TULARE COUNTY
RESOURCE MANAGEMENT AGENCY

5961 South Mooney Boulevard
Visalia, CA 93277

DEER CREEK MINE EXPANSION
(PMR 19-001)

Subsequent Environmental Impact Report
SCH# 2019049052

November 2019

Prepared by:
Tulare County Resources Management Agency
Economic Development and Planning Branch
Environmental Planning Division

TABLE OF CONTENTS

DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT
(SCH# 2019049052)

Executive Summary

Chapter 1 - Introduction

Chapter 2 - Project Description

Chapter 3 – Settings, Impacts, and Mitigation

Figures

Tables

Appendices

EXECUTIVE SUMMARY

On March 11, 2015, the Tulare County Planning Commission certified the Environmental Impact Report (EIR) and adopted the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000 et seq.) Findings of Fact and Mitigation Monitoring and Reporting Program for State Clearinghouse (SCH) No. 2014081023 for the Deer Creek Rock Project (Surface Mining and Reclamation Plan PMR 14-002), as being in compliance with CEQA and the State CEQA Guidelines (Tulare County Planning Commission Resolution No. 9055). The EIR included a detailed analysis of potential environmental impacts, analyzed project alternatives, and disclosed the environmental impacts expected to result from the operation of the project during its anticipated lifespan. Where applicable, mitigation measures were identified to avoid or minimize significant environmental impacts. The mitigation measures identified in the EIR are measures proposed by the County as the lead agency, responsible or trustee agencies or other persons that were not included in the project but could reasonably and feasibly be expected to reduce adverse impacts if required as conditions of approving the project, as required by CEQA Guidelines Sections 15126.4(a)(1)(A).

Tulare County Resource Management Agency has determined that the proposed Deer Creek Mine Expansion, PMR 19-001 (Project) expansion constitutes substantial changes to the previously approved project and new information which was not known, or could not have been known, at the time of adoption of the EIR in 2015 has become available. Pursuant to CEQA Section 21166 and CEQA Guidelines Section 15162, this draft Subsequent Environmental Impact Report (draft Subsequent EIR, draft SEIR, or SEIR) has been prepared to inform the public and the Tulare County Planning Commission of the potential environmental impacts the proposed Project would have on resources as specified in the CEQA Guidelines. This draft SEIR concludes that the Deer Creek Mine Expansion is consistent with the EIR prepared for PMR 14-002 (which is incorporated herein by reference) and the Project will not have a significant impact on the resources potentially affected by the changes proposed. This draft SEIR, in its entirety, addresses and discloses potential environmental effects associated with the proposed Project, including direct, indirect, and cumulative impacts in the following resource areas: Air Quality; Biological Resources; Cultural Resources; Energy; Geology/Soils; Greenhouse Gas Emissions; Hydrology/Water Quality; Noise, Transportation; Tribal Cultural Resources; and Wildfire.

CEQA requires that local government agencies, prior to taking action on projects over which they have discretionary approval authority, consider the environmental consequences of such projects. An Environmental Impact Report (EIR) is a public disclosure document designed to provide local and state governmental agency decision makers with an objective analysis of potential environmental consequences to support informed decision-making. This draft Subsequent EIR (State Clearinghouse # 2019049052) has been prepared by Tulare County in accordance with CEQA Guidelines Section 15162 to prepare a Subsequent EIR, to discuss the changes proposed by the Project, new information, impacts from Project implementation, alternatives to the proposed Project, and to propose mitigation measures, if needed, that will offset, minimize or avoid identified significant environmental impacts. Pursuant to CEQA Guidelines Section 15082, the NOP for the proposed Project was circulated for review and

comment on April 10, 2019, and circulated for a 30-day comment period ending May 10, 2019. A Scoping Meeting was held on May 2, 2019, at 1:30 p.m. at 5961 South Mooney Boulevard, Visalia, CA, in the Tulare County Resource Management Agency, Main Conference Room. No comments were received during this meeting.

PROJECT DESCRIPTION

The Project consists of a ±20-acre expansion to the footprint and operations of the existing and currently operational Deer Creek Mine facility. The Applicant, Deer Creek Rock Co., Inc. currently operates a rock and gravel surface mining operation on a ±110-acre site. The Applicant is requesting to increase its transport limitation from 1,000,000 to 1,500,000 tons of aggregate annually. The proposed Project would result in an increase from 42,300 trips per year to a maximum of 60,000 trips per year (i.e., an increase of 17,700 trips per year). This will require approximately three (3) additional employees, resulting in a workforce of approximately 30 employees (20 in first shift and 10 in second shift). The customer base from the proposed Project is anticipated to remain mostly from within Tulare County. The Applicant is proposing to increase production of the existing mining permit and will include both lateral and depth expansion. All proposed mining activities will take place within the proposed excavation area. As a condition of the permit, and since the proposed Project is in the AE-40, reclamation of the site will result in the property being reclaimed to grazing/open space standards for eventual agricultural re-use. A current, approved Reclamation Plan is on file with Tulare County.

PROJECT LOCATION

The existing facility and proposed Project site are located at 27671 Avenue 120/Road 272, Porterville, CA 93257. The proposed expansion area site is approximately 0.84 miles east of Road 272 and abutting Avenue 120 along a portion of its northeastern side. The existing facility is located on APN 305-190-021 while the proposed expansion area is located on APN 305-190-022. The Project site is located in Section 21, Township 22 South, Range 28 East, MDB&M, and can be found within the Success Dam United States Geological Survey 7.5 minute topographic quadrangle.

SUMMARY OF CHAPTERS

"Executive Summary" summarizes the findings of this draft SEIR and provides a summary of the contents of the draft SEIR.

Chapter 1 "Introduction" discusses background information, the scope and organization of this draft SEIR, opportunity for public participation and agency coordination, known areas of controversy relating to the Deer Creek Mine Expansion, and commonly used terms in this draft SEIR.

Chapter 2 "Project Description," describes the proposed Project and summarizes the Project, objectives.

Chapter 3 "Environmental Setting, Impacts, and Mitigation Measures," examines the existing conditions and regulatory setting for potential cumulative impacts as a result of the Project. The chapter will conclude that the proposed Deer Creek Mine Expansion (PMR19-001) will result in no significant cumulative resource impacts beyond those included in the Environmental Impact Report prepared for the predecessor Deer Creek Rock PMR 14-002 project (SCH# 2014081023).

Chapter 4 " Evaluation of Environmental Impacts," includes Chapters 4.1 through 4.11 which evaluates the potential environmental impacts to Air Quality, Biological Resources, Cultural Resources, Energy Resources, Geology and Soils, Greenhouse Gases, Hydrology and Water Quality, Noise, Transportation, Tribal Cultural Resources, and Wildfires.

Chapter 5 "Growth-Inducing Impacts," evaluates growth-inducing impacts of the proposed Project as required by CEQA.

Chapter 6 "Alternatives," examines three Alternatives to the proposed Deer Creek Mine Expansion.

- No-Project Alternative (Alternative 1) - as required by CEQA;
- Alternative Locations (Alternative 2) – alternative areas where mining could occur; and
- Reduced Size (Alternative 3) – smaller increase to the expansion area, reduced mine depth, and smaller changes to the annual/life-span tonnage of material extracted, processed, transported off-site, and accompanying daily/annual truck trips.

Chapter 7 "Significant Unavoidable Impacts," examines significant environmental effects which cannot be avoided if the proposed project is implemented as required by CEQA.

Chapter 8 "Significant and Irreversible Environmental Changes," are examined as required by CEQA.

Chapter 9 "References Cited," identifies the sources (e.g., printed references, statistics, maps, rules, regulations, commenting agencies and/or interested parties, personal communications, etc.) cited in this SEIR.

Chapter 10, "Report Preparation," lists key persons from the County of Tulare that contributed to preparation of the draft Subsequent EIR as follows: the sitting Tulare County Board of Supervisors, the sitting Tulare County Planning Commission, Tulare County Resource Management Agency (RMA) Director, RMA Associate Director, RMA Assistant Director – Economic Development and Planning Branch, Chief Environmental Planner, Environmental Planning Division and Project Processing Division staffs.

CHAPTER 1
INTRODUCTION

BACKGROUND

The project being analyzed in this draft Subsequent Environmental Impact Report (draft Subsequent EIR, draft SEIR, or SEIR) is the proposed expansion to the existing rock and gravel surface mining operation, operated by Deer Creek Rock Co., Inc., as permitted by PMR 01-001, PMR 09-002, PSP 01-055 (ZA), and PMR 14-002. The permit amendments requested by PMR 19-001 for the proposed Deer Creek Mine Expansion (Project) will result in an approximately 20-acre expansion of the existing ±110-acre facility, would allow a 500,000 ton per year increase in aggregate production, and result in a 35 million ton increase in the estimated total rock production during the estimated 50 years of operation. The Project will also result in no change to the approved reclamation plan other than the inclusion of the ±20-acre expansion area. As discussed below this document has been prepared in compliance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.).

CALIFORNIA ENVIRONMENTAL QUALITY ACT REQUIREMENTS

OVERVIEW

CEQA requires public agencies to consider the potential significant environmental impacts of their proposed projects before making a final decision on those projects. For projects that would potentially result in significant environmental impacts, this step is completed through the preparation of an Environmental Impact Report (EIR). The purpose of CEQA is to inform decision-makers and the public of the potential environmental effects of the project, identify mitigation measures that would reduce or avoid those effects, and discuss feasible alternatives to the project that would similarly reduce or avoid its expected effects.

NOTICE OF PREPARATION

CEQA requires the lead agency that intends to prepare an EIR to first circulate a Notice of Preparation (NOP) to public agencies and, if desired, other interested parties. The purpose of the NOP is to elicit early comments on the contents of the Draft EIR (DEIR). Although CEQA does not require an NOP for an SEIR, an NOP was released by the Tulare County Resource Management Agency (RMA) for a 30-day comment period beginning April 10, 2019, and ending on May 10, 2019 (see Appendix H). The NOP identified, and RMA staff held a scoping meeting on May 2, 2019 (at 1:30 p.m.) in the RMA Main Conference Room. No public agencies were in attendance of this scoping meeting and no comments were received.

EIR REVIEW PROCESS

Once completed, the DEIR is circulated to public agencies and made available to the public for their review and comment. The County of Tulare (County), as lead agency, must respond in writing to these comments and include any necessary revisions in a Final SEIR that is presented to decision-makers before their deliberations on the project. Before approving a project, the decision-makers must certify the adequacy of the Final SEIR relative to CEQA requirements and the circumstances of the proposed project. This procedure is also followed for preparation of an SEIR.

EIR STANDARDS FOR ADEQUACY

Section 15151 of the State CEQA Guidelines sets the following standard for adequacy of an EIR:

> "An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure."[1]

SUBSEQUENT EIR REQUIREMENTS

State CEQA Guidelines Section 15162 describes a subsequent EIR as follows:

"(a) When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was

[1] Thomas Reuters Westlaw. California Code of Regulations. § 15151. Standards for Adequacy of an EIR. Accessed July 2019 at https://govt.westlaw.com/calregs/Document/IBF6AC5A0D48811DEBC02831C6D6C108E?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)&bhcp=1

certified as complete or the negative declaration was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

(b) If changes to a project or its circumstances occur or new information becomes available after adoption of a negative declaration, the lead agency shall prepare a subsequent EIR if required under subdivision (a). Otherwise the lead agency shall determine whether to prepare a subsequent negative declaration, an addendum, or no further documentation.

(c) Once a project has been approved, the lead agency's role in project approval is completed, unless further discretionary approval on that project is required. Information appearing after an approval does not require reopening of that approval. If after the project is approved, any of the conditions described in subdivision (a) occurs, a subsequent EIR or negative declaration shall only be prepared by the public agency which grants the next discretionary approval for the project, if any. In this situation no other responsible agency shall grant an approval for the project until the subsequent EIR has been certified or subsequent negative declaration adopted.

(d) A subsequent EIR or subsequent negative declaration shall be given the same notice and public review as required under Section 15087 or Section 15072. A subsequent EIR or negative declaration shall state where the previous document is available and can be reviewed."[2]

In common terms, an SEIR will contain new information of substantial importance, which was not known and could not have been known at the time the previous EIR was certified as complete. The contents of an SEIR can be limited to new or more-severe impacts that were not analyzed in the previously certified FEIR.

[2] Thomas Reuters Westlaw. California Code of Regulations. § 15162. Subsequent EIRs and Negative Declarations. Accessed July 2019 at: https://govt.westlaw.com/calregs/Document/IC1DC88F0D48811DEBC02831C6D6C108E?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)

DEER CREEK ROCK CO., INC., PROPOSED EXPANSION

On March 11, 2015, the Tulare County Planning Commission certified the Final Environmental Impact Report (FEIR) and adopted the CEQA Findings of Fact and Mitigation Monitoring and Reporting Program for State Clearinghouse (SCH) No. 2014081023 for the Deer Creek Rock Project (Surface Mining and Reclamation Plan PMR 14-002) as being in compliance with CEQA and the State CEQA Guidelines (Planning Commission Resolution No. 9055).

Following adoption/certification of the FEIR for the Deer Creek Rock Project (Surface Mining and Reclamation Plan PMR 14-002, or PMR 14-002), which analyzed the potential impacts of the Project, the Planning Commission approved PMR 14-002. The FEIR included a detailed analysis of impacts in multiple environmental disciplines (such as Air Quality, Biological Resources, Cultural Resources, Hazards and Hazardous Materials Noise, Public Services, Traffic/Transportation, and Utilities and Service Systems), analyzed Project alternatives, including a No Project Alternative. The FEIR disclosed the environmental impacts expected to result from the operation of the Project during its anticipated lifespan. Where applicable, mitigation measures were identified to avoid or minimize significant environmental effect. The mitigation measures identified in the FEIR are measures proposed by the County as the lead agency, responsible or trustee agencies or other persons that were not included in the Project but could reasonably and feasibly be expected to reduce adverse impacts if required as conditions of approving the Project, as required by CEQA Guidelines Sections 15126.4(a)(1)(A).

The Applicant, Deer Creek Rock Co., Inc., currently operates a rock and gravel surface mining operation on ±110 acres, as permitted by PMR 01-001, PMR 09-002, PSP 01-055 (ZA), and PMR 14-002. Subsequently, the Applicant submitted an application (PMR 19-001) proposing an approximately 20-acre expansion to the footprint and increased operations of the existing and currently operational Deer Creek Mine facility. The permit amendments requested by PMR 19-001 will:

- Allow consistency between PMR 01-001, PMR 09-002, PSP 01-055(ZA), and PMR 14-002;
- Result in an approximately 20-acre expansion through the use of a lot line adjustment toward the east and southeast on land currently used for grazing;
- Increase annual production by 500,000 tons per year (from a maximum of 1,000,000 tons per year to a maximum of 1,500,000 tons per year);
- Increase truck hauling by 224 round-trips per day (from a maximum of 376 round-trips per day to a maximum of 600 round-trips per day), with a maximum of 60,000 truck trips per year;
- Result in an increase in the maximum depth of the mine to 300 feet Mean Sea Level (MSL);
- Result in a change to the estimated total rock production of 40,000,000 tons of rock to 75,000,000 tons of rock material during the estimated 50 years of operation; and
- Result in no change to the approved reclamation plan other than to include the expanded area.

The following summarizes the areas that need to be reviewed and revised as applicable:

1) Air Quality – As the Applicant proposes to increase annual production by 500,000 tons resulting in an increase of operations of equipment to extract virgin material and export said material via heavy-duty trucks and subsequent air emissions related to those activities;
2) Biological Resources – As the footprint of the Project site is proposed for expansion by an additional approximately 20 acres (toward the east and southeast) that were not included in the previously certified FEIR on March 11, 2015;
3) Cultural Resources – As the footprint of the Project site is proposed for expansion by an additional approximately 20 acres (toward the east and southeast) that were not included in the previously certified FEIR on March 11, 2015;
4) Energy – As, effective January 1, 2019, the CEQA Guidelines added this resource which was not previously required and thus not contained in the prior FEIR for this site;
5) Geology/Soils – As the footprint of the Project site is proposed for expansion by an additional approximately 20 acres (toward the east and southeast) that were not included in the previously certified FEIR on March 11, 2015;
6) Greenhouse Gas Emissions – As the Applicant proposes to increase annual production by 500,000 tons resulting in an increase of operations of equipment to extract virgin material and export said material via heavy-duty trucks and subsequent greenhouse gas emissions related to those activities;
7) Hydrology and Water Quality – As the footprint of the Project site is proposed for expansion by an additional approximately 20 acres (toward the east and southeast) and increase the maximum depth of the mine to 300 feet MSL that were not included in the previously certified FEIR on March 11, 2015;
8) Noise – As the footprint of the Project site is proposed for expansion by an additional approximately 20 acres (toward the east and southeast) resulting in operations located in closer proximity to off-site receptors;
9) Transportation – As the Project proposes a significant increase in vehicle (heavy-duty trucks) trips per day. To accommodate an extended lifespan and an increase in annual tonnage to be transported that were not included in the previously certified FEIR on March 11, 2015;
10) Tribal Cultural Resources – As the CEQA Guidelines added this resource which was not previously required and thus not contained in the prior FEIR for this site, and the footprint of the Project site is proposed for expansion by an additional approximately 20 acres (toward the east and southeast); and
11) Wildfire – As, effective January 1, 2019, the CEQA Guidelines added this resource which was not previously required and thus not contained in the prior FEIR for this site.

SUBSEQUENT EIR

The County has prepared this draft SEIR in accordance with CEQA. Before preparation of the Draft SEIR, the County circulated an NOP to approximately 46 public agencies and other interested parties. The comments of those agencies and parties were considered by the County in drafting this SEIR. In addition, the County conducted a cumulative impact analyses; however, although there are other mining (i.e., mineral extraction) operations within Tulare County, there are no other projects which could be considered similar to the Deer Creek Mine Expansion. The nearest known, somewhat similar, aggregate extraction project is Orosi Rock (approximately 41 miles northwest) of this Project. Orosi Rock, a project entailing a larger expansion of quantity of material (an 8.7 million tons per year (TPY) increase from the previous 1.9 million TPY) was approved in January 2014; however an estimated 50% of the rock from this project was projected to be transported north out of Tulare County; it would result in a larger number of heavy-duty truck trips than the proposed Project; and it required mitigation measures to reduce impacts to air quality, cultural resources, GHG, noise, and traffic. Also, the Orosi Rock EIR did not require analysis of tribal cultural resources or wildfire; and it did not require tribal consultation. As such, this draft Subsequent EIR does not tier off any other analyses or EIRs other than those contained in the Tulare County General Plan 2030 Update EIR and the previously certified FEIR (March 11, 2015) for the Deer Creek Mine facility. Materials from the Tulare County General Plan 2030 Update EIR and the Deer Creek Mine FEIR and comments received by the respective agencies on those EIRs are used for informational purposes. These documents are available for review at the Tulare County Resource Management Agency (RMA).

