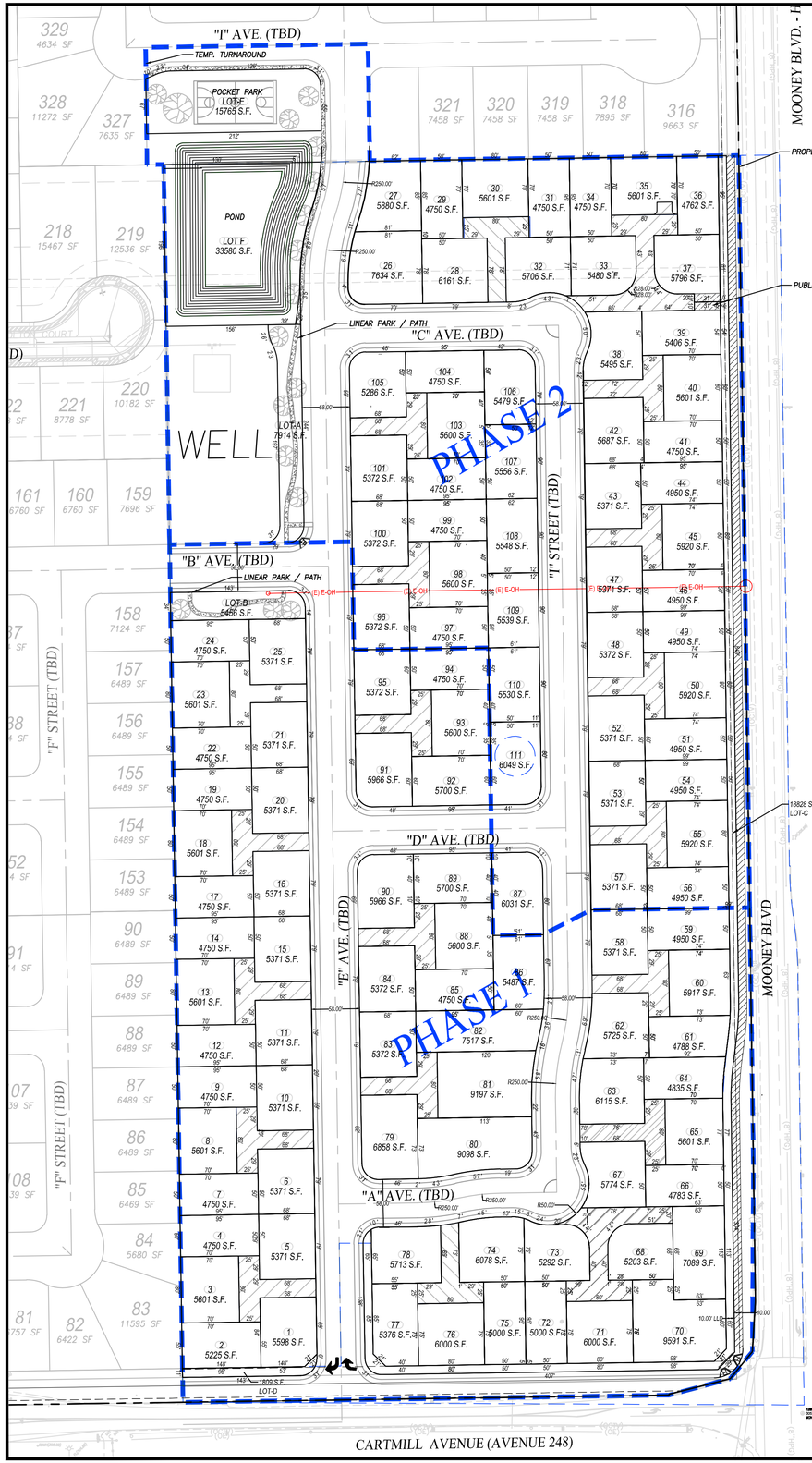
Scale
1" = 40'-0"
Project Coordinator
ROGER HURTADO
Project No.
14-112
Sheet
A-0.0