SCOPE OF THE SEIR

This SEIR will not address all of the issues addressed in the original EIR (SCH No. 2014081023). As described previously, the County need not address issues other than those identified earlier consistent with CEQA Guidelines Section 15162(a)(3)(A) wherein,

"(a) When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;"[3]

SEIR ORGANIZATION

This SEIR is organized in the following manner.

[3] Ibid.

"Executive Summary" summarizes the findings of this draft SEIR and provides a summary of the contents of the draft SEIR.

Chapter 1 "Introduction," discusses background information, the scope and organization of this SEIR, opportunity for public participation and agency coordination, known areas of controversy relating to the Deer Creek Mine Expansion, and commonly used terms in this draft SEIR.

Chapter 2 "Project Description," describes the proposed Project and summarizes the Project objectives.

Chapter 3 "Environmental Setting, Impacts, and Mitigation Measures," examines the existing conditions and regulatory setting for potential cumulative impacts as a result of the Project. The chapter will conclude that the proposed Deer Creek Mine Expansion (PMR 19-001) will result in no significant cumulative resource impacts beyond those included in the Environmental Impact Report prepared for predecessor project Deer Creek Rock PMR 14-002 (SCH# 2014081023).

Chapter 4 "Evaluation of Environmental Impacts" includes Chapters 4.1 through 4.11 which evaluates the potential environmental impacts to Air Quality, Biological Resources, Cultural Resources, Energy Resources, Geology and Soils, Greenhouse Gases, Hydrology and Water Quality, Noise, Transportation, Tribal Cultural Resources, and Wildfires. contains analyses of resources which could be impacted by the Project. It is noted that the previous EIR (SCH No. 2014081023) did not contain separate analyses for Energy, Tribal Cultural Resources, or Wildfire as these resources were not required at the time the previous EIR was adopted/certified.

Chapter 5 "Growth Inducing Impacts," evaluates growth-inducing impacts of the proposed Project as required by CEQA.

Chapter 6 "Alternatives," will examine three Alternatives for PMR 19-001.

- No-Project (Alternative 1): - as required by CEQA;
- Alternative Locations (Alternative 2) - alternative areas where mining could occur; and
- Reduced Size (Alternative 3) - smaller increase to the expansion area, reduced mine depth, and smaller changes to the annual/life-span tonnage of material extracted, processed, transported off-site, and accompanying daily/annual truck trips..

Chapter 7 "Significant Unavoidable Impacts," examines significant environmental effects which cannot be avoided if the proposed project is implemented as required by CEQA.

Chapter 8 "Significant and Irreversible Environmental Changes," examines significant irreversible environmental changes which cannot be avoided if the proposed project is implemented as required by CEQA.

Chapter 9 "References Cited," identifies the sources (e.g., printed references, statistics, maps, rules, regulations, commenting agencies and/or interested parties, personal communications, etc.) cited in this SEIR.

Chapter 10 "Report Preparation" lists the key persons who contributed to the preparation of this SEIR.

OPPORTUNITY FOR PUBLIC INVOLVEMENT AND AGENCY COORDINATION

CEQA requires that a Subsequent EIR be made available for review and comment by other agencies and the public for a period of no less than 30 days. Typically, "In the state review system the normal review period is 45-days for EIRs…"[4] As part of this requirement, copies of the Draft SEIR will be submitted to the State Clearinghouse (part of the Governor's Office of Planning and Research) in Sacramento for distribution to interested state agencies. Copies will also be provided to the appropriate state/federal/local agencies. In addition, the Native American Heritage Commission and local area tribes have been consulted consistent with AB 52.

In addition, a notice will be placed in the *Porterville Recorder* (a newspaper of general circulation) and Porterville Public Library advising the public of the availability of the draft SEIR for review and comment. Copies of the draft SEIR will be available for public review at the Tulare County Resource Management Agency, 5961 South Mooney Blvd., Visalia, CA 93277, (559) 624-7000, (Monday – Thursday: 9:00 am to 4:30 pm) and (Friday: 9:00 am to 11:00 am). :

A copy of the draft SEIR may also be obtained and/or reviewed at the following locations:

Visalia Branch Library 200 West Oak Avenue Visalia, CA 93291	Tuesday through Thursday: 09:00 am – 8:00 pm Friday: 12:00 pm – 6:00 pm Saturday: 9:00 am – 5:00 pm
Terra Bella Branch Library 23825 Avenue 92 Terra Bella, CA 93270	Monday through Thursday: 8:00 am–12:00 pm

The Deer Creek Mine Expansion PMR 19-001 draft SEIR can be found at Tulare County Web Site: https://tularecounty.ca.gov/rma/index.cfm/projects/planning-projects/applicant-projects/deer-creek-mine-expansion/.

KNOWN AREAS OF CONTROVERSY

Although there are no known areas of controversy, this draft SEIR includes either new or expanded analysis of the following resources as contained in Appendix G of the CEQA Guidelines:

[4] CEQA Section 15205(d).

Air Quality
Biological Resources
Cultural Resources
Energy
Geology/Soils
Greenhouse Gas Emissions
Hydrology/Water Quality
Noise
Transportation
Tribal Cultural Resources
Wildfire

COMMONLY USED TERMS

This draft SEIR commonly uses terms that are peculiar to CEQA or the proposed Project. To assist the reader, definitions specific to each chapter are included, as applicable (e.g., "Average Daily Traffic – ADT" in Chapter 4.9 Transportation).

CHAPTER 2
PROJECT DESCRIPTION

INTRODUCTION

In accordance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, Section 21000 et seq.), the County of Tulare Resource Management Agency (RMA) is preparing this draft Subsequent Environmental Impact Report (draft Subsequent EIR, draft SEIR, or SEIR) to evaluate the environmental effects associated with an amendment to Surface Mining Permit and Reclamation Plan (PMR) No. 14-002 (Deer Creek Rock) to allow for expanded operations at this site (PMR 19-001). The proposed modifications include an approximately ±20-acre increase in excavation area, an increase in maximum excavation depth, an increase in annual aggregate production, and an increase in annual truck trips to accommodate the increase.

PROJECT LOCATION

The existing ±110-acre Deer Creek Rock facility is located at 27671 Avenue 120/Road 272, Porterville, CA 93257, within Tulare County Assessor Parcel Number (APN) 305-190-021. The proposed expansion site is located south of Deer Creek Drive, approximately 0.84 mile east of Road 272, approximately 0.12 mile west of Deer Creek Drive, and abutting Avenue 120 along its northeastern boundary, adjacent to the existing facility (see Figure 2-2). The proposed expansion site is located on APN 305-190-022. The Project site is located in Section 21, Township 22 South, Range 28 East, MDB&M, and can be found within the Success Dam United States Geological Survey 7.5 minute topographic quadrangle. The site is in the low foothills of the Central Sierra Nevada on the eastern edge of the Tulare basin, where elevations range from 560-885 feet National Geodetic Vertical Datum. The coordinates of the proposed Project site are: Latitude N 36° 00’ 19”, Longitude W 118° 57’12”.

CURRENT OPERATIONS

Aggregate materials are currently excavated and processed on-site by the Deer Creek Rock Co., Inc. Currently, maximum annual extraction does not exceed 1,000,000 tons and the site is allowed to be excavated to 360 feet Mean Sea Level (MSL). Common equipment used for daily operations include, but is not limited to: excavator, haul trucks, rock drill, bobcat, rock breaker, pick-up trucks, cranes, welders, generators, and hand tools.

PROJECT DESCRIPTION

The Project being analyzed in this draft SEIR is the proposed ±20-acre Deer Creek Mine Expansion (PMR 19-001). The Applicant, Deer Creek Rock Co., Inc., currently operates a rock and gravel

surface mining operation on ±110 acres, as permitted by PMR 01-001, PMR 09-002, and PSP 01-055 (ZA), and PMR 14-002. The permit amendments requested by PMR 19-001 will:

- Allow consistency between PMR 01-001, PMR 09-002, PSP 01-055(ZA), and PMR 14-002;
- Result in approximately 20-acre expansion upon land used for grazing through the use of a lot line adjustment toward the east and southeast;
- Increase annual production by 500,000 tons per year (from a maximum of 1,000,000 tons per year to a maximum of 1,500,000 tons per year);
- Increase truck hauling by 224 round trips per day (from a maximum of 376 round trips per day to a maximum of 600 round trips per day);
- Result in an increase in the maximum depth of the mine to 300 MSL;
- Result in a change to the estimated total rock production of 40,000,000 tons of rock to 75,000,000 tons of rock material during the estimated 50 years of operation; and
- Result in no change to the approved reclamation plan other than to include the expanded area.

The Applicant is requesting to increase the maximum permitted annual production and transport from 1,000,000 to 1,500,000 tons of aggregate annually (an increase of 500,000 tons per year). The proposed increase in production will result in an increase in the number of heavy-duty truck trips from the operation and the Applicant is requesting to increase permitted transport to a maximum of 60,000 trips per year (from the currently permitted 42,300 trips per year, an increase of 17,700 trips per year).[1] This will require approximately three (3) additional employees, resulting in a workforce of approximately 30 employees (20 in first shift and 10 in second shift). The customer base from the proposed Project is anticipated to remain mostly from within Tulare County.

The Applicant is proposing to increase production of the existing mining permit and will include both lateral and depth expansion. All proposed mining activities will take place within the proposed excavation area, as depicted in **Figures 2-2** and **2-3**. Proposed increase in production will also result in continued blasting to break up larger rocks that cannot be moved or broken up by mechanical equipment. All blasting will be conducted by a licensed blaster.

As a condition of the permit, and since the proposed Project is in the AE-40 zone, reclamation of the site will result in the property being reclaimed to grazing/open space standards for eventual agricultural re-use. A current approved Reclamation Plan is on file with Tulare County and will be amended to include the Project expansion area.

[1] Note, the proposed permitted transport is a *maximum* increase of 224 trips per day and 17,700 trips per year. Assuming 260 workdays per year, this increase averages 68 trucks trips per day (17,000 trips/year ÷ 260 days/year = 68 trips per day).

Figure 2-1
Regional Location Map

Figure 2-2
Project Site Map (Existing Facility and Proposed Expansion Area)

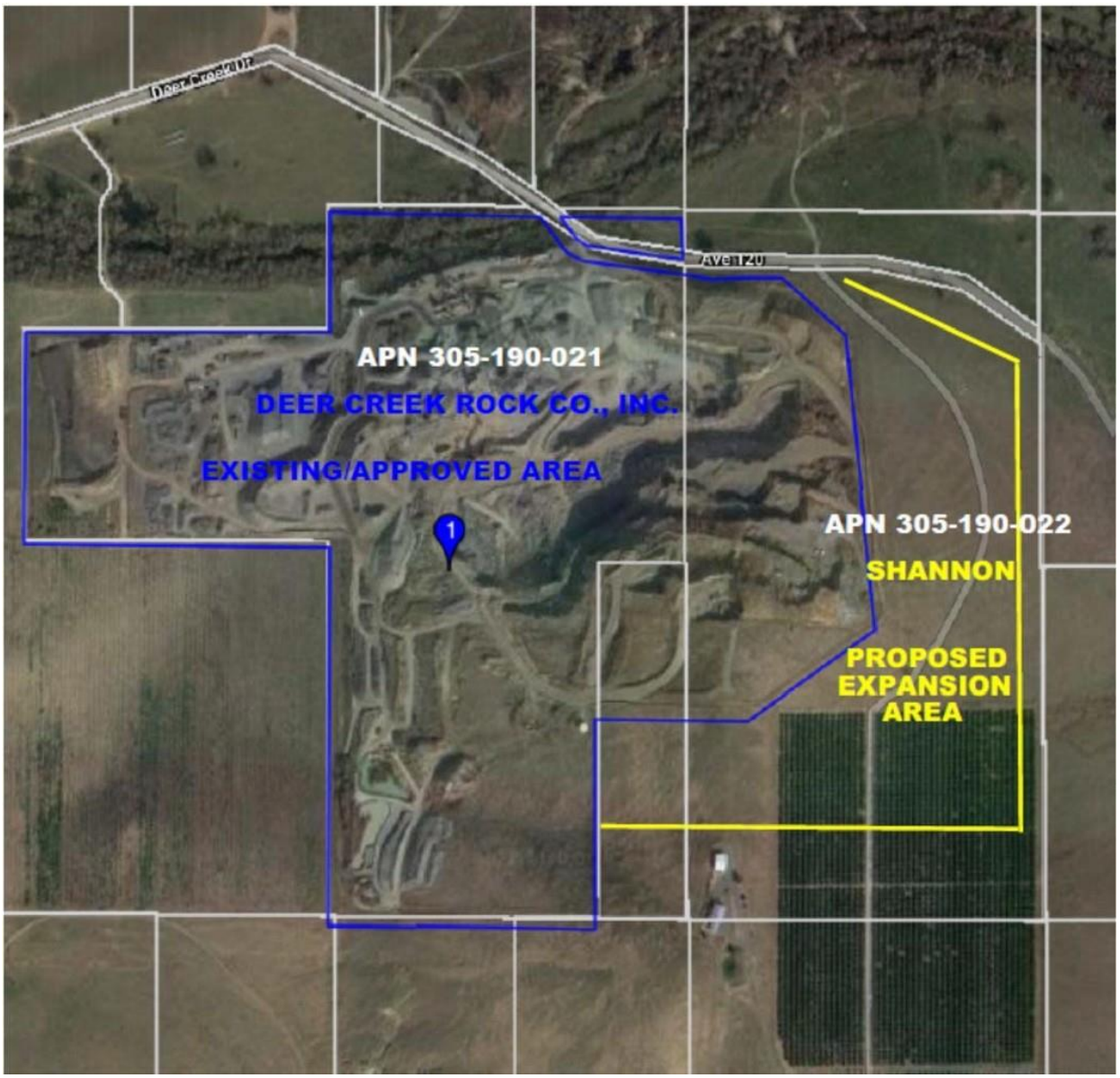
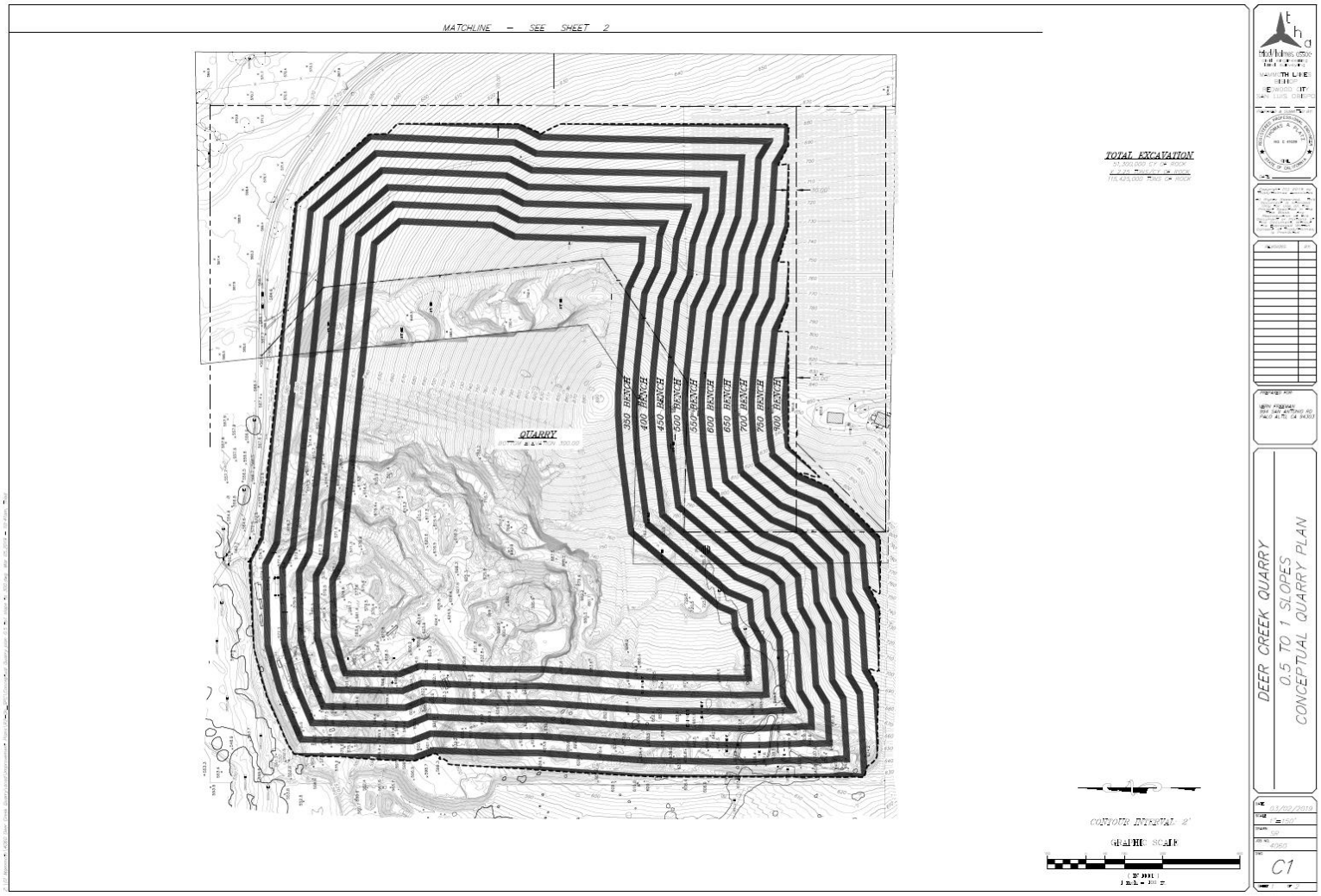


Figure 2-3
Conceptual Quarry Plan



VICINITY AND SURROUNDING AREA ZONING AND LAND USE

Adjacent properties to the north, east and south of the site are zoned AE-40 (Exclusive Agriculture–40 acre minimum) and are primarily grazing land with some irrigated crops, including orange groves to the south. Deer Creek is immediately north of the proposed expansion site. The existing Deer Creek Mine is immediately west of and adjacent to the proposed Project site and is zoned AE-40 (Exclusive Agriculture–40 acre minimum) and AE-10 (Exclusive Agriculture–10 acre minimum). Scattered rural residences are located in the vicinity of the Project area. The proposed Project site is not under a Williamson Act Contract.

PROJECT SITE ZONING AND LAND USE

The proposed expansion site is zoned AE-40 (Exclusive Agriculture – 40 acre minimum and currently is primarily grazing land with an orange grove in the southern portion of the site. Natural resources mining is permitted with the approval of a surface mining permit and reclamation plan, in accordance with Chapter 25 of Part VII of the Tulare County Ordinance Code. The disturbed Project site area is proposed to be reclaimed for grazing and agriculture uses in the future, pursuant to the approved Reclamation Plan, which will be updated to include this Project.

The site is subject to the policies of the Foothill Growth Management Plan (FGMP) and is designated as Foothill Agriculture.[2,3] The FGMP stipulates that rock, sand and gravel excavation operations shall be allowed in the foothills with a conditional use permit. A decision on said use shall be based on, but not limited to, criteria such as irreversible environmental impacts, reclamation measure sand procedures which mitigate the short-term environmental, social and economic impacts.[4] The site is located outside of an Urban Development Boundary and is subject to the policies of the Foothill Growth Management Plan.

Other relevant policies of the FGMP relate to ensuring that new development be designed in a manner that minimizes grading, vegetation disturbance, and intrusion on to natural watercourses. These policies are to be implemented by compliance with the Foothill Development Standards. The mining operation together with the existing approved Reclamation Plan, subject to conditions of approval, will achieve compliance with the Foothill Development Standards and other pertinent policies of the FGMP.

PROJECT OBJECTIVES

According to the Department of Conservation, California Geological Survey (CGS), "In some regions, local aggregate production is sufficient to meet the local demand, but in others, there is more demand than can be met by local production leading to a shortfall that is typically met by

[2] The FGMP can be found in the Tulare County General Plan 2030 Update, Part II – Area Plan Policies, Chapter 3. Foothill Growth Management Plan.

[3] See Figure 3-1, Page 3-16 of Part II – Area Plan Policies for a map of the FGMP land use designations.

[4] Tulare County General Plan 2030 Update, Part II – Area Plan Policies, Chapter 3. Foothill Growth Management Plan, Policy FGMP-3.2 Excavation Operations.

importing construction aggregate from neighboring aggregate producing regions."[5] The factors concerning construction aggregate supply and demand include: universal need, aggregate quality, type and degree of weathering; the economic and environmental costs of transportation, increasing/decreasing demand, and multiple land-use pressures making availability and demand for aggregates valuable to land-use planners and decision makers charged with planning for a sustainable future for California's citizens.[6]

Ideally, there would be a minimum of 50 years of supply available in order to meet the County's estimated population growth projected by the California Department of Finance. According to the CGS, the existing demand for aggregates in Tulare County is sufficient to meet the demands for the next 21 to 30 years, or 41% of the projected demand for the next 50 years.[7] Currently, as a reference, Fresno County has more than a 50 year supply while San Fernando Valley/Saugus-Newhall has less than a 10 year supply of aggregates.

Given the aggregate demands and only a 21- to 31-year supply for Tulare County over the next 50 years, the existing supply in the northern portion of the County will only be met with all the existing facilities and/or their expansions. The Applicant's objective of expanding its operations helps Tulare County and the State of California meet this demand in a more locally beneficial and efficient way. Any expansion will help meet the demand, but even with this expansion, the County can only meet its demand for the next 30 years, before other sources of aggregate must ultimately be found.

[5] California Geological Survey, Map Sheet 52 (Updated 2018), Aggregate Sustainability in California 2018. Page 18. Accessed August 2019 at: https://www.calcima.org/files/MS52_Ca_Ag_Report_201807.pdf.
[6] Ibid. 16 through 22.
[7] Ibid. Table 1. 5.

CHAPTER 3
ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

AFFECTED AREA

This chapter discusses the environmental setting (existing conditions and regulatory setting) within which the Safety Element is being evaluated. State CEQA Guidelines Section 15130(b)(1)(B)(3) recommends that the lead agency "define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographical limitation used." The environmental setting for the proposed Deer Creek Mine Expansion (PMR 19-001) is consistent with the environmental setting contained in the EIR prepared for the Deer Creek Rock Project (Surface Mining and Reclamation Plan PMR 14-002 (certified and adopted by the Tulare County Planning Commission on March 11, 2015, via Resolution 9055 including CEQA Findings of Fact and Mitigation Monitoring and Reporting Program).

IMPACT ASSESSMENT UNDER CEQA

CEQA requires an EIR to identify and disclose the significant environmental impacts of a project. State CEQA Guidelines Section 15382 states that significant impacts are those that would result in 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." When the EIR identifies a significant impact, it must identify one or more mitigation measures that would reduce the impact below a level of significance, if possible.

CUMULATIVE IMPACTS

CEQA Guidelines Section 15130 requires that an EIR consider the project's contribution to significant cumulative impacts and determine whether that contribution would be "considerable" (i.e., important or significant). In essence, an EIR must identify those significant cumulative impacts to which the project may contribute, then determine whether there are any mitigation measures that may be applied to the project or pertinent existing mitigation programs to which the project may contribute that would allow the project to avoid contributing to the cumulative effect. If there are no mitigation measures or programs that would avoid the contribution, the project's contribution to the cumulative effect would be considerable.

The Safety Element Update (Update) is an exercise to strengthen and further bolster the County's Safety Element and ensure that it is in compliance with both the Settlement and Government Code. As such, the Update includes background and supporting narrative, policies,

incorporations by reference, and figures (tables and maps). More specifically, the update includes new policy narratives to Sections HS 1 (General), HS 5 (Flood Hazards), HS 6 (Urban and Wildland Fire Hazards), and HS 7 (Emergency Response). Wildland Fire Hazards (in regards to fire threat); and HS 7 Emergency Response (in regards to incorporating the adopted Tulare County Multi-Jurisdiction Hazard Mitigation Plan and Climate Adaptation and Resiliency strategies identified in California Government Code 65302 (g)(4) (as adopted in the Tulare County Multi-Jurisdiction Hazard Mitigation Plan and Tulare County Climate Action Plan into the Tulare County General Plan Health and Safety Element)).

Cumulative impacts will not be affected by this Update. The cumulative impacts are consistent with and identical to those contained within the Tulare County General Plan 2030 Update (adopted August 28, 2012 via Board Resolution 2012-0697) and corresponding Program EIR (certified by the Board on August 28, 2012 via Resolution 2012-0696 including CEQA Findings of Fact, Statement of Overriding Considerations and Mitigation Monitoring and Reporting Program) and are incorporated herein by reference.

Following are determinations, incorporated by reference, that are included in the Tulare County General Plan 2030 Update. Recirculated Draft Environmental Impact Report) pertinent to the Safety Element Update:

Cumulative Impacts Related to Energy and Global Climate Change

> "The energy and climate change impacts of the proposed project are discussed in Section 3.4 [of the Recirculated EIR], "Energy and Global Climate Change". Impacts 3.4.1 and 3.4.2 [of the Recirculated EIR] identify the proposed project's potential impacts to energy consumption as less than significant impacts. However, the amount of energy potentially consumed subsequent to the proposed project is cumulatively considerable. Implementation of new policies ERM-4.7 "Reduce Energy Use in County Facilities" and ERM-4.8 "Energy Efficiency Standards" along with other General Plan policies that aim to reduce energy consumption would reduce these impacts to a less than significant cumulative impact.
>
> Impact 3.4.3 [of the Recirculated EIR] describes the proposed project's potential conflict with the stated goal of reducing greenhouse gas emissions in California to 1990 levels by 2020 and identifies this as a potentially significant impact. Climate change impacts are inherently cumulative in nature. The proposed project plans for growth in the County to occur through 2030. Consequently, the proposed project's greenhouse gas emissions would be cumulatively considerable and would conflict with the greenhouse gas emissions reduction goals of AB 32. While the proposed project would implement a number of policies, including new policies AQ-1.8 "Greenhouse Gas Emissions Reduction Plan/Climate Action Plan", AQ-1.9 "Support Off-Site Measures to Reduce Greenhouse Gas Emissions", and new measures AQ Implementation Measure #16 (County development and maintenance of a climate action plan) and #17 (ongoing inspection of County facilities to evaluate energy use, water conservation effectiveness, etc.), that would reduce greenhouse gas emissions and

assist in meeting the goals of AB 32, the proposed project's contribution to climate change would remain cumulatively considerable."[1]

Cumulative Impacts to Public Service, Recreation and Utilities; Fire Protection and Emergency Medical Services

"Future regional growth would result in increased demand for fire services throughout the County and the greater San Joaquin Valley. As discussed in Section 3.9 [of the Recirculated EIR] "Public Services, Recreation and Utilities", the County will implement a variety of policies designed to address the adequate provision of a variety of public services as part of the proposed project. The analysis contained in Section 3.9 [of the Recirculated EIR] for the proposed project took into consideration the potential growth within the area that would be provided emergency services by the County and no significant impact was identified in regards to the provision of fire protection and emergency medical services. Therefore, the proposed project would not contribute considerably to a significant cumulative impact associated with fire protection and emergency medical services."[2]

Cumulative Impacts to Hydrology, Water Quality and Drainage

"As development proceeds within the County's planning boundary (primarily within CACUDBs [County Adopted City Urban Development Boundaries] with a smaller portion in unincorporated rural areas), additional population would also be exposed to the risk of flooding and increase the amount of impervious surfaces which could affect local hydrologic resources. As mentioned in Section 3.6 [of the Recirculated EIR] "Hydrology, Water Quality, and Drainage", existing regulations and General Plan policies would reduce the risks associated with flooding. However, new development within Tulare County may locate additional population and structures within areas subject to flooding. Although development would be required to comply with regional, State and federal regulations designed to address flooding issues; the proposed project has the potential to contribute considerably to a significant and unavoidable cumulative flooding impact.

Section 3.6 identifies significant unavoidable impacts to groundwater supply, recharge, and secondary impacts to groundwater resources. The proposed project would result in increased demand on groundwater supplies, which come from groundwater basins that are currently in overdraft, have water quality issues, or may be affected by subsidence. The proposed project would contribute considerably to a significant and unavoidable cumulative impact to groundwater supply, recharge, and other secondary impacts to groundwater."[3]

[1] Tulare County General Plan 2030 Update. Recirculated Draft Environmental Impact Report. Pages 5-8; which can be accessed at: http://generalplan.co.tulare.ca.us/documents/GP/002Board%20of%20Supervisors%20Materials/002Resolution%20No.%202012-0696%20(FEIR)/002Exhibit%201.%20FEIR%20Exec.%20Summary%20&%20Chap%201-6/Recirculated%20Draft%20EIR.pdf
[2] Ibid. 5-9.
[3] Op. Cit. 5-11.

Cumulative Impacts Related to Cultural Resources

> "While grading and other construction activities have the potential to impact cultural resources in developing County areas, Draft General Plan policies identified in this RDEIR and compliance with federal and State regulations reduce the project-specific impact to a less-than-significant level. Cultural resources such as historical, archaeological and paleontological resources, throughout the County and the larger San Joaquin Valley region could be cumulatively impacted by future development and related construction activities in the region.
>
> As stated in Section 3.12 [of the Recirculated EIR] "Cultural Resources", the County will continue to ensure that a variety of preservation efforts are implemented (including the new ERM Implementation Measures 56B "Discovery of Archaeological Resources" and 56C "Discovery of Human Remains") for all future development projects to minimize impacts to archaeological resources (as defined in Section 15064.5), paleontological resources, or human remains. Under CEQA, however, any "substantial adverse change in the significance of an historical resource" (e.g., the destruction of such a resource) is considered a significant environmental effect as a matter of law. Because it is possible that, after County decision-makers have approved a development project, grading activities in an area identified for development reveal an archaeological resource meeting the definition of an historical resource, and that such a previously unknown historical resource cannot be preserved or avoided without substantial redesign at significant cost, the County cannot be sure that impacts on all such historical resources can be mitigated to less than significant levels. Consequently, the proposed project has the potential to contribute considerably to a significant and unavoidable cumulative impact to these historic resources. However, similar considerations do not apply to unique archaeological resources or paleontological resources, which therefore can be fully mitigated through data recovery where avoidance or preservation is infeasible or unnecessary. Therefore, implementation of the proposed project including the adoption of the policies listed above would reduce the potential cumulative impact to a less than significant level with respect to human remains and archaeological resources that do not qualify as historical resources.
>
> A variety of historic resources (including above ground buildings, etc.) are also present within the County and surrounding area. Because the proposed project and surrounding development could significantly affect these resources, for which no mitigation may be available to replace the resource, the proposed project has the potential to contribute considerably to a significant and unavoidable cumulative impact to historic resources."[4]

In addition to the analysis regarding Cultural resources contained in the Program EIR prepared for the Tulare County General Plan 2030 Update, the Native American Heritage Commission provided a "negative results" comment regarding their record search of their *Sacred Lands File* on February 27, 2019 (see Appendix "A").

[4] *Op. Cit. t-13.*

CUMULATIVE SETTING

For the purposes of this draft Subsequent Environmental Impact Report (draft Subsequent EIR, draft SEIR, or SEIR), the cumulative setting is consistent with and identical to that contained within the Tulare County General Plan 2030 Update (adopted August 28, 2012 via Board Resolution 2012-0697) and corresponding Program EIR (certified by the Board on August 28, 2012 via Resolution 2012-0696 including CEQA Findings of Fact, Statement of Overriding Considerations and Mitigation Monitoring and Reporting Program) and are incorporated herein by reference.

As noted earlier, the Safety Element Update (Update) is an exercise to strengthen and further bolstered the County's Safety Element and ensure that it is in compliance with both the Settlement and Government Code. As such, the Update includes background and supporting narrative, policies, incorporations by reference, and figures (tables and maps).

PERTINENT CASE LAW

CEQA case law provides additional guidance for cumulative impact analysis. Pertinent cases are listed below. Details on these cases can be found at the California Environmental Resources Evaluation System (CERES) website (2016). The cased listed below are current as contained in the Practice Under the Environmental Quality Act, 2d: 2016 Update.

REASONABLENESS AND PRACTICALITY

In *Kings County Farm Bureau v. City of Hanford* (1990) (221 Cal.App.3d 692), the court held that the scope of a cumulative impacts analysis must be broad enough to provide an estimation of the severity of the problem. The court stated that it is "vitally important that an EIR avoid minimizing the cumulative impacts. Rather, it must reflect a conscientious effort to provide public agencies and the general public with adequate and relevant detailed information about them." When faced with the question of whether to include other projects that contribute to the cumulative effect, the court found that "[t]he primary determination is whether it was reasonable and practical to include the projects and whether, without their inclusion, the severity and significance of the cumulative impacts were reflected adequately. (151 Cal.App.3d pp. 74–77, 198 Cal.Rptr. 634.) 'The disparity between what was considered and what was known is the basis upon which we find an abuse of discretion.' (Id. at p. 77, 198 Cal.Rptr. 634.)."

COMPREHENSIVENESS

In *Citizens to Preserve the Ojai v. County of Ventura* (1985) (176 Cal.App.3d 421), the court found inadequate the cumulative air quality impact analysis of an EIR that relied on an earlier analysis that excluded outer continental shelf data from its evaluation. The pertinent air quality management plan contained information that suggested that outer continental shelf emissions would affect onshore air quality. The court held that "[a]lthough the County was not required to

engage in sheer speculation as to future environmental consequences, the EIR was required to set forth and explain the basis for any conclusion that analysis of the cumulative impact of offshore emissions was wholly infeasible or speculative." Understating information concerning the severity and significance of cumulative impacts "impedes meaningful public discussion and skews the decision-maker's perspective concerning the environmental consequences of the project, the necessity for mitigation measures, and the appropriateness of project approval." The court concluded that "assuming a sophisticated technical analysis was not feasible, if some reasonable, albeit less exacting analysis of the onshore impact of outer continental shelf emissions could be performed, the County was required to do so and report the results. Furthermore, if a less exacting analysis yielding facts indicating the cumulative impact of outer continental shelf emissions was not significant, the EIR was required to at least briefly state and explain such conclusion."

CURRENT INFORMATION

In *Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners* (2000) (111 Cal.Rptr.2d 598), the court examined the EIR prepared by the Port of Oakland (Port) for a proposed expansion of Oakland International Airport. The court determined that the Port's use of outdated air quality data in the face of available newer data "was not a good faith effort to inform decision makers and the public about the increase in TAC [toxic air contaminants] that will occur as a consequence of the Airport expansion." The court also criticized the EIR's conclusion that there was no approved standardized protocol for assessing the health risks associated with mobile source emissions of TACs when evidence of such a protocol had been submitted to the Port. The court found that "[t]he fact that a single methodology does not currently exist that would provide the Port with a precise, or 'universally accepted,' quantification of the human health risk from TAC exposure does not excuse the preparation of any health risk assessment – it requires the Port to do the necessary work to educate itself about the different methodologies that *are* available" (italics in original). The court went on to cite State CEQA Guidelines Section 15144, which states that "[w]hile forecasting the unforeseeable is not possible, *an agency must use its best efforts to find out and disclose all that it reasonably can*" (italics in original). The EIR cannot simply label an effect significant without accompanying analysis of the project's impact.

ENVIRONMENTAL SETTING

State CEQA Guidelines Section 15125(c) states that "[k]nowledge of the regional setting is critical to the assessment of environmental impacts. Special emphasis should be placed on environmental resources that are rare or unique to that region and would be affected by the project. The EIR must demonstrate that the significant environmental impacts of the proposed project were adequately investigated and discussed and it must permit the significant effects of the project to be considered in the full environmental context."

For the purposes of this draft SEIR, the environmental setting is consistent with and identical to that contained within the Tulare County General Plan 2030 Update (adopted August 28, 2012 via

Board Resolution 2012-0697) and corresponding Program EIR (certified by the Board on August 28, 2012 via Resolution 2012-0696 including CEQA Findings of Fact, Statement of Overriding Considerations and Mitigation Monitoring and Reporting Program) and are incorporated herein by reference.

As noted earlier, the Safety Element Update (Update) is an exercise to strengthen and further bolster the County's Safety Element and ensure that it is in compliance with both the Settlement and Government Code. As such, the Update includes background and supporting narrative, policies, incorporations by reference, and figures (tables and maps).