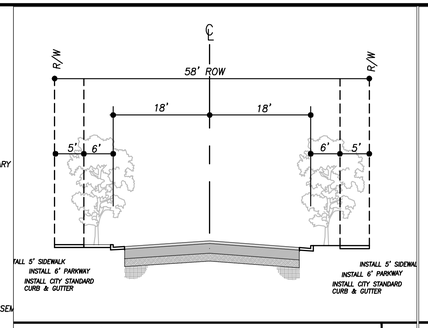
JULY 22, 2020

KENSINGTON 3&4

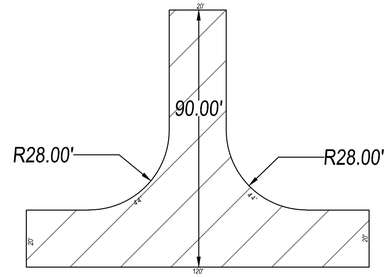
TENTATIVE SUBDIVISION MAP

BEING A DIVISION OF A PORTION OF THE SOUTHEAST QUARTER OF SEC. 25, TOWNSHIP 19 SOUTH., RANGE 24 EAST., MOUNT DIABLO BASELINE AND MAERIDIAN, IN THE CITY OF TULARE, COUNTY OF TULARE, STATE OF CALIFORNIA.

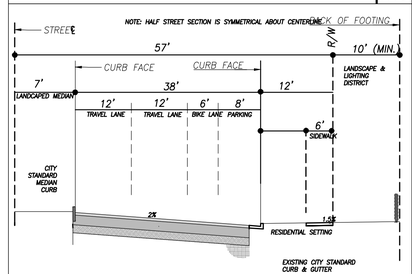




TYPICAL 58' ROW LOCAL STREET CROSS SECTION | NTS

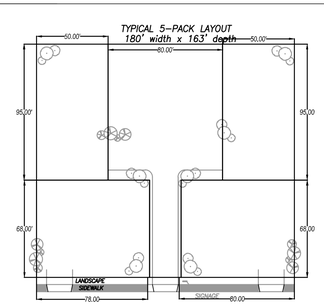


HAMMERHEAD TURNAROUND DETAIL | NTS



CARTMILL AVE 114' ROW (HALF STREET SECTION) FACING WEST

4 LANE MAJOR ARTERIAL STREET RESIDENTIAL | NTS



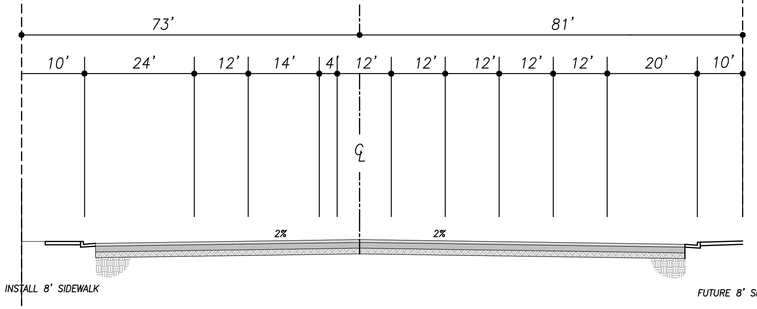
SETBACKS (MINIMUM):
LOTS FRONTING ON STREET

FRONT YARD: 15' (22'
SIDE YARD: 5'
REAR YARD:10'

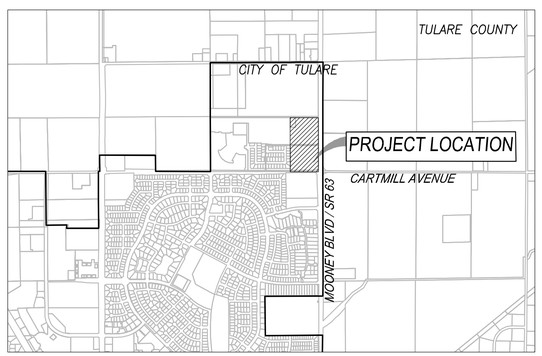
INTERIOR LOTS

FRONT YARD: 5' (22' t
SIDE YARD: 5'
REAR YARD:5'