MITIGATION MEASURES

CEQA requires an EIR to identify feasible mitigation measures that would substantially lessen the project's impacts (Public Resources Code [PRC] 21002). Formulating mitigation measures cannot be deferred until some future time, but measures "may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way" (State CEQA Guidelines Section 15126.4). An EIR must disclose any significant impacts that may result from a mitigation measure itself, but it does not need to discuss those impacts in as much detail as the significant impacts of the project (State CEQA Guidelines Section 15126.4). Adopted mitigation measures must be enforceable (PRC 21081.6). If one or more significant impacts cannot be feasibly mitigated, the project may nevertheless be approved with a statement of overriding considerations (PRC 21002.1; State CEQA Guidelines Section 15093).

As noted earlier, the Safety Element Update (Update) is an exercise to strengthen and further bolster the County's Safety Element and ensure that it is in compliance with both the Settlement and Government Code. As such, the Update includes background and supporting narrative, policies, incorporations by reference, and figures (tables and maps).

For the purposes of this Supplement Environmental Impact Report (SDEIR), the mitigation measures contained in the Tulare County General Plan 2030 Update (adopted August 28, 2012 via Board Resolution 2012-0697) and corresponding Program EIR (certified by the Board on August 28, 2012 via Resolution 2012-0696 including CEQA Findings of Fact, Statement of Overriding Considerations and Mitigation Monitoring and Reporting Program) and are incorporated herein by reference.

MITIGATION MEASURES FOR CUMULATIVE IMPACTS

This project will not require additional mitigation measures beyond those contained in the Tulare County General Plan 2030 Update (adopted August 28, 2012 via Board Resolution 2012-0697) and corresponding Program EIR (certified by the Board on August 28, 2012 via Resolution 2012-0696 including CEQA Findings of Fact, Statement of Overriding Considerations and Mitigation Monitoring and Reporting Program) and are incorporated herein by reference.

As noted earlier, and to reiterate, the Safety Element Update (Update) is an exercise to strengthen and further bolster the County's Safety Element and ensure that it is in compliance with both the Government Code and Settlement. As such, the Update includes background and supporting narrative, policies, incorporations by reference, and figures (tables and maps).

THRESHOLDS OF SIGNIFICANCE

The same thresholds of significance contained in Tulare County General Plan 2030 Update (adopted August 28, 2012 via Board Resolution 2012-0697) and corresponding Program EIR (certified by the Board on August 28, 2012 via Resolution 2012-0696 including CEQA Findings of Fact, Statement of Overriding Considerations and Mitigation Monitoring and Reporting Program) and are incorporated herein by reference.

METHODOLOGY

This Update does not propose nor use any new, revised, or otherwise different methodologies that were used in the Tulare County General Plan 2030 Update (adopted August 28, 2012 via Board Resolution 2012-0697) and corresponding Program EIR (certified by the Board on August 28, 2012 via Resolution 2012-0696 including CEQA Findings of Fact, Statement of Overriding Considerations and Mitigation Monitoring and Reporting Program) and are incorporated herein by reference.

Air Quality
Chapter 4.1

SUMMARY OF FINDINGS

Based on the impact analysis below, potential impacts to air quality as a result of the proposed Project are determined to be ***Less Than Significant With Mitigation***. The impact determinations in this chapter are based upon information obtained from the References listed at the end of this chapter and in the "*Air Quality and Greenhouse Gas Analysis Report Deer Creek Mine Expansion Project Tulare County, California.*" (AQ-GHG Report) prepared by consultant Mitchell Air Quality Consulting for this Project, which is included in Appendix "A" of this document. A detailed review of potential impacts is provided in the analysis below.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

This section of the Subsequent Environmental Impact Report (SEIR) addresses potential impacts to Air Quality. As required in CEQA Guidelines Section 15126, all phases of the proposed Project will be considered as part of the potential environmental impact.

As noted in CEQA Guidelines Section 15126.2(a), "An EIR shall identify and focus on the significant effects of the proposed project on the environment. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the project might cause or risk exacerbating by bringing development and people into the area affected. For example, the EIR should evaluate any potentially significant direct, indirect, or cumulative environmental impacts of locating development in areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas), including both short-term and long-term conditions, as identified in authoritative hazard maps, risk assessments or in land use plans addressing such hazards areas."[1]

[1] CEQA Guidelines, Section 15126.2(a).

The "Environmental Setting" provides a description of the Air Quality in the County. The "Regulatory Setting" provides a description of applicable Federal, State and Local regulatory policies that were developed in part from information contained in the Tulare County General Plan 2030 Update (General Plan), Tulare County General Plan 2030 Update Background Report (Background Report), and/or Tulare County General Plan 2030 Update Recirculated Draft Environmental Impact Report (RDEIR) incorporated by reference and summarized below. Additional documents utilized are noted as appropriate. A description of the potential impacts of the Project is provided and includes the identification of feasible mitigation measures (if necessary and feasible) to avoid or lessen the impacts.

Thresholds of Significance

The thresholds of significance for this section are established by the CEQA Checklist Item questions and by the San Joaquin Valley Unified Air Pollution Control District (Air District or SJVAPCD) significance thresholds identified in their guidance document *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI).[2] The following are potential thresholds for significance.

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

ENVIRONMENTAL SETTING

San Joaquin Valley Air Basin (SJVAB)

"Tulare County falls within the southern portion of the San Joaquin Valley Air Basin (SJVAB), which is bordered on the east by the Sierra Nevada range, on the west by the Coast Ranges, and on the south by the Tehachapi Mountains. These features restrict air movement through and out of the SJVAB.

The topography of Tulare County significantly varies in elevation from its eastern to western borders, which results in large climatic variations that ultimately affect air quality. The western portion of the County is within the low-lying areas of the SJVAB. This portion of the County is

[2] San Joaquin Valley Unified Air Pollution Control District (Air District). Guidance for Assessing and Mitigating Air Quality Impacts. (GAMAQI). Accessed August 2019 at: http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf.

much dryer in comparison to the eastern portion that is located on the slopes of the Sierra Nevada Mountains. The higher elevation contributes to both increased precipitation and a cooler climate.

Wind direction and velocity in the eastern section varies significantly from the western portion of the County. The western side receives northwesterly winds. The eastern side of the County exhibits more variable wind patterns, but the wind direction is typically up-slope during the day and down-slope in the evening. Generally, the wind direction in the eastern portion of the County is westerly; however terrain differences can create moderate directional changes."[3]

Generally, the temperature of air decreases with height, creating a gradient from warmer air near the ground to cooler air at elevation. This gradient of cooler air over warm air is known as the environmental lapse rate. Inversions occur when warm air sits over cooler air, trapping the cooler air near the ground. These inversions trap pollutants from dispersing vertically and the mountains surrounding the San Joaquin Valley trap the pollutants from dispersing horizontally. Strong temperature inversions occur throughout the San Joaquin Valley Air Basin in the summer, fall, and winter. Daytime temperature inversions occur at elevations of 2,000 to 2,500 feet above the San Joaquin Valley floor during the summer and at 500 to 1,500 feet during the winter. The result is a relatively high concentration of air pollution in the valley during inversion episodes. These inversions cause haziness, which in addition to moisture may include suspended dust, a variety of chemical aerosols emitted from vehicles, particulates from wood stoves, and other pollutants. In the winter, these conditions can lead to carbon monoxide "hotspots" along heavily traveled roads and at busy intersections. During summer's longer daylight hours, stagnant air, high temperatures, and plentiful sunshine provide the conditions and energy for the photochemical reaction between reactive organic gases (ROG) and oxides of nitrogen (NOx), which results in the formation of ozone.[4]

"The SJVAB is highly susceptible to pollutant accumulation over time due to the transport of pollutants into the SJVAB from upwind sources. Stationary emission sources in the County include the use of cleaning and surface coatings and industrial processes, road dust, local burning, construction/demolition activities, and fuel combustion. Mobile emissions are primarily generated from the operation of vehicles. According to air quality monitoring data, the SJVAB has been in violation for exceeding ozone and PM10 emission standards for many years."[5] As of August 2019 the SJVAB is in nonattainment for federal and state ozone and $PM_{2.5}$ standards, attainment for federal PM_{10} standards, and nonattainment for state PM_{10} standards.[6]

Existing Conditions Overview

"Unlike other air basins in California, the pollution in the San Joaquin Valley Air Basin (SJVAB) is not produced by large urban areas. Instead, emissions are generated by many moderate sized

[3] Tulare County General Plan 2030 Update RDEIR. Page 3.3-9.

[4] Air District. GAMAGI. Chapter 2; and Air Quality Guidelines for General Plan, Chapter 2, http://www.valleyair.org/transportation/Entire-AQGGP.pdf. Accessed August 2019.

[5] Tulare County General Plan 2030 Update RDEIR. Page 3.3-9

[6] Air District. Ambient Air Quality Standards & Valley Attainment Status. http://www.valleyair.org/aqinfo/attainment.htm. Accessed August 2019.

communities and rural uses. Emission levels in the Central Valley have been decreasing overall since 1990. This can be primarily attributed to motor vehicle emission controls that reduce the amount of vehicle emissions and controls on industrial/stationary sources. In spite of these improvements, the San Joaquin Valley is still identified as having some of the worst air quality in the nation.

The main source of CO and NO_x emissions is motor vehicles. The major contributors to ROG emissions are mobile sources and agriculture. ROG emissions from motor vehicles have been decreasing since 1985 due to stricter standards, even though the vehicle miles have been increasing. Stationary source regulations implemented by the SJVAPCD have also substantially reduced ROG emissions. ROG from natural sources (mainly from trees and plants) is the largest source of this pollutant in Tulare County. Atmospheric modeling accomplished for recent ozone planning efforts has found that controlling NO_x is more effective at reducing ozone concentrations than controlling ROG. However, controls meeting RACT and BACT are still required for SJVAPCD plans.

The SJVAB has been ranked the 2nd worst in the United States for O_3 levels, even though data shows that overall O_3 has decreased between 1982 and 2001.

Direct PM10 emissions have decreased between the years 1975 and 1995 and have remained relatively constant since 2000. The main sources of PM_{10} in the SJVAB are from vehicles traveling on unpaved roads and agricultural activities. Regional Transportation Planning Agencies must implement BACM for sources of fine particulate matter (PM10) to comply with federal attainment planning requirements for PM10."[7]

SJVAB Attainment Status

The United States Environmental Protection Agency (EPA) and the California Air Resources Board (ARB or CARB) designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." The federal non-attainment designation is subdivided into five categories (listed in order of increasing severity): marginal, moderate, serious, severe, and extreme. The degree of an area's non-attainment status reflects the extent of the pollution and the expected time period required in order to achieve attainment.

Designated non-attainment areas are generally subject to more stringent review by ARB and EPA. In the endeavor to improve air quality to achieve the standards, projects are subject to more stringent pollution control strategies and requirements for mitigation measures (such as mobile source reduction measures). If the National Ambient Air Quality Standards (NAAQS) are not achieved within the specified timeframe, federal highway funding penalties (and a federally administered implementation plan incorporating potentially harsh measures to achieve the NAAQS) will result.

[7] Tulare County 2030 General Plan 2030 Update. Part 1 Goals and Policies Report. Pages 9-4 to 9-5.

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

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

The current attainment designations for the Air Basin are shown in Table 5 [of the AQ-GHG Report, **Table 4.1-1** in this Draft SEIR]. The Air Basin is designated nonattainment for ozone, PM_{10}, and $PM_{2.5}$."[8]

Table 4.1-1 identifies the current federal and state attainment designations for the SJVAB while **Table 4.1-2** summarizes the ambient air quality standards from which the federal and state attainment status are derived. **Table 4.1-3** summarizes the common sources, health effects, and methods for prevention and control of criteria pollutant emissions.

Table 4.1-1
SJVAB Attainment Status

	Designation Classification	
Pollutant	**Federal Standards**	**State Standards**
Ozone – one hour	No Federal Standard[1]	Nonattainment/Severe
Ozone – eight hour	Nonattainment/Extreme[2]	Nonattainment
PM_{10}	Attainment[3]	Nonattainment
$PM_{2.5}$	Nonattainment[4]	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Lead (Particulate)	No Designation/Classification	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Vinyl Chloride	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified

[8] *"Air Quality and Greenhouse Gas Analysis Report Deer Creek Mine Expansion Project Tulare County, California."* (AQ-GHG Report) October 2019. Page 30. Prepared by consultant Mitchell Air Quality Consulting and included in Appendix "A" of this Draft SEIR.

Table 4.1-1
SJVAB Attainment Status

1 Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the federal 1-hour ozone standard, including associated designations and classifications. However, EPA had previously classified the SJVAB as extreme nonattainment for this standard. Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.

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

3 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.

4 The Valley is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the Valley as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009).

Source: San Joaquin Valley Unified Air Pollution Control District. Ambient Air Quality Standards & Valley Attainment Status. http://www.valleyair.org/aqinfo/attainment.htm.

Table 4.1-2
State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM_{10})[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		-		
Fine Particulate Matter ($PM_{2.5}$)[9]	24 Hour	---	---	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12 µg/m^3	15.0 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	---	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 µg/m^3 (10 mg/m^3)	---	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		---	---	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemilumi-nescence	100 ppb (188 µg/m^3)	Same as Primary Standard	Gas Phase Chemilumi-nescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)		
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	---	Ultraviolet Flourescence; Spectrophoto-metry (Pararo-saniline Method)
	3 Hour	---		---	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)	---	

Table 4.1-2
State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
	Annual Arithmetic Mean	---		0.030 ppm (for certain areas)	---	
Lead[12, 13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	---	---	High Volume Sampler and Atomic Absorption
	Calendar Quarter	---		1.5 µg/m^3 (for certain areas)	Same as Primary Standard	
	Rolling 3-Month Average	---		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	ARB converted visibility standards to instrumental equivalents in 1989	Beta Attenuation and Transmittance through Filter Tape	**No National Standards**		
Sulfates	24 Hour	25 µg/m3	Ion Chromatography			
Hydrogen Sulfide (H_2S)	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

1 California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health

6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7 Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

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

9 On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m3 to 12.0 µg/m3. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 µg/m3, as was the annual secondary standard of 15 µg/m3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10 To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

Table 4.1-2
State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]

11 On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12 The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13 The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14 In 1989, the ARB converted both the general statewide 10-mile visibility standard 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.

Source: California Air Resources Board. Ambient Air Quality Standards.
https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf?_ga=2.37139495.687085110.1562705746-1292949104.1524090547. .Accessed July 2019

Table 4.1-3
Air Pollutant Sources, Effects and Control

Pollutant	Sources	Effects	Prevention and Control
Ozone (O_3)	Formed when reactive organic gases (ROG) and nitrogen oxides react in the presence of sunlight. ROG sources include any source that burns fuels, (e.g., gasoline, natural gas, wood, oil) solvents, petroleum processing and storage and pesticides.	Breathing Difficulties, Lung Tissue Damage, Damage to Rubber and Some Plastics	Reduce motor vehicle reactive organic gas (ROG) and nitrogen oxide emissions through emissions standards, reformulated fuels, inspections programs, and reduced vehicle use. Limit ROG emissions from commercial operations and consumer products. Limit ROG and NOx emissions from industrial sources such as power plants and refineries. Conserve energy.
Respirable Particulate Matter (PM_{10})	Road Dust, Windblown Dust (Agriculture) and Construction (Fireplaces) Also formed from other pollutants (acid rain, NOx, SOx, organics). Incomplete combustion of any fuel.	Increased Respiratory Disease, Lung Damage, Cancer, Premature Death, Reduced Visibility, Surface Soiling	Control Dust Sources, Industrial Particulate Emissions, Wood Burning Stoves and Fireplaces Reduce secondary pollutants which react to form PM_{10}. Conserve energy.
Fine Particulate Matter ($PM_{2.5}$)	Fuel Combustion in Motor Vehicles, Equipment and Industrial Sources, Residential and Agricultural Burning. Also formed from reaction of other pollutants (acid rain, NOx, SOx, organics).	Increases Respiratory Disease, Lung Damage, Cancer, Premature Death, Reduced Visibility, Surface Soiling	Reduces Combustion Emissions from Motor Vehicles, Equipment, Industries and Agriculture and Residential Burning. Precursor controls, like those for ozone, reduce fine particle formation in the atmosphere.
Carbon Monoxide (CO)	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.	Chest Pain in Heart Patients, Headaches, Reduced Mental Alertness	Control motor vehicle and industrial emissions. Use oxygenated gasoline during winter months. Conserve energy.
Nitrogen Dioxide (NO_2)	See Carbon Monoxide	Lung Irritation and Damage. Reacts in the atmosphere to form ozone and acid rain	Controls motor vehicle and industrial combustion emissions. Conserve energy.

Table 4.1-3
Air Pollutant Sources, Effects and Control

Pollutant	Sources	Effects	Prevention and Control
Lead	Metal Smelters, Resource Recovery, Leaded Gasoline, Deterioration of Lead Paint	Learning Disabilities, Brain and Kidney Damage	Control metal smelters, no lead in gasoline. Replace leaded paint with non-lead substitutes.
Sulfur Dioxide (SO_2)	Coal or Oil Burning Power Plants and Industries, Refineries, Diesel Engines	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Reduces the use of high sulfur fuels (e.g., use low sulfur reformulated diesel or natural gas). Conserve energy.
Visibility Reducing Particles	See $PM_{2.5}$	Reduces visibility (e.g., obscures mountains and other scenery), reduced airport safety, lower real estate value, discourages tourism.	See $PM_{2.5}$
Sulfates	Produced by the reaction in the air of SO_2 (see SO_2 sources), a component of acid rain.	Breathing Difficulties, Aggravates Asthma, Reduced Visibility	See SO_2
Hydrogen Sulfide	Geothermal Power Plants, Petroleum Production and Refining, Sewer Gas	Nuisance Odor (Rotten Egg Smell), Headache and Breathing Difficulties (Higher Concentrations)	Control emissions from geothermal power plants, petroleum production and refining, sewers, sewage treatment plants.

Sources: California Air Resources Board. ARB Fact Sheet: Air Pollution Sources, Effects and Control. Accessed July 2019 at https://www.arb.ca.gov/research/health/fs/fs2/fs2.htm. See also Table 1 of the Air Quality and Greenhouse Gas Report (Appendix A of this EIR).

Toxic Air Contaminants

"A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. The California Almanac of Emissions and Air Quality presents the relevant concentration and cancer risk data for the 10 TACs that pose the most substantial health risk in California based on available data. The 10 TACs are acetaldehyde, benzene, 1.3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (DPM).

Some studies indicate that DPM poses the greatest health risk among the TACs listed above. A 10-year research program (ARB 1998) demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. In addition to increased risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause a cough, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

DPM differs from other TACs in that it is not a single substance, but a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies, depending on: engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TACs, however, no ambient monitoring data are available for DPM because no routine measurement method currently exists. The ARB has made preliminary concentration estimates based on a DPM exposure method. This method uses the ARB emissions inventory's PM10 database, ambient PM10 monitoring data, and the results from several studies to estimate concentrations of DPM.