TYPICAL 5-PACK LAYOUT | NTS



MOONEY BLVD/SR 63 (154') | NTS



VICINITY MAP

LEGEND

APN:	149-060-029 & 34
ACREAGE:	23.87 AC ±
LOTS:	116
FLOOD ZONE:	X
CURRENT ZONING:	R-1-7 RETAIL COMMERCIAL (R-3)
PROPOSED ZONING:	R-1-4 (PUD)
CURRENT GENERAL PLAN:	MEDIUM DENSITY RESIDENTIAL NEIGHBORHOOD COMMERCIAL
PROPOSED GENERAL PLAN:	MED. DENSITY RESIDENTIAL
ELECTRICITY:	SOUTHERN CALIFORNIA EDISON
ZONING:	CITY OF TULARE
TELEPHONE:	AT&T
REFUSE:	CITY OF TULARE
NATURAL GAS:	SOUTHERN CALIFORNIA GAS
EXISTING USE:	VACANT
PROPOSED USE:	SMALL-LOT RESIDENTIAL

GROSS ACREAGE:

R-1-4	23.87 AC 4.85 DU/AC	111 UNITS

NET ACREAGE:

R-1-4	17.10 AC 6.78 DU/AC	111 UNITS

LLD LOTS A - F TO BE DEDICATED TO THE CITY OF TULARE

ENTITLEMENTS:
TENTATIVE SUBDIVISION MAP
GENERAL PLAN AMENDMENT
ZONE AMENDMENT
CONDITIONAL USE PERMIT FOR PUD & R-1-4 ZONE

NORTH
0' 80'

PREPARED BY:
4CREEKS
324 S. SANTA FE, STE. A
P.O. BOX 7593
VISALIA, CA 93292
TEL: 559.802.3052
FAX: 559.802.3215

WILLOW GLEN VESTING TENTATIVE SUBDIVISION MAP

BEING THE SOUTHEAST QUARTER OF SECTION 25, TOWNSHIP 19 SOUTH, RANGE 24 EAST, MOUNT DIABLO BASE AND MERIDIAN, IN THE CITY OF TULARE, COUNTY OF TULARE, STATE OF CALIFORNIA.

SEPTEMBER 2016

SUBDIVIDER:

WILLOW GLEN PARTNERS
222 NORTH GARDEN STREET, SUITE 300
VISALIA, CA 93277

SURVEYOR:

Quad Knopf
801 E. MAIN ST.
P.O. BOX 3699
VISALIA, CA 93278
TEL: (559) 733-0440
FAX: (559) 733-7821
WEB SITE: www.quadknopf.com

I hereby apply for approval of the subdivision shown on this map and certify that I am the legal owner or the authorized agent of the legal owner of said property and that the information shown hereon is true and current to the best of my knowledge and belief.

Signed Date

Signed Date

SITE DATA:

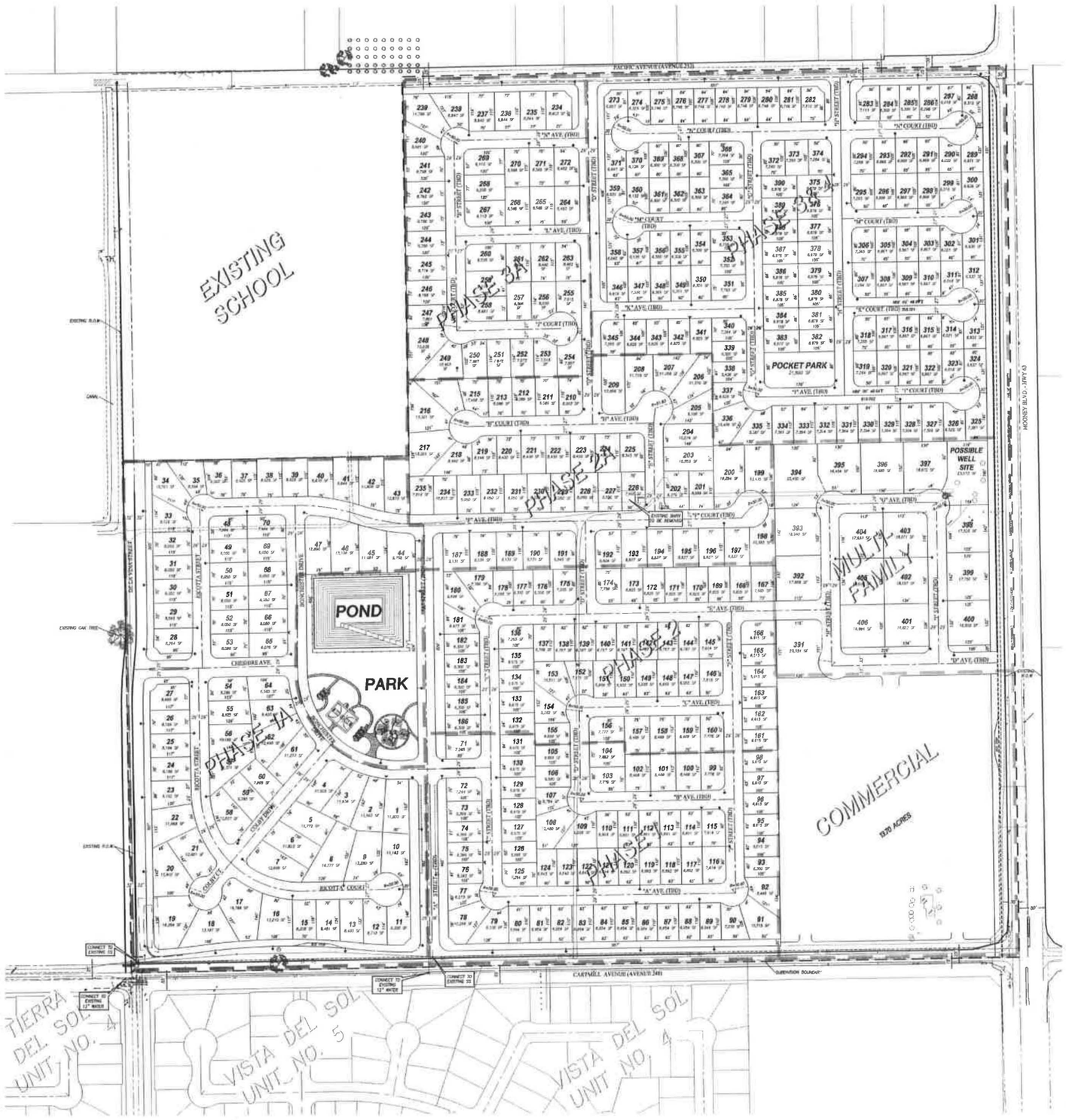
EXISTING ZONING:	R-1-6, R-1-7, RM-2, C-3 & A
PROPOSED ZONING:	R-1-6, R-1-7, RM-2, C-3 & A
EXISTING USE:	AGRICULTURAL/VACANT
PROPOSED USE:	RESIDENTIAL/MULTI-FAMILY/RETAIL COMMERCIAL
SEWER:	CITY OF TULARE
WATER:	CITY OF TULARE
ELECTRICITY:	SOUTHERN CALIFORNIA EDISON
NATURAL GAS:	SOUTHERN CALIFORNIA GAS CO.
TELEPHONE:	AT&T
CABLE TV:	COMCAST
REFUSE:	CITY OF TULARE
FLOOD ZONE:	B & C
A.P.N.:	149-060-013, 149-060-018, 149-060-022
PHASE 1	61 LOTS
PHASE 1A	70 LOTS
PHASE 2	55 LOTS
PHASE 2A	49 LOTS
PHASE 3A	39 LOTS
PHASE 3&4	118 LOTS (EXCLUDES POCKET PARK)
SINGLE FAMILY	392 LOTS
MULTI FAMILY	64 DWELLING UNITS ON 16 LOTS
TOTALS:	456 DWELLING UNITS ON 408 LOTS
PARK/POND	3.78 ACRES
POCKET PARK	.50 ACRES
MULTI FAMILY	11.28 ACRES
SINGLE FAMILY	100.77 ACRES
COMMERCIAL	13.70 ACRES
EXISTING SCHOOL	NOT A PART
TOTAL ACRES:	133.63 ACRES