Health risks attributable to the top 10 TACs listed above are available from the ARB as part of its California Almanac of Emissions and Air Quality—2009 Edition (ARB 2009b). As shown therein for data collected at the First Street air monitoring station in Fresno, cancer risks attributable to all of the listed TACs above with the exception of DPM have declined about 70 percent from the mid-1990s to 2007. Risks associated with DPM emissions are provided only for the year 2000 and have not been updated in the Almanac. Although more recent editions of the Almanac do not provide estimated risk, they do provide emission inventories for DPM for later years. The 2013 Almanac provides emission inventory trends for DPM from 2000 through 2035. The same Almanac reports that DPM emissions were reduced in the SJVAB from 16 tons per day in 2000 to 11 tons per day in 2010, a 31 percent decrease. DPM emissions in the San Joaquin Valley are projected to decrease to six tons per day by 2015, a 62 percent reduction from year 2000 levels. ARB predicts a reduction to three tons per day by 2035, which would be an 81 percent reduction from year 2000 levels. Continued implementation of the ARB's Diesel Risk Reduction Plan is expected to provide continued reductions in DPM through 2020 and beyond through regulations on this source (ARB 2013b)."[9]

Table 4.1-4 summarizes the common health effects of acute (short-term) and chronic (extended or long-term) exposure to potential TAC emissions associated with fugitive dust resulting from aggregate processing.

Table 4.1-4
Health Effects of Aggregate Processing Related Fugitive Dust

TAC	Exposure and Health Effects
Aluminum	Eye irritation with acute exposure; shortness of breath, weakness, cough with chronic exposure
Arsenic	Death with high levels of exposure; discoloration of skin and appearance of small corns or warts with chronic exposure
Beryllium	Beryllium disease, resembling pneumonia or bronchitis, with high levels of exposure; Chronic beryllium disease including inflammation and scarring of the lungs and beryllium-related granulomas (non-cancerous tumors or growth); Beryllium is a known human carcinogen and exposure has increased risk of lung cancer.
Cadmium	Highly toxic and exposure is known to cause cancer and targets the body's cardiovascular, renal, gastrointestinal, neurological, reproductive, and respiratory systems
Chromium	Respiratory effects including shortness of breath, coughing, and wheezing with acute exposure; Perforations and ulcerations of the septum, bronchitis, decreased pulmonary function, pneumonia, and

[9] AQ-GHG Report. October 2019. Pages 21-22. The AQ & GHG Report is included in Appendix "A" of this SEIR.

Table 4.1-4
Health Effects of Aggregate Processing Related Fugitive Dust

TAC	Exposure and Health Effects
	other respiratory effects with chronic exposure; Inhaled chromium (VI) is a human carcinogen, resulting in an increased risk of lung cancer
Cobalt	Risk of cancer; Magnitude of the health risk depends on the quantity involved and on exposure conditions such as length of exposure, distance from the source (for external exposure), and whether the cobalt was ingested or inhaled
Copper	At high doses can cause stomach and intestinal distress, liver and kidney damage, and anemia; persons with Wilson's disease at higher risk of health effects
Manganese	Effects on the brain and central nervous system including permanent damage with impaired neurological and neuromuscular control, mental and emotional disturbances, muscle stiffness, lack of coordination, tremors, difficulties with breathing or swallowing, and other neuromuscular problems.; may also impair male fertility and result in birth defects such as cleft palate and impaired bone development
Nickel	Nickel dermatitis consisting of itching of the fingers, hands, and forearms from chronic exposure; Increased risk of lung and nasal cancers from inhalation and possible lung tumors from soluble nickel compounds; Nickel refinery dust and nickel subsulfide are classified as humancarcinogens
Selenium	Acute exposure to elemental selenium, hydrogen selenide, and selenium dioxide through inhalation results irritation of the mucous membranes, pulmonary edema, severe bronchitis, and bronchial pneumonia; Chronic exposure to high levels of selenium in food and water results in discoloration of the skin, pathological deformation and loss of nails, loss of hair, excessive tooth decay and discoloration, lack of mental alertness, and listlessness; Selenium sulfide classified as probable human carcinogen
Zinc	Excess zinc can be harmful and suppresses copper and iron absorption;.Free zinc ion in solution is highly toxic to plants, invertebrates, and vertebrate fish.
Crystalline Silica	Crystalline silica is classified as a human lung carcinogen; Inhalation can cause silicosis which causes scar tissue in the lungs and reduces ability to take in oxygen; Acute silicosis occurs after few months to 2 years of exposure to extremely high concentrations and symptoms include severe disabling shortness of breath, weakness, weight loss, and death; Accelerated silicosis occurs 5-10 years after high exposure with symptoms including shortness of breath, weakness, and weight loss (onset takes longer than acute silicosis); Chronic silicosis occurs after 15-20 years of low to moderate exposure with symptoms including shortness of breath, clinical signs of poor oxygen/carbon dioxide exchange, fatigue, chest pain, and respiratory failure.

Source: AQ-GHG Report (included in Appendix "A" of this SEIR). Pages 22-25.

Asbestos

"Asbestos is the name given to a number of naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The three most common types of asbestos are chrysotile, amosite, and crocidolite. Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States. Exposure to asbestos is a health threat; exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest, and abdominal cavity), and asbestosis (a non-cancerous lung disease that causes scarring of the lungs). Exposure to asbestos can occur during demolition or remodeling of buildings that were constructed prior to the 1977 ban on asbestos for use in buildings. Exposure to naturally occurring asbestos can occur during soil-disturbing activities in areas with deposits present."[10]

[10] Ibid. 26

Air Quality Conditions in Tulare County

Tulare County lies within the southern portion of the SJVAB. Topography and climate are unusually favorable for the development of air pollution, especially in the southern portion of the air basin where pollutants build up against the Tehachapi Mountains. Due to the SJVAB's light wind patterns, long periods of warm and sunny days, and surrounding mountains, air quality problems can occur at any time of the year.

Existing local air quality conditions can be characterized by reviewing air pollution concentration data near the Project area for comparison with the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). Air samples are collected continuously for some pollutants and periodically for other pollutants depending on the type of monitoring equipment installed. Monitoring sites are usually chosen to be representative of the emissions in a community. There are currently 39 air monitoring stations in the SJVAB, which include 24 stations operated by the Air District, one (1) station operated jointly by the Air District and the ARB, nine (9) stations operated by the ARB, two (2) stations operated by the National Park Service, and three (3) stations operated on Native American tribal lands.[11] Of these, there are currently five (5) stations in Tulare County: Visalia–Airport; Visalia–Church; Porterville; Sequoia National Park–Lower Kaweah; and Sequoia National Park–Ash Mountain. However, CO and SO_2 are not collected in these five stations, so the next closest monitor with those emissions must be identified.

For the purposes of background data and this air quality assessment, this analysis relied on data collected in the last available four-year period for the monitoring stations that are located in the closest proximity to the Project site. **Table 4.1-5** provides the background concentrations for ozone, particulate matter of 10 microns (PM_{10}), particulate matter of less than 2.5 microns ($PM_{2.5}$), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb) as of August 2019. Since each monitoring site does not monitor all criteria pollutants information is provided from two separate monitoring sites, Visalia – N Church Street and Porterville – Newcomb St. monitoring stations for years 2015 through 2018. No data is available for carbon monoxide, hydrogen sulfide, vinyl chloride or other toxic air contaminants in Tulare County or any nearby counties.

Based on the air monitoring data from these three stations two measured air pollutants, ozone and particulate matter, have generally exceeded state air quality standards. The amount over the standards and the number of days each year that the standards were exceeded provide an indicator of the severity of the air quality problems in the local area.

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

[11] Air District. 2019 Air Monitoring Network Plan. Pages 1-2. https://valleyair.org/aqinfo/Docs/2019-Air-Monitoring-Network-Plan.pdf. Accessed July 2019.

to concentrations in the air. As the SJVAB is in nonattainment at the federal level for ozone and PM2.5, the discussion below includes only those emissions with respect to the AQI. **Table 4.1-6** and **Table 4.1-7** provide a description of the health impacts of ozone and $PM_{2.5}$, respectively, at different concentrations.

The AQ-GHG Report provided air quality monitoring data for year 2015-2017; RMA staff accessed the same data source used in the AQ-GHG Report to provide year 2018 data as year 2018 data was not available when the AQ-GHG Report was completed. As noted in the AQ-GHG Report, "The local air quality can be evaluated by reviewing relevant air pollution concentrations near the project area. Table 2 [of the AQ-GHG Report, **Table 4.1-5** of this draft SEIR] summarizes 2015 through 2017 published monitoring data, which is the most recent three-year period available. The table displays data from the Porterville-Newcomb Street monitoring station (located approximately 5.8 miles west of the project site), which is the closest monitoring station to the project site and the Visalia-Church Street monitoring station located approximately 30 miles northwest of the project site for other pollutants not monitored at the Porterville site. The data shows that during the past few years, the project area has exceeded the standards for ozone (state and national), PM_{10} (state), and $PM_{2.5}$ (national). The data in the table reflects the concentration of the pollutants in the air, measured using air monitoring equipment. This differs from emissions, which are calculations of a pollutant being emitted over a certain period. No recent monitoring data for Tulare County or the San Joaquin Valley Air Basin was available for CO or SO_2. Generally, no monitoring is conducted for pollutants that are no longer likely to exceed ambient air quality standards."[12]

Table 4.1-5
Air Quality Monitoring Summary 2015 - 2018

Air Pollutant	Averaging Time	Item	2015 [6]	2016 [6]	2017 [6]	2018 [7]
Ozone (O_3) [1]	1-hour	Max 1-hour (ppm)	0.110	0.106	0.100	0.093
		Days > State Standard (0.09 ppm)	4	9	4	0
	8-hour	State Max 8-hour (ppm)	0.091	0.092	0.090	0.085
		Days > State Standard (0.07 ppm)	42	81	34	38
		Days > National Standard (0.07 ppm)	41	80	34	36
Carbon monoxide (CO) [2]	8-hour	Max 8-hour (ppm)	ND	ND	ND	ND
		Days > State Standard (9.0 ppm)	ND	ND	ND	ND
		Days > National Standard (9 ppm)	ND	ND	ND	ND
Nitrogen dioxide (NO_2) [3]	Annual	Annual Average (ppm)	0.009	ID	0.010	0.010
	1-hour	Max 1-hour (ppm)	0.0623	0.0575	0.0581	0.0692
		Days > State Standard (0.18 ppm)	0	0	0	0
		1-Hour 98th Percentile	0.046	0.046	0.056	0.053
		Exceedance of the National Standard (0.10 ppb)	No	No	No	No
Sulfur dioxide (SO_2) [4]	Annual	Annual Average (ppm)	ND	ND	ND	ND
	24 Hour	Max 24-hour (ppm)	ND	ND	ND	ND
		Day > State Standard (0.04 ppm)	ND	ND	ND	ND
	Annual	Annual Average (μg/m^3)	28.9	43.3	47.4	52.5

[12] AQ-GHG Report. Page 26.

Table 4.1-5
Air Quality Monitoring Summary 2015 - 2018

Air Pollutant	Averaging Time	Item	2015 [6]	2016 [6]	2017 [6]	2018 [7]
Inhalable coarse particles (PM_{10}) [3]	24 hour	24-hour (µg/m^3)	67	95	144.8	153.4
		Days > State Standard (50 µg/m3)	50.3	61.3	135.9	164.4
		Days > National Standard (150 µg/m^3)	0	0	0	0
Fine particulate matter ($PM_{2.5}$) [3,5]	Annual	Annual Average (µg/m^3)	13.0	11.6	13.2	17.3
	24-hour	24-hour (µg/m^3)	86.3	48.0	86.1	86.8
		Days > National Standard (35 µg/m^3)	17.9	21.3	26.7	42.3

Abbreviations: ppm = parts per million; > = exceeded; µg/m^3= micrograms per cubic meter; ID = insufficient data; ND = no data; max = maximum

State Standard = CAAQS; National Standard = NAAQS

[1] Data from Porterville station
[2] 2012 was the last year of data available for this pollutant.
[3] Data from Visalia-N Church station
[4] 2013 was the last year of data available for this pollutant
[5] Porterville station monitors this pollutant; however, there is not enough information from that station to report national data. The data presented is the next nearest station that has sufficient data.
[6] Data from Table 2 of the Air Quality and Greenhouse Gas Report (included in Appendix "A" of this EIR)
[7] Data from California Air Resources Board. Top 4 Summary. http://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed August 2019.

As further noted in the AQ-GHG Report, "The health impacts of the various air pollutants of concern can be presented in a number of ways. The clearest of these is comparable with the state and federal ozone standards. If concentrations are below the standard, it is safe to say that no health impact would occur to anyone. When concentrations exceed the standard, impacts will vary based on the amount by which the standard is exceeded. The EPA developed the Air Quality Index (AQI) as an easy-to-understand measure of health impacts compared with concentrations in the air. Table 3 [of the AQ-GHG Report, **Table 4.1-6** of the Draft SEIR] provides a description of the health impacts of ozone at different concentrations."[13]

Table 4.1-6
Air Quality Index and Health Effects of Ozone

Air Quality Index/ Ozone Concentration	Health Effects Description
AQI 0-50 – Good Concentration 0-54 ppb	Sensitive Groups: Children and people with asthma are the groups most at risk.
	Health Effects Statements: None
	Cautionary Statements: None
AQI 51-100 – Moderate Concentration 55-70 ppb	Sensitive Groups: Children and people with asthma are the groups most at risk.
	Health Effects Statements: Unusually sensitive individuals may experience respiratory symptoms.
	Cautionary Statements: Unusually sensitive people should consider limiting prolonged outdoor exertion.
	Sensitive Groups: Children and people with asthma are the groups most at risk.

[13] AQ-GHG Report. Page 27.

AQI 101-150 – Unhealthy for Sensitive Groups Concentration 71-85 ppb	Health Effects Statements: Increasing likelihood of respiratory symptoms and breathing discomfort in active children and adults and people with respiratory disease, such as asthma.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
AQI 151-200 – Unhealthy Concentration 86-105 ppb	Sensitive Groups: Children and people with asthma are the groups most at risk.
	Health Effects Statements: Greater likelihood of respiratory symptoms and breathing difficulty in active children and adults and people with respiratory disease, such as asthma; possible respiratory effects in general population.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
AQI 201-300 – Very Unhealthy Concentration 106-200 ppb	Sensitive Groups: Children and people with asthma are the groups most at risk.
	Health Effects Statements: Increasingly severe symptoms and impaired breathing likely in active children and adults and people with respiratory disease, such as asthma; increasing likelihood of respiratory effects in general population.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should avoid all outdoor exertion; everyone else, especially children, should limit outdoor exertion.
AQI 301-500 – Hazardous* Concentration ≥405 ppb	Sensitive Groups: Children and people with asthma are the groups most at risk.
	Health Effects Statements: Severe respiratory effects and impaired breathing likely in active children and adults and people with respiratory disease, such as asthma; increasingly severe respiratory effects likely in general population.
	Cautionary Statements: Everyone should avoid all outdoor exertion.

* AQI greater than 300 are calculated using 1-hr ozone data (under 1-hr ozone concentrations 375-404 ppb are identified as Very Unhealthy)

Sources: U.S. Environmental Protection Agency. AirNow. Air Quality Index Basics. https://www.airnow.gov/index.cfm?action=aqibasics.aqi and AirNow. AQI Calculator. https://airnow.gov/index.cfm?action=airnow.calculator. Accessed July 2019. See also Table 3 of the Air Quality and Greenhouse Gas Report (Appendix A of this EIR).

"The AQI for the 8-hour ozone standard was changed to reflect the current NAAQS of 70 parts per billion (ppb). Based on the AQI scale for the 8-hour ozone standard, the project area experienced no days in the last three years that would be categorized as very unhealthy (AQI 201–250), and as many as 155 days that were unhealthy (AQI 151–200) or unhealthy for sensitive groups (AQI 101–150), violating the 70-ppb standard as measured at the Porterville-Newcomb Street monitoring station. The highest reading was 91 parts per billion (ppb) in 2017 (AQI 164), compared with the cutoff for unhealthy for sensitive groups (AQI 150—85 ppb) and the cutoff point for very unhealthy (AQI 201—106 ppb). The most days over the standard in the last three years were 80 days in 2016."[14] Further, Year 2018's air quality data did not exceed Year 2016's.

"The other nonattainment pollutant of concern is PM2.5. An AQI of 100 or lower is considered moderate and would be triggered by a 24-hour average concentration of 12.1 to 35.4 μg/m^3. An AQI of 101 to 105 or 35.5-55.4 μg/m^3 is considered unhealthful for sensitive groups. When

[14] Ibid. 28-29.

concentrations reach this amount, it is considered an exceedance of the federal PM2.5 standard. The monitoring station nearest the project (Visalia-Church Street) exceeded the standard on approximately 66 days in the three-year period spanning from 2015 to 2017. The most days that exceeded the standard occurred in 2017 with 27 days. People with respiratory or heart disease, the elderly and children are the groups most at risk. Unusually sensitive people should consider reducing prolonged or heavy exertion. The AQI of 151 to 200 is classified as unhealthy for everyone. This AQI classification is triggered when PM2.5 concentration ranges from 55.4 to 150.4 μg/m[6.] At this concentration, there is increasing likelihood of respiratory symptoms in sensitive individuals, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease, and in the elderly. People with respiratory or heart disease, the elderly, and children should limit prolonged exertion. Everyone else should reduce prolonged or heavy exertion. The highest concentration recorded at the Visalia-Church Street monitoring station in the last three years was 86.3 μg/m^3 (AQI 167) in 2015. At least 7 days in the last three years were in the unhealthy for everyone AQI range. At this concentration, increased aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly, and increased respiratory effects in general population would occur. People with respiratory or heart disease, the elderly, and children should avoid prolonged exertion; everyone else should limit prolonged exertion when the AQI exceeds this level. The relationship of the AQI to health effects in shown Table 4."[15] As noted earlier, the AQ-GHG Report did not include Year 2018 air quality monitoring data. This data is included in **Table 4.1-6**. Exceedances occurred an additional 42 days in Year 2018, and the highest concentration of 86.8 μg/m^3 also occurred in Year 2018.

Table 4.1-7
Air Quality Index and Health Effects of $PM_{2.5}$

Air Quality Index/ PM $_{2.5}$ Concentration	Health Effects Description
AQI 0-50 – Good Concentration 0-12.0 μg/m^3	Sensitive Groups: People with respiratory or heart disease, the elderly and children are the groups most at risk.
	Health Effects Statements: None
	Cautionary Statements: None
AQI 51-100 – Moderate Concentration 12.1-35.4 μg/m^3	Sensitive Groups: People with respiratory or heart disease, the elderly and children are the groups most at risk.
	Health Effects Statements: Unusually sensitive people should consider reducing prolonged or heavy exertion.
	Cautionary Statements: Unusually sensitive people should consider reducing prolonged or heavy exertion.
AQI 101-150 – Unhealthy for Sensitive Groups Concentration 35.5-55.4 μg/m^3	Sensitive Groups: People with respiratory or heart disease, the elderly and children are the groups most at risk.
	Health Effects Statements: Increasing likelihood of respiratory symptoms in sensitive individuals, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly.

[15] Op. Cit. 29.

Table 4.1-7
Air Quality Index and Health Effects of $PM_{2.5}$

Air Quality Index/ $PM_{2.5}$ Concentration	Health Effects Description
	Cautionary Statements: People with respiratory or heart disease, the elderly and children should limit prolonged exertion.
AQI 151-200 – Unhealthy Concentration 55.5-150.4 µg/m³	Sensitive Groups: People with respiratory or heart disease, the elderly and children are the groups most at risk.
	Health Effects Statements: Increased aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; increased respiratory effects in general population.
	Cautionary Statements: People with respiratory or heart disease, the elderly and children should avoid prolonged exertion; everyone else should limit prolonged exertion.
AQI 201-300 – Very Unhealthy Concentration 150.5-250.4 µg/m³	Sensitive Groups: People with respiratory or heart disease, the elderly and children are the groups most at risk.
	Health Effects Statements: Significant aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; significant increase in respiratory effects in general population.
	Cautionary Statements: People with respiratory or heart disease, the elderly and children should avoid any outdoor activity; everyone else should avoid prolonged exertion.
AQI 301-500 – Hazardous Concentration ≥250.5 µg/m³	Sensitive Groups: People with respiratory or heart disease, the elderly and children are the groups most at risk.
	Health Effects Statements: Serious aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; serious risk of respiratory effects in general population.
	Cautionary Statements: Everyone should avoid any outdoor exertion; people with respiratory or heart disease, the elderly and children should remain indoors.

Sources: U.S. Environmental Protection Agency. AirNow. Air Quality Index Basics. https://www.airnow.gov/index.cfm?action=aqibasics.aqi and AirNow. AQI Calculator. https://airnow.gov/index.cfm?action=airnow.calculator. Accessed July 2019. See also Table 4 of the Air Quality and Greenhouse Gas Report (included in Appendix "A" of this EIR).

REGULATORY SETTING

Federal Agencies & Regulations

Federal Clean Air Act

"The Federal Clean Air Act (CAA), adopted in 1970 and amended twice thereafter (including the 1990 amendments), establishes the framework for modern air pollution control. The act directs the Environmental Protection Agency (EPA) to establish ambient air standards, the National Ambient Air Quality Standards (NAAQS)… for six pollutants: ozone, carbon monoxide, lead, nitrogen dioxide, particulate matter (less than 10 microns in diameter [PM_{10}] and less than 2.5 microns in diameter [$PM_{2.5}$]), and sulfur dioxide. The standards are divided into primary and secondary standards; the former are set to protect human health with an adequate margin of safety and the latter to protect environmental values, such as plant and animal life.

Areas that do not meet the ambient air quality standards are called "non-attainment areas". The Federal CAA requires each state to submit a State Implementation Plan (SIP) for non-attainment areas. The SIP, which is reviewed and approved by the EPA, must demonstrate how the federal standards will be achieved. Failing to submit a plan or secure approval could lead to the denial of federal funding and permits for such improvements as highway construction and sewage treatment plants. For cases in which the SIP is submitted by the State but fails to demonstrate achievement of the standards, the EPA is directed to prepare a federal implementation plan or EPA can "bump up" the air basin in question to a classification with a later attainment date that allows time for additional reductions needed to demonstrate attainment, as is the case for the San Joaquin Valley.

SIPs are not single documents. They are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations and federal controls. The California SIP relies on the same core set of control strategies, including emission standards for cars and heavy trucks, fuel regulations and limits on emissions from consumer products. California State law makes the California Air Resources Board (CARB) the lead agency for all purposes related to the SIP. Local Air Districts and other agencies, such as the Bureau of Automotive Repair and the Department of Pesticide Regulation, prepare SIP elements and submit them to CARB for review and approval. The CARB forwards SIP revisions to the EPA for approval and publication in the Federal Register."[16]

Toxic Air Contaminants

"A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. There are no ambient air quality standards for TAC emissions. TACs are regulated in terms of health risks to individuals and populations exposed to the pollutants. The 1990 Clean Air Act Amendments significantly expanded the EPA's authority to regulate hazardous air pollutants (HAP). Section 112 of the Clean Air Act lists 187 hazardous air pollutants to be regulated by source category. Authority to regulate these pollutants was delegated to individual states. ARB and local air districts regulate TACs and HAPs in California."[17]

State Agencies & Regulations

California Clean Air Act

"The California CAA of 1988 establishes an air quality management process that generally parallels the federal process. The California CAA, however, focuses on attainment of the State ambient air quality standards (see Table 3.3-1 [of the General Plan RDEIR]), which, for certain pollutants and averaging periods, are more stringent than the comparable federal standards. Responsibility for meeting California's standards is addressed by the CARB and local air pollution

[16] Tulare County General Plan 2030 Update RDEIR. Pages 3.3-1 to 3.3-2.
[17] AQ-GHG Report (included in Appendix "A" of this SEIR). Page 15.

control districts (such as the eight county SJVAPCD, which administers air quality regulations for Tulare County). Compliance strategies are presented in district-level air quality attainment plans.

The California CAA requires that Air Districts prepare an air quality attainment plan if the district violates State air quality standards for criteria pollutants including carbon monoxide, sulfur dioxide, nitrogen dioxide, $PM_{2.5}$, or ozone. Locally prepared attainment plans are not required for areas that violate the State PM_{10} standards. The California CAA requires that the State air quality standards be met as expeditiously as practicable but does not set precise attainment deadlines. Instead, the act established increasingly stringent requirements for areas that will require more time to achieve the standards."[18]

"The air quality attainment plan requirements established by the California CAA are based on the severity of air pollution caused by locally generated emissions. Upwind air pollution control districts are required to establish and implement emission control programs commensurate with the extent of pollutant transport to downwind districts."[19]

California Air Resources Board

"The CARB is responsible for establishing and reviewing the State ambient air quality standards, compiling the California State Implementation Plan (SIP) and securing approval of that plan from the U.S. EPA. As noted previously, federal clean air laws require areas with unhealthy levels of ozone, inhalable particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide to develop SIPs. SIPs are comprehensive plans that describe how an area will attain NAAQS. The 1990 amendments to the Federal CAA set deadlines for attainment based on the severity of an area's air pollution problem. State law makes CARB the lead agency for all purposes related to the SIP. The California SIP is periodically modified by the CARB to reflect the latest emission inventories, planning documents, and rules and regulations of various air basins. The CARB produces a major part of the SIP for pollution sources that are statewide in scope; however, it relies on the local Air Districts to provide emissions inventory data and additional strategies for sources under their jurisdiction. The SIP consists of the emission standards for vehicular sources and consumer products set by the CARB, and attainment plans adopted by the local air agencies as approved by CARB. The EPA reviews the air quality SIPs to verify conformity with CAA mandates and to ensure that they will achieve air quality goals when implemented. If EPA determines that a SIP is inadequate, it may prepare a Federal Implementation Plan for the nonattainment area, and may impose additional control measures.

In addition to preparation of the SIP, the CARB also regulates mobile emission sources in California, such as construction equipment, trucks, automobiles, and oversees the activities of air quality management districts and air pollution control districts, which are organized at the county or regional level. The local or regional Air Districts are primarily responsible for regulating

[18] Tulare County General Plan 2030 Update RDEIR. Pages 3.3-2 to 3.3-3.
[19] Ibid. 3.3-5.

stationary emission sources at industrial and commercial facilities within their jurisdiction and for preparing the air quality plans that are required under the Federal CAA and California CAA."[20]

ARB Low Emission Vehicle Program

"The ARB first adopted Low-Emission Vehicle (LEV) program standards in 1990. These first LEV standards ran from 1994 through 2003. LEV II regulations, running from 2004 through 2010, represent continuing progress in emission reductions. As the State's passenger vehicle fleet continues to grow and more sport utility vehicles and pickup trucks are used as passenger cars rather than work vehicles, the more stringent LEV II standards were adopted to provide reductions necessary for California to meet federally mandated clean air goals outlined in the 1994 State Implementation Plan. In 2012, ARB adopted the LEV III amendments to California's LEV regulations. These amendments, also known as the Advanced Clean Car Program, include more stringent emission standards for model years 2017 through 2025 for both criteria pollutants and GHGs for new passenger vehicles (ARB 2012a)."[21]

ARB On-Road Heavy-Duty Vehicle Program

"The ARB has adopted standards for emissions from various types of new on-road heavy-duty vehicles. Section 1956.8, Title 13, California Code of Regulations contains California's emission standards for on-road heavy-duty engines and vehicles, as well as test procedures. ARB has also adopted programs to reduce emissions from in-use heavy-duty vehicles including the Heavy-Duty Diesel Vehicle Idling Reduction Program, the Heavy-Duty Diesel In-Use Compliance Program, the Public Bus Fleet Rule and Engine Standards, and the School Bus Program and others (ARB 2013b).

The regulation applies to nearly all privately and federally owned diesel-fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. The regulation provides a variety of flexibility options tailored to fleets operating low-use vehicles, fleets operating in selected vocations like agricultural and construction, and small fleets of three or fewer trucks (ARB 2015b)."[22]

ARB Truck and Bus Regulation

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

[20] Op. Cit. 3.3-6 to 3.3-7.
[21] AQ-GHG Report (included in Appendix A of this SEIR). Page 32.
[22] Ibid.

The regulation applies to nearly all privately and federally owned diesel-fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. The regulation provides a variety of flexibility options tailored to fleets operating low-use vehicles, fleets operating in selected vocations like agricultural and construction, and small fleets of three or fewer trucks (ARB 2015a)."[23]

ARB Regulation for In-Use Off-Road Diesel Vehicles

"On July 26, 2007, the ARB adopted a regulation to reduce DPM and nitrous oxide (NOx) emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. The regulation limits idling to no more than five consecutive minutes, requires reporting and labeling, and requires disclosure of the regulation upon vehicle sale. The ARB is enforcing that part of the rule with fines up to $10,000 per day for each vehicle in violation. Performance requirements of the rule are based on a fleet's average NOx emissions, which can be met by replacing older vehicles with newer, cleaner vehicles or by applying exhaust retrofits. The regulation was amended in 2010 to delay the original timeline of the performance requirements, making the first compliance deadline January 1, 2014 for large fleets (over 5,000 horsepower), 2017 for medium fleets (2,501–5,000 horsepower), and 2019 for small fleets (2,500 horsepower or less)."[24]

ARB Airborne Toxic Control Measure for Asbestos

"In July 2001, the ARB approved an Air Toxic Control Measure for construction, grading, quarrying, and surface mining operations to minimize emissions of naturally occurring asbestos. The regulation requires application of best management practices to control fugitive dust in areas known to have naturally occurring asbestos and requires notification to the local air district prior to commencement of ground-disturbing activities. The measure establishes specific testing, notification and engineering controls prior to grading, quarrying, or surface mining in construction zones where naturally occurring asbestos is located on projects of any size. There are additional notification and engineering controls at work sites larger than 1 acre in size. These projects require the submittal of a "Dust Mitigation Plan" and approval by the air district prior to the start of a project.

Construction sometimes requires the demolition of existing buildings where construction occurs. The project includes demolition of a house and several associated shed structures. Buildings often include materials containing asbestos. Asbestos is also found in a natural state, known as naturally occurring asbestos. Exposure and disturbance of rock and soil that naturally contain asbestos can result in the release of fibers into the air and consequent exposure to the public. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Sources of asbestos emissions include unpaved roads or driveways surfaced with ultramafic rock,

[23] Op. Cit. 32-33.
[24] Op. Cit. 33.

construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present.

The ARB has an Air Toxic Control Measure for construction, grading, quarrying, and surface mining operations, requiring the implementation of mitigation measures to minimize emissions of asbestos-laden dust. The measure applies to road construction and maintenance, construction and grading operations, and quarries and surface mines when the activity occurs in an area where naturally occurring asbestos is likely to be found. Areas are subject to the regulation if they are identified on maps published by the Department of Conservation as ultramafic rock units or if the Air Pollution Control Officer or owner/operator has knowledge of the presence of ultramafic rock, serpentine, or naturally occurring asbestos on the site. The measure also applies if ultramafic rock, serpentine, or asbestos is discovered during any operation or activity. Review of the Department of Conservation maps indicates that no ultramafic rock has been found near the project site."[25]

ARB Diesel Risk Reduction Plan

"The ARB's Diesel Risk Reduction Plan has led to the adoption of state regulatory standards for all new on-road, off-road, and stationary diesel-fueled engines and vehicles to reduce DPM emissions by about 90 percent overall from year 2000 levels. The projected emission benefits associated with the full implementation of this plan, including federal measures, are reductions in DPM emissions and associated cancer risks of 75 percent by 2010, and 85 percent by 2020 (ARB 2000)."[26]

ARB Airborne Toxic Control Measures for Diesel Engines

"Diesel engines emit a complex mixture of air pollutants, composed of gaseous and solid material. The visible emissions in diesel exhaust are known as particulate matter or PM, which includes carbon particles or "soot." In 1998, following a 10-year scientific assessment process, ARB identified diesel PM as a toxic air contaminant based on its potential to cause cancer and other health problems, including respiratory illnesses, and increased risk of heart disease. Subsequent to this action, research has shown that diesel PM also contributes to premature deaths. Health risks from diesel PM are highest in areas of concentrated emissions, such as near ports, railyards, freeways, or warehouse distribution centers. Exposure to diesel PM is a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems.

Both private businesses and public agencies operating stationary prime and emergency standby diesel engines in California are subject to the ATCM. Emergency standby engines are those that are used only when normal power or natural gas service fails or when needed for fire suppression or flood control. Prime engines are those that are not used for emergency standby purposes. Examples of businesses that are affected include private schools and universities, private water treatment facilities, hospitals, power generation, communications, broadcasting, building owners,

[25] Op. Cit. 33-34
[26] Op. Cit. 34

agricultural production, banks, hotels, refiners, resorts, recycling centers, quarries, wineries, dairies, food processing, and manufacturing entities. A variety of public agencies are also affected including military installations, prisons and jails, public schools and universities, and public water and wastewater treatment facilities."[27]

"The ATCM for stationary diesel engines was originally adopted by the Air Resources Board (ARB or Board) at the February 26, 2004, Board Hearing. On November 8, 2004, the Final Regulation Order for the ATCM was approved by the Office of Administrative Law (OAL) and filed with the Secretary of State. The rulemaking became effective December 8, 2004. Among other provisions, the ATCM established emission standards and fuel use requirements for new and in-use stationary engines used in prime and emergency back-up applications (non-agricultural) and for new stationary engines used in agricultural applications.

A modification of the 2004 action was necessary to address the required PM emission standard for new agricultural engines. Therefore, an Emergency Regulatory Amendment was heard at the March 17, 2005 Board Hearing. On April 4, 2005, the Office of Administrative Law approved the amendments to the ATCM which removed the requirement that new stationary agriculture pump engines meet the 0.15g/bhp-hr PM standard. Instead, such engines must meet the appropriate Tier 2 emissions standard. The Board approved a temporary emergency action (Resolution 05-29) to replace the 0.15 g/bhp-hr PM standard for these engines with the appropriate ARB and federal new off-road/nonroad engine certification standards. Following this emergency rulemaking proceeding, ARB conducted another rulemaking in accordance with all procedural requirements of the California Administrative Procedure Act to make a modified version of the emergency amendments permanent at the May 26, 2005 Board Hearing. The final rulemaking package was approved by OAL and filed with the Secretary of the State on September 9, 2005. The regulation became effective that same day.

In November 2006, the Board approved amendments to the ATCM to include requirements for stationary in-use agricultural engines. Additional amendments addressed implementation and compliance issues primarily involving non-agricultural emergency standby and prime engines. These issues included streamlining certain fuel reporting requirements, updating electricity tariff schedules, modifying the definitions of California (CARB) diesel fuel and alternative diesel fuel, an alternative compliance demonstration option to the 0.01 g/bhp-hr diesel PM standard, and a "sell-through" provision to allow stationary diesel-fueled engine wholesalers and retailers to sell (and owners or operators to use) stock engines that do not meet new, more stringent emissions standards when they become effective. The amendments also authorized the Executive Officer or local air district to allow the sale, purchase, or installation of a new stock engine from the previous model year to meet new stationary diesel-fueled engine emission standards, if verifiable information is provided documenting that current mode year engines meeting the new emission standards are not available in sufficient numbers or in a sufficient range of makes, models, and horsepower ratings. The OAL approved the amendments on September 18, 2007, which became effective October 18, 2007.

[27] California Air Resources Board. Frequently Asked Questions. Airborne Toxic Control Measure for Stationary Compression Ignition Engines, Requirements for Stationary Engines Use in Non-Agricultural Applications. http://www.arb.ca.gov/diesel/documents/atcmfaq.pdf. Accessed August 2019.

In October 2010, the Board approved amendments to the ATCM to more closely align with the emission standards for new stationary diesel-fueled emergency standby engines, including direct-drive fire pump engines, and new prime engines with the federal Standards of Performance for Stationary Compression- Ignition Internal Combustion Engines (NSPS) promulgated July 11, 2006. Amendments to help clarify provisions in the ATCM and address new information, and to remove provisions no longer needed were also approved."[28]

Regional Agencies & Regulations

San Joaquin Valley Air Pollution Control District

The San Joaquin Valley Air Pollution Control District (Air District) is made up of eight counties in California's Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, and Tulare Counties, and the San Joaquin Valley portion of Kern County.

"The San Joaquin Valley Air District is a public health agency whose mission is to improve the health and quality of life for all Valley residents through efficient, effective and entrepreneurial air quality-management strategies." [29] The Air District's 11 core values include: protection of public health; active and effective air pollution control efforts while seeking to improve the Valley's economic prosperity and grow opportunities for all Valley residents; outstanding customer service; ingenuity and innovation; accountability to the public; open and transparent public process; recognition of the uniqueness of the San Joaquin Valley; continuous improvement; effective and efficient use of public funds; respect for the opinions and interests of all Valley residents; and robust public outreach and education on Valley air quality progress and continuing air quality efforts.[30] To achieve these core values the Air District has adopted air quality plans pursuant to the California CAA and a comprehensive list of rules to limit air quality impacts. The air plans currently in effect in the SJVAB and specific rules that apply to the Project are listed and described further below.