RIGHT TO FARM NOTICE:

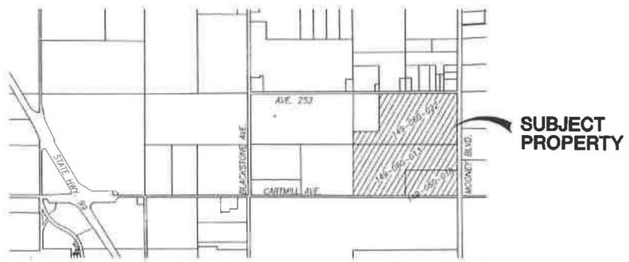
"TULARE COUNTY RIGHT TO FARM NOTICE". IT IS THE DECLARED POLICY OF TULARE COUNTY TO CONSERVE, ENHANCE AND ENCOURAGE AGRICULTURAL OPERATIONS WITHIN THE COUNTY. RESIDENTS OF PROPERTY ON OR NEAR AGRICULTURAL LAND SHOULD BE PREPARED TO ACCEPT THE INCONVENIENCES AND DISCOMFORT ASSOCIATED WITH AGRICULTURAL OPERATIONS, INCLUDING, BUT NOT NECESSARILY LIMITED TO: NOISE, ODORS, FUMES, DUST, SMOKE, INSECTS, OPERATION OF MACHINERY (INCLUDING AIRCRAFT) DURING ANY 24 HOUR PERIOD, STORAGE AND DISPOSAL OF MANURE, AND THE APPLICATION BY SPRAYING OR OTHERWISE OF CHEMICAL FERTILIZERS, SOIL AMENDMENTS, HERBICIDES AND PESTICIDES. CONSISTENT WITH THIS POLICY, CALIFORNIA CIVIL CODE SECTION 3482.5 PROVIDES THAT NO AGRICULTURAL OPERATION, AS DEFINED AND LIMITED BY THAT SECTION, CONDUCTED AND MAINTAINED FOR COMMERCIAL PURPOSES, AND IN A MANNER CONSISTENT WITH PROPER AND ACCEPTED CUSTOMS AND STANDARDS, AS ESTABLISHED AND FOLLOWED BY SIMILAR AGRICULTURAL OPERATIONS IN THE SAME LOCALITY, SHALL BE OR BECOME A NUISANCE, PRIVATE OR PUBLIC, DUE TO ANY CHANGED CONDITION IN OR ABOUT THE LOCALITY, AFTER THE SAME HAS BEEN IN OPERATION FOR MORE THAN THREE YEARS IF IT WAS NOT A NUISANCE AT THE TIME IT BEGAN.

NOTES:

1. LANDSCAPE MAINTENANCE DISTRICT IS PROPOSED
2. THE PROPERTY IS NOT WITHIN THE "AIRPORT INFLUENCE AREA"
3. IT IS UNDERSTOOD THAT THE CITY OF TULARE STANDARDS WHICH SPECIFY THE STREET WIDTHS AS SHOWN ARE CURRENTLY IN "DRAFT" FORM.



SCALE: 1" = 150'
150' 0' 150'



VICINITY MAP
NO SCALE

NORTH

SHEET 1 OF 1

FILE NAME: I:\Projects\2013\130158\ACAD\Tentative Map\130158-TPM.dwg - LAST SAVE: 9/8/2016 1:42:16 PM PDT