Ozone Plans[31]

"The SJVAB has severe ozone problems. The EPA has required the Air District to demonstrate in a plan, substantiated with modeling, that the ozone NAAQS could be met by the November 15, 2005 deadline. However, the district could not provide this demonstration for several reasons, including that its achievement would require regulation of certain source categories not currently under the jurisdiction of the district. According to the district, in order to meet the standard the SJVAB must reduce the total emissions inventory by an additional 30 percent (300 tons per day). Because attainment by the deadline could not be demonstrated by the mandated deadlines, the federal sanction

[28] Ibid. 1 and 2.

[29] Air District. About the Air District. The Air District's Mission. http://www.valleyair.org/General_info/aboutdist.htm#Mission. Accessed November 2019.

[30] Ibid. Core Values.

[31] Air District. The various ozone plans can be found on the Air District's website at: http://www.valleyair.org/Air_Quality_Plans/Ozone_Plans.htm.

clock was started. The clock was to be stopped if the Air District SIP could demonstrate compliance with specified federal requirements by November 15, 2005. However, the district recognized that it could not achieve demonstration in time. Therefore, the district, through petition by the State on behalf of SJVAPCD, sought a change in the federal nonattainment classification from "severe" to "extreme" nonattainment with the ozone standard. An extreme nonattainment designation would effectively move the compliance deadline to year 2010 before federal sanctions would begin.

On February 23, 2004, EPA publicly announced its intention to grant the request by the State of California to voluntarily reclassify the SJVAB from a "severe" to an "extreme" 1-hour ozone nonattainment area. The EPA stated that, except for a demonstration of attainment of the ozone standard by 2005, the Air District has submitted all of the required severe area plan requirements and they were deemed complete. The CARB submitted the 2004 Extreme Ozone Attainment Demonstration Plan to EPA on November 15, 2004. On August 21, 2008, the District adopted Clarifications for the 2004 Extreme Ozone Attainment Demonstration Plan for 1-hour Ozone, and on October 16, 2008, EPA proposed to approve the District's 2004 Extreme Ozone Attainment Demonstration Plan for 1-hour Ozone."[32]

The planning requirements for the 1-hour plan remain in effect until replaced by a federal 8-hour ozone attainment plan. The Air District adopted the *2004 Extreme Ozone Attainment Demonstration Plan* in October 2004. However, since EPA revoked the federal 1-hour standard effective June 15, 2005. EPA did not act on this plan until 2010, when a court decision required EPA action. The EPA approved the plan, including revisions to the plan, on March 8, 2010. EPA's action approved the plan, but subsequent litigation led to a court finding that EPA had not properly considered new information available since the District adopted the plan in 2004. EPA thus withdrew its plan approval in November 2012, and the Air District and ARB withdrew this plan from consideration. The Air District developed a new plan for the revoked standard and adopted the *2013 Plan for the Revoked 1-Hour Ozone Standard* in September 2013. While this plan does not establish new emissions reductions strategies, it builds upon the District's 8-hour ozone and particulate matter strategies. Under these combined efforts, the SJVAB 1-hour ozone concentrations have been and will continue to improve. The modeling contained in the plan confirms that the SJVAB will attain the revoked 1-hour ozone standard by 2017.

EPA originally classified the Air Basin as serious nonattainment for the 1997 federal 8-hour ozone standard with an attainment date of 2013. On April 30, 2007, the District's Governing Board adopted the *2007 Ozone Plan*, which contained analysis showing a 2013 attainment target to be infeasible. This plan details the Air District's plan for achieving attainment on schedule with an "extreme nonattainment" deadline of 2024. At its adoption of the plan, the District also requested a reclassification to extreme nonattainment. ARB approved the plan in June 2007, and EPA approved the request for reclassification to extreme nonattainment on April 15, 2010. The plan contains measures to reduce ozone and particulate matter precursor emissions to bring the SJVAB into attainment with the federal 8-hour ozone standard. The plan calls for a 75-percent reduction of NO_x and a 25-percent reduction of ROG. The plan, with innovative measures and a "dual path" strategy, assures expeditious attainment of the federal 8-hour ozone standard for all Basin

[32] Tulare County General Plan 2030 Update RDEIR. Pages 3.3-12 to 3.3-13.

residents. The Air District adopted the plan on April 30, 2007 and the ARB approved the plan on June 14, 2007. The *2007 Ozone Plan* requires yet to be determined "Advanced Technology" to achieve additional reductions after 2021 to attain the standard at all monitoring stations in the Basin by 2024 as allowed for areas designated extreme nonattainment by the federal CAA.

The EPA revised the federal 8-hour ozone standard in 2008. To address this standard on June 16, 2016, the Air District adopted the *2016 Ozone Plan for 2008 8-hour Ozone Standard*, which the SJVAB must attain by 2031. This plan demonstrates that the Air District's attainment strategy satisfies all federal CAA requirements and ensures expeditious attainment of the 75 parts per billion 8-hour ozone standard. The plan includes a "black box" provision to satisfy the contingency requirements under the federal CAA. The "black box" represents reductions that would be needed to attain the standard for which specific measures or technologies are not currently available. The strategy in this plan will reduce NOx emissions by over 60% between 2012 and 2031.

In October 2015, the EPA again revised and lowered the federal 8-hour ozone standard to 70 parts per billion effective December 28, 2018. Addressing the 2015 8-hour ozone standard will pose a tremendous challenge for the San Joaquin Valley, given the naturally high background ozone levels and ozone transport into the San Joaquin Valley. The Air District will be required to prepare a new plan to address the 2015 standard.

"The County continues to evaluate and consider a variety of Federal, State, and Air District programs in order to respond to the non-attainment designation for Ozone that the SJVAB has received, and will continue to adopt resolutions to implement these programs. The Tulare County Board of Supervisor resolutions are described below. These resolutions were adopted in 2002 and 2004, respectively.

Resolution 2002-0157. Resolution 2002-0157, as adopted on March 5, 2002, requires the County to commit to implementing the Reasonably Available Control Measures included in the Resolution. The following Reasonably Available Control Measures were included in the resolution:

- Increasing transit service to the unincorporated communities of Woodville, Poplar and Cotton Center;
- Purchase of three new buses and installation of additional bicycle racks on buses;
- Public outreach to encourage the use of alternative modes of transportation;
- Providing preferential parking for carpools and vanpools;
- Removing on-street parking and providing bus pullouts in curbs to improve traffic flow;
- Supporting the purchase of hybrid vehicles for the County fleet;
- Mandating that the General Plan 2030 Update implement land use policies supporting public transit and vehicle trip reduction; and
- Programming $13,264,000 of highway widening projects.

Resolution 2004-0067. As part of a follow up effort to Resolution 2002-0157 and to address the federal reclassification to Extreme non-attainment for ozone, the County Board of Supervisors adopted Resolution 2004-067. The resolution contains additional Reasonably Available Control Measures as summarized below:

- Encouraging land use patterns which support public transit and alternative modes of transportation;
- Exploring concepts of Livable Communities as they address housing incentives and transportation;
- Consideration of incentives to encourage developments in unincorporated communities that are sensitive to air quality concerns; and
- Exploring ways to enhance van/carpool incentives, alternative work schedules, and other Transportation Demand Management strategies."[33]

Particulate Matter Plans[34]

The SJVAB was designated nonattainment of state and federal health-based air quality standards for PM_{10}. However, as discussed below, the SJVAB has demonstrated attainment of the federal PM_{10} standards and currently remains in nonattainment only for the state standards. The SJVAB is also designated nonattainment of state and federal standards for $PM_{2.5}$.

To meet CAA requirements for the PM_{10} standard, the Air District adopted a PM10 Attainment Demonstration Plan (Amended 2003 PM10 Plan and 2006 PM10 Plan), which had an attainment date of 2010. The Air District adopted the *2007 PM10 Maintenance Plan* in September 2007 to assure the San Joaquin Valley's continued attainment of the EPA's PM_{10} standard. The EPA designated the San Joaquin Valley as an attainment/maintenance area for PM_{10} on September 25, 2008. Although the San Joaquin Valley has exceeded the standard since then, those days were considered exceptional events that are not considered a violation of the standard for attainment purposes.

On April 30, 2008, the Air District adopted the *2008 PM2.5 Plan* satisfying federal implementation requirements for the 1997 federal $PM_{2.5}$ standard. However, on the verge of the demonstration of attainment with the standard the SJVAB was plagued with extreme drought, stagnation, strong inversions, and historically dry conditions and could not achieve attainment by the 2015 deadlines. The *2015 Plan for the 1997 PM2.5 Standard* (2015 PM2.5 Plan) was adopted by the Air District on April 16, 2015, and is a continuation of the Air District's strategy to improve the air quality in the SJVAB. The 2015 PM2.5 Plan contains stringent measures, best available control measures, additional enforceable commitments for further reductions in emissions, and ensures attainment of the 1997 federal 24-hour standard (65 µg/m³) by 2018 and the annual standard (15 µg/m³) by 2020.

[33] Ibid. 3.3-13.

[34] Air District. The various particulate matter plans can be found on the Air District's website at: http://www.valleyair.org/Air_Quality_Plans/PM_Plans.htm.

In December 2012, the Air District adopted the *2012 PM2.5 Plan* to bring the San Joaquin Valley into attainment of the EPA's 2006 24-hour $PM_{2.5}$ standard of 35 µg/m³. The ARB approved the Air District's 2012 PM2.5 Plan for the 2006 standard at a public hearing on January 24, 2013. This plan seeks to bring the San Joaquin Valley into attainment with the standard by 2019, with the expectation that most areas will achieve attainment before that time.

EPA lowered the annual $PM_{2.5}$ standard in 2012 to 12 µg/m^3. The Air District adopted the *2016 Moderate Area Plan for the 2012 PM2.5 Standard* on September 15, 2016. This plan addresses the federal annual $PM_{2.5}$ standard established in 2012 and includes an attainment impracticability demonstration and request for reclassification of the Valley from Moderate nonattainment to Serious nonattainment.

The Air District adopted the *2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards* on November 15, 2018. This plan addresses the EPA federal 1997 annual $PM_{2.5}$ standard of 15 µg/m³ and 24-hour $PM_{2.5}$ standard of 65 µg/m³; the 2006 24-hour $PM_{2.5}$ standard of 35 µg/m³; and the 2012 annual $PM_{2.5}$ standard of 12 µg/m³. This plan demonstrates attainment of the federal $PM_{2.5}$ standards as expeditiously as practicable. The Air District continues to work with EPA on issues surrounding these plans, including EPA implementation updates.

The County continues to evaluate and consider Federal, State, and Air District programs in order to respond to the non-attainment designation for state PM10 standards that the SJVAB has received. "On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM10 NAAQS and approved the PM10 Maintenance Plan. However, prior to this redesignation, Tulare County Board of Supervisors adopted the following resolution (Resolution 2002-0812) on October 29, 2002. Although now designated in attainment of the federal PM10 standard, all requirements included in the AIR DISTRICT PM10 Plan are still in effect. The resolution contains the following Best Available Control Measures (BACMs) to be implemented in order to reduce PM10 emissions in the County:

- Paving or stabilizing of unpaved roads and alleys;
- Paving, vegetating, chemically stabilizing unpaved access points onto paved roads;
- Curbing, paving, or stabilizing shoulders on paved roads;
- Frequent routine sweeping or cleaning of paved roads;
- Intensive street cleaning requirements for industrial paved roads and streets providing access to industrial/ construction sites; and
- Debris removal after wind and rain runoff when blocking roadways."[35]

<u>Criteria Pollutant Emissions</u>

To assess air quality impacts, the Air District has established significance thresholds to assist Lead Agencies in determining whether a project may have a significant air quality impact[36]. The Air

[35] Tulare County General Plan 2030 Update RDEIR. Page 3.3-14.
[36] Air District. GAMAGI. Page 74.

District's thresholds of significance for criteria pollutants, which are based on Air District Rule 2201 (New and Modified Stationary Source Review) offset thresholds, are provided in **Table 4.1-8**. As shown in the Table, the Air District has three sets of significance thresholds for each pollutant based on the source of the emissions. According to the Air District's Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI), "The District identifies thresholds that separate a project's short-term emissions from its long-term emissions. The short-term emissions are mainly related to the construction phase of a project and are recognized to be short in duration. The long-term emissions are mainly related to the activities that will occur indefinitely as a result of project operations."[37]

Table 4.1-8
Air Quality Thresholds of Significance – Criteria Pollutants

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

Source: Air District, GAMAQI. Table 2. Page 80.

Operational emissions are further separated into permitted and non-permitted equipment and activities. Stationary (permitted) sources that comply or will comply with Air District rules and regulations are generally not considered to have a significant air quality impact. Specifically, the GAMAQI states, "District Regulation II ensures that stationary source emissions will be reduced or mitigated to below the District's significance thresholds. However, the Lead Agency can, and should, make an exception to this determination if special circumstances suggest that the emissions from any permitted or exempt source may cause a significant air quality impact. For example, if a source may emit objectionable odors, then odor impacts on nearby receptors should be considered a potentially significant air quality impact. District implementation of New Source Review (NSR) ensures that there is no net increase in emissions above specified thresholds from New and Modified Stationary Sources for all nonattainment pollutants and their precursors. Furthermore, in general, permitted sources emitting more than the NSR Offset Thresholds for any criteria pollutant must offset all emission increases in excess of the thresholds. However, under certain circumstances, the District may be precluded by state law or other District rule requirements from requiring a stationary source to offset emissions increases."[38]

[37] Ibid. 75.
[38] Op. Cit. 76.

Air District Rules and Regulations[39]

The Air District is primarily responsible for regulating stationary source emissions within the SJVAB and preparing the air quality plans (or portions thereof) for its jurisdiction. The Air District's primary approach of implementing local air quality plans occurs through the adoption of specific rules and regulations. Stationary sources within the jurisdiction are regulated by the Air District's permit authority over such sources and through its review and planning activities. The following Air District rules and regulations that may apply to this Project include, but are not limited to, the following:

Regulation VIII – Fugitive PM_{10} Prohibitions. The Air District adopted its Regulation VIII on October 21, 1993 and amended on August 8, 2004 to implement Best Available Control Measures (BACM). This Regulation consists of a series of emission reduction rules consistent with the PM_{10} Maintenance Plan. These rules are designed to reduce PM_{10} emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and track-out, etc. All development projects that involve soil disturbance are subject to at least one provision of the Regulation VIII series of rules. Regulation VIII specifically addresses the following activities:

- Rule 8011 (General Requirements)
- Rule 8021 (Construction, Demolition, Excavation, Extraction and Other Earthmoving Activities);
- Rule 8031 (Bulk Materials (including Handling and Storage);
- Rule 8041 (Carryout and Track-Out);
- Rule 8051 (Open Areas);
- Rule 8061 (Paved and Unpaved Roads) and
- Rule 8071 (Unpaved Vehicle/Equipment Parking (including Shipping and Receiving, Transfer, Fueling, and Service Areas).
- Rule 8081 (Agricultural Sources) [Rule 8081 is not applicable to this Project]

Rule 2201 – New and Modified Stationary Source Review (NSR). This rule applies to all new stationary sources and all modifications to stationary sources which are subject to Air District Permit Requirements. Rule 2201 requires stationary source projects that exceed certain thresholds to install best available control technology (BACT) and to obtain emission offsets to ensure that growth in stationary sources on a cumulative basis will not result in an increase in emissions and thereby not interfere with the attainment or maintenance of Ambient Air Quality Standards.

Rule 2520 – Federally Mandated Operating Permits. This rule provides a mechanism for issuing operating permits for new and modified sources of air contaminants, renewing operating permits for sources of air contaminants, revising, reopening, revoking, and terminating operating permits for sources of air contaminants, and incorporating requirements authorized by preconstruction permits issued under District Rule 2201 in accordance with requirements of 40 CFR Part 70 – State Operating Permit Programs.

[39] Air District. For a full list of Air District rules and regulations, see their website at http://www.valleyair.org/rules/1ruleslist.htm.

Rule 4001 – New Source Performance Standards. This rule establishes specific standards, criteria, and requirements in which new sources of air pollution or modification of existing sources must comply.

Rule 4002 – National Emissions Standards for Hazardous Air Pollutants (NESHAPs). The purpose of the rule is to incorporate the National Emission Standards for Hazardous Air Pollutants from Part 61, Chapter I, Subchapter C, Title 40, Code of Federal Regulations and the National Emission Standards for Hazardous Air Pollutants for Source Categories from Part 63, Chapter I, Subchapter C, Title 40, Code of Federal Regulations to protect the health and safety of the public from HAPs, such as asbestos.

Rule 4101 – Visible Emissions. The purpose of this rule is to prohibit the emissions of visible air contaminants to the atmosphere. The provisions of this rule shall apply to any source operation which emits or may emit air contaminants.

Rule 4102 – Nuisance. The purpose of this rule is to protect the health and safety of the public, and applies to any source operation that emits or may emit air contaminants or other materials.

Rule 4702 – Internal Combustion Engines. The purpose of this rule is to limit the emissions of NOx, carbon monoxide (CO), VOC, and sulfur oxides (SOx) from internal combustion engines.

Rule 9510 – Indirect Source Review. This rule reduces the impact of NO_x and PM_{10} emissions from growth on the Air Basin. The rule places application and emission reduction requirements on development projects meeting applicability criteria in order to reduce emissions through on-site mitigation, off-site Air District -administered projects, or a combination of the two. The rule defines a development project as any project, or portion thereof, that results in the construction of a new building, facility, or structure or reconstruction of a building, facility, or structure for the purpose of increasing capacity or activity.[40] The rule also exempts any development project on a facility whose primary functions are subject to Air District permitting requirements.[41] The Project is subject to Air District permitting requirements; therefore, the Project is not subject to Rule 9510.

Air District's CEQA Role

As a public agency, the District takes an active part in the intergovernmental review process under CEQA. In carrying out its duties under CEQA, the District may act as a Lead Agency, a Responsible Agency, or a Trustee/Commenting Agency depending on the approvals required by the District and other land use agencies.

"The District is always the Lead Agency for projects such as the development of District rules and regulations. The District may be Lead Agency for projects subject to District permit requirements.

[40] Air District. Rule 9510. Section 3.13.
[41] Ibid. Section 4.4.3.

As discussed above, for projects triggering BACT, the District has discretionary approval in deciding how to permit the project. For projects subject to BACT, the District serves as Lead Agency when no other agency has principal responsibility for approving the project."[42]

"As a Responsible Agency, the District assists Lead Agencies by providing technical expertise in characterizing project-related impacts on air quality and is available to provide technical assistance in addressing air quality issues in environmental documents. When commenting on a Lead Agency's environmental analysis, the District reviews the air quality section of the analysis and other sections relevant to assessing potential impacts on air quality, i.e. sections assessing public health impacts. At the conclusion of its review the District may submit to the Lead Agency comments regarding the project air quality analysis. Where appropriate, the District will recommend feasible mitigation measures."[43]

"As a Trustee Agency, the District assists Lead Agencies by providing technical expertise or tools in characterizing project-related impacts on air quality and identifying potential mitigation measures, and is available to provide technical assistance in addressing air quality issues in environmental documents. At the conclusion of its review the District may submit to the Lead Agency comments regarding the project air quality analysis. Where appropriate, the District will recommend feasible mitigation measures. The process is subject to change due to the District's continuous improvements efforts." [44]

"The District also provides guidance and thresholds for CEQA air quality and GHG analyses. The result of this guidance, as well as state regulations to control air pollution, is an overall improvement in the Air Basin. In particular, the District's 2015 GAMAQI states the following:

1. The District's Air Quality Attainment Plans include measures to promote air quality elements in county and city general plans as one of the primary indirect source programs. The general plan is the primary long-range planning document used by cities and counties to direct development. Since air districts have no authority over land use decisions, it is up to cities and counties to ensure that their general plans help achieve air quality goals. Section 65302.1 of the California Government Code requires cities and counties in the San Joaquin Valley to amend appropriate elements of their general plans to include data, analysis, comprehensive goals, policies, and feasible implementation strategies to improve air quality in their next housing element revisions.

2. The Air Quality Guidelines for General Plans (AQGGP), adopted by the District in 1994 and amended in 2005, is a guidance document containing goals and policy examples that cities and counties may want to incorporate into their General Plans to satisfy Section 65302.1. When adopted in a general plan and implemented, the suggestions in the AQGGP can reduce vehicle trips and miles traveled and improve air quality. The specific

[42] Air District. GAMAQI. Page 50.
[43] Ibid. 51.
[44] Op. Cit. 52.

suggestions in the AQGGP are voluntary. The District strongly encourages cities and counties to use their land use and transportation planning authority to help achieve air quality goals by adopting the suggested policies and programs."[45]

Local Policy & Regulations

Tulare County General Plan Policies

The County of Tulare General Plan was updated in 2012 and contains a number of policies that apply to projects within Tulare County. General Plan policies that relate to the Project are listed below:

AQ-1.1 Cooperation with Other Agencies - The County shall cooperate with other local, regional, Federal, and State agencies in developing and implementing air quality plans to achieve State and federal Ambient Air Quality Standards. The County shall partner with the Air District, Tulare County Association of Governments (TCAG), and the California Air Resource Board to achieve better air quality conditions locally and regionally.

AQ-1.2 Cooperation with Local Jurisdictions - The County shall participate with cities, surrounding counties, and regional agencies to address cross-jurisdictional transportation and air quality issues.

AQ-1.3 Cumulative Air Quality Impacts - The County shall require development to be located, designed, and constructed in a manner that would minimize cumulative air quality impacts. Applicants shall be required to propose alternatives as part of the State CEQA process that reduce air emissions and enhance, rather than harm, the environment.

AQ-1.4 Air Quality Land Use Compatibility - The County shall evaluate the compatibility of industrial or other developments which are likely to cause undesirable air pollution with regard to proximity to sensitive land uses, and wind direction and circulation in an effort to alleviate effects upon sensitive receptors.

AQ-1.5 California Environmental Quality Act (CEQA) Compliance - The County shall ensure that air quality impacts identified during the CEQA review process are consistently and reasonable mitigated when feasible.

IMPACT ANALYSIS

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:

[45] AQ-GHG Report. Pages 38-39.

a) Conflict with or obstruct implementation of the applicable air quality plan?

Project Impact Analysis: ***Less Than Significant Impact***

The analysis contained in the AQ-GHG Report (prepared by qualified consultant Mitchell Air Quality Consulting) provides expert opinion and substantial evidence to conclude that the Project will result in a less than significant impact to this resource Item. As noted earlier, the Project is located within the San Joaquin Valley Unified Air Pollution Control District (Air District) and, as such, it is compelled to comply with applicable air quality plans, rules, permits, regulations, thresholds, etc.; as determined by the Air District (which is a responsible agency in regards to this Project). The AQ-GHG Report notes that, "The CEQA Guidelines indicate that a significant impact would occur if the project would conflict with or obstruct implementation of the applicable air quality plan. The GAMAQI indicates that projects that do not exceed SJVAPCD quantitative thresholds would not conflict with or obstruct implementation of the applicable Air Quality Plan (AQP). An additional criterion regarding a project's implementation of AQP control measures was assessed to show specifically how the project helps to implement the AQP. Therefore, this document proposes the following criteria for determining project consistency with the current AQPs:

1. Will the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQPs? This measure is determined by comparison to the regional and localized thresholds identified by the District for Regional and Local Air Pollutants..

2. Will the project comply with applicable control measures in the AQPs? The primary control measures applicable to development projects is Regulation VIII—Fugitive PM_{10} Prohibitions."[46]

The AQ-GHG Report also contains discussions/analyses regarding the Project's potential for contributing to air quality violations compliance with applicable air quality plan control measures to wit,

"***Contribution to Air Quality Violations***

A measure for determining if the project is consistent with the air quality plans is if the project would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the air quality plans. Regional air quality impacts and attainment of standards are the result of the cumulative impacts of all emission sources within the air basin. Individual projects are generally not large enough to contribute measurably to an existing violation of air quality standards. Therefore, the cumulative impact of the project is based on its cumulative contribution. Because of the region's nonattainment status for ozone,

[46] Ibid. 89-90.

$PM_{2.5}$, and PM_{10}—if project generated emissions of either of the ozone precursor pollutants (ROG and NOx), PM_{10}, or $PM_{2.5}$ would exceed the District's significance thresholds—then the project would be considered to contribute to violations of the applicable standards and conflict with the attainment plans.

As discussed in Impact AIR-2 [in the AQ-GHG Report, Item b) in this resource discussion] below, emissions of ROG, NOx, PM_{10}, and $PM_{2.5}$ associated with the operation of the project would not exceed the District's significance thresholds. As shown in Impact AIR-3 [in the AQ-GHG Report, Item c) in this resource discussion], the project would not result in CO hotspots that would violate CO standards. Therefore, the project would not contribute to air quality violations.

Compliance with Applicable Air Quality Plan Control Measures

The AQP contains a number of control measures, which are enforceable requirements through the adoption of rules and regulations. A detailed description of rules and regulations that apply to this project is provided in Section 2.2, Regulatory Setting. A brief description of rules and regulations that apply to this project is provided below.

Regulation VIII—Fugitive PM_{10} Prohibitions is a control measure that is one main strategies from the 2006 PM_{10} Plan for reducing the PM_{10} emissions that are part of fugitive dust. Unpaved roads, storage piles, and haul trucks are subject to provisions of the regulation.

Other control measures that may apply to the project are Rule 4641—Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operation that requires reductions in VOC emissions during paving if any paving will occur on the project site for mitigation purposes. The project complies with SJVAPCD permitting requirements under Rule 2201—New and Modified Stationary Source Review. The existing permits for the facility have emission limits matching the proposed operational throughput limits proposed for the project, so no changes to the permits are required. The project would comply with all applicable SJVAPCD rules and regulations. Therefore, the project complies with this criterion and would not conflict with or obstruct implementation of the applicable air quality attainment plan.

The 2016 Plan for the 2008 8-Hour Ozone Standard was adopted in June 2016. The 2015 Plan for the 1997 $PM_{2.5}$ Standard was adopted in April 2015 and the 2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard was adopted in September 2016. The plans assume growth would occur at rates projected by the State and regional population forecasts and would result in the continued need for rock and aggregate for construction projects. Therefore, the project complies with this criterion and would not conflict with or obstruct implementation of the applicable air quality attainment plan."[47]

The AQ-GHG Report concludes, "The project's emissions are less than significant for all criteria pollutants with mitigation and would not result in inconsistency with the AQP for this

[47] Op. Cit. 90-91.

criterion. The project is consistent with the control measures and growth assumptions of the applicable AQP; therefore, the project is consistent with the AQP, and the impact would be less than significant."[48] RMA staff agrees, based on the expertise and substantial evidence provided, that Mitchell Air Quality Consulting's conclusion is accurate, that is, the Project will result in a ***Less Than Significant Impact*** to this resource.

Cumulative Impact Analysis: ***Less Than Significant Impacts***

The geographic area of this cumulative analysis is the San Joaquin Valley Air Basin. As previously discussed, Project-related criteria pollutant emissions would not exceed Air District significance thresholds and, as such, the Project is consistent with and would not obstruct the applicable air quality attainment plans. Furthermore, the Project would be required to comply with all applicable Air District rules and regulations. Therefore, the Project would result in a ***Less Than Significant Impact*** related this Checklist Item.

Mitigation Measure(s): ***None Required.***

Conclusion: ***Less Than Significant Impacts***

As previously noted, the Project is consistent with all applicable air quality plans, it will comply with required control measures (including permits, rule, regulations, etc. as required by the San Joaquin Valley Air Pollution Control District and Tulare County conditions of approval as applicable), and it will not contribute substantially to an existing or projected air quality violation. Therefore, the Project would result in a ***Less Than Significant Impact*** related to this Checklist Item.

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?

Project Impact Analysis: ***Less Than Significant Impact With Mitigation***

See Item a), earlier, and Cumulative Impact Analysis, below.

Cumulative Impact Analysis: ***Less Than Significant Impact With Mitigation***

The geographic area of this cumulative analysis is San Joaquin Valley Air Basin. This cumulative analysis is based on the information provided in the *"Air Quality and Greenhouse Gas Analysis Report Deer Creek Mine Expansion Project Tulare County, California."* (AQ-GHG Report), which is included in Appendix "A" of this DEIR. During construction and operation phases, the Project would not exceed Air District thresholds of significance and, therefore would not substantially contribute to cumulative impacts in the air basin. As such,

[48] Op. Cit. 91.

the Project would result in a ***Less Than Significant Impact With Mitigation*** to this Checklist Item.

As part of its analyses, the AQ-GHG Report provided a rationale in determining that this resource item would result in a less than significant impact caused by the Project as follows:

"To result in a less than significant impact, the following criteria must be true:

1. Regional analysis: emissions of nonattainment pollutants must be below the District's regional significance thresholds. This is an approach recommended by the District in its GAMAQI.

2. Summary of projections: the project must be consistent with current air quality attainment plans including control measures and regulations. This is an approach consistent with Section 15130(b) of the CEQA Guidelines.

3. Cumulative health impacts: the project must result in less than significant cumulative health effects from the nonattainment pollutants. This approach correlates the significance of the regional analysis with health effects, consistent with the court decision, *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1219-20."[49]

RMA agrees with the above rationale as it reasonably contains specific elements (i.e.; criteria) such as a regional analysis, projections, and health impacts consistent with the Air District's GAMAGI, CEQA Guidelines Section 15130(b), and a court decision. These criteria provide a reasonable foundation in determining the adequacy of an analysis to satisfy this resource's CEQA questions regarding a cumulative net increase to any criteria pollutant for this generally nonattainment region (i.e., the San Joaquin Valley Air Basin).

In its analysis, the AQ-GHG Report, used the three above-noted criteria and analyzed the potential project impacts for the region (operational air pollutant emissions for Years 2020 and 2025 based on tonnage and mitigated or unmitigated emissions.

*"**Regional Emissions***

Air pollutant emissions have both regional and localized effects. This analysis assesses the regional effects of the project's criteria pollutant emissions in comparison to SJVAPCD thresholds of significance for long-term operation of the project. Localized emissions from project operation are assessed under Impact AIR-3—Sensitive Receptors [in the AQ-GHG Report, Item c) in this resource discussion] using concentration-based thresholds that determine if the project would result in a localized exceedance of any ambient air quality standards or would make a cumulatively considerable contribution to an existing exceedance.

[49] Op. Cit.

The primary pollutants of concern during project operation are ROG, NO_X, PM_{10}, and $PM_{2.5}$. The SJVAPCD GAMAQI adopted in 2015 contains thresholds for CO, NO_X, ROG, SO_X, PM_{10}, and $PM_{2.5}$.

Ozone is a secondary pollutant that can be formed miles from the source of emissions, through reactions of ROG and NO_X emissions in the presence of sunlight. Therefore, ROG and NO_X are termed ozone precursors. The Air Basin often exceeds the state and national ozone standards. Therefore, if the project emits a substantial quantity of ozone precursors, the project may contribute to an exceedance of the ozone standard. The Air Basin also exceeds air quality standards for PM_{10}, and $PM_{2.5}$; therefore, substantial project emissions may contribute to an exceedance for these pollutants. The District's annual emission significance thresholds used for the project define the substantial contribution as follows:

- 100 tons per year CO
- 10 tons per year NO_X
- 10 tons per year ROG
- 27 tons per year SO_X
- 15 tons per year PM_{10}
- 15 tons per year $PM_{2.5}$

The project does not contain sources that would produce substantial quantities of SO_2 emissions during operation. Modeling conducted for the project show that SO_2 emissions are well below the SJVAPCD GAMAQI thresholds, as shown in the modeling results contained in Appendix A. No further analysis of SO_2 is required.

Operational Emissions

The project is the expansion of an existing mining operation to allow an increase in annual and daily throughput of aggregate products to meet expected increase in demand in the region. The project allows for increased rates of mining in the existing mine footprint and an expansion of the mining area onto an adjacent parcel. The current baseline throughput is approximately 800,000 tons per day of aggregate. The project requests an increase in throughput of 1,500,000 tons per year for an increase from baseline of 700,000 tons per year. The project increases the total throughput over the 50-year life of the project from 40 million tons to 75 million tons.

The solid rock material in active quarry areas is fractured using blasting and then excavated. The project uses mobile off-road equipment to excavate and transport the mined material from the extraction point to rock crushing equipment and storage piles. The crushed material is sorted and moved to storage piles with a conveyor system. No changes to the rock crushing equipment and conveyor system are required to handle the increased throughput. The applicant indicates that the increase in throughput can be handled with existing equipment operating for more hours per day and per year. No additional off-road equipment is required. The analysis is based on the actual equipment currently operating at the site with increases in operating hours proportional with the increase in throughput. The material in the storage piles is loaded into 25 ton on-road haul trucks for transport to the ultimate user. The on-road haul trucks are not owned or operated by the mine operator. The increase in throughput requires an increase in truck trips based on truck capacity and the amount of throughput hauled.

Project emissions were assessed for baseline conditions, with project conditions, and for the incremental increase from the project. The emissions were first assessed for 2020 without mitigation to determine if a potentially significant impact would occur as summarized in Table 17 [in the AQ-GHG Report **Table 4.1-9** in this Draft SEIR]. For assumptions in estimating the emissions, please refer to Section 4, Modeling Parameters and Assumptions and Appendix A [of the AQ-GHG Report].

As shown in Table 17 [in the AQ-GHG Report, **Table 4.1-9** in this Draft SEIR], the emissions are above the SJVAPCD significance thresholds for NO_X prior to application of mitigation measures that would reduce project emissions, and, therefore, the project would result in a potentially significant impact."[50]

"The project would exceed SJVAPCD thresholds for NO_X in 2020 at the maximum permitted throughput level. The increase in throughput is expected to occur gradually as additional customers for aggregate are obtained. Additional analysis was conducted to determine the throughput amount that could be accommodated without exceeding the thresholds. The increase in emissions is proportional to the increase in throughput, so the emissions that would be generated at different throughput levels were calculated with the modeling results from full operation at the proposed permit limit. At 400,000 tons per year, the project would slightly exceed the NOx threshold. Table 18 [in the AQ-GHG, Report, **Table 4.1-10** in this Draft SEIR] shows the emissions with an increase in throughput of 395,000 tons per year from the 800,000 tons per year baseline (1,200,000 tons per year) in 2020 and later years. The project could operate at an increase from baseline of 395,000 tons this level without producing significant regional air quality impacts."[51]

[50] Op. Cit. 92-93.
[51] Op. Cit. 93-94.

Table 4.1-9
Operational Air Pollutant Emission in 2020 (700,000 Tons/Year – Unmitigated)

Source	Emissions (tons per year)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Drilling and Blasting	0.00	2.82	11.11	0.00	0.00
Off-Road Equipment	1.53	4.96	5.88	0.12	0.12
Water Trucks	0.06	0.56	0.16	0.01	0.01
On-site Work Trucks	0.02	0.33	0.13	0.00	0.00
On-Road Haul Trucks	0.27	9.02	1.53	0.63	0.20
Employee Commute	0.00	0.00	0.02	0.06	0.01
Unpaved Road Dust (fugitive dust)	0.00	0.00	0.00	8.69	0.87
Dust (loading, wind, storage piles, unpaved roads)	0.00	0.00	0.00	0.70	0.18
Paved Road Dust Haul Trucks	0.00	0.00	0.00	0.00	0.00
Total Project Emissions	**1.87**	**17.70**	**18.83**	**10.81**	**1.56**
CEQA Significance threshold	10	10	100	15	15
Exceed threshold—significant impact?	No	Yes	No	No	No

Notes:
ROG = reactive organic gases NO_X = nitrogen oxides PM_{10} and $PM_{2.5}$ = particulate matter
Area source emissions include emissions from natural gas, landscape, and painting.
Source: CalEEMod output (Appendix A).

Table 4.1-10
Operational Air Pollutant Emission in 2020 (395,000 Tons/Year – Unmitigated)

Scenario	Emissions (tons per year)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Project Increase 400,000 tons/year	1.07	10.11	10.76	6.17	0.89
Project Increase 395,000 tons/year	1.05	9.99	10.62	6.70	0.96
CEQA Significance threshold	10	10	100	15	15
Exceed threshold—significant impact?	No	No	No	No	No

Notes:
ROG = reactive organic gases NO_X = nitrogen oxides PM_{10} and $PM_{2.5}$ = particulate matter
Area source emissions include emissions from natural gas, landscape, and painting.
Source: CalEEMod output (Appendix A).

"Most mobile emission sources decline each year from compliance with mobile source regulations, so more throughput can be accommodated without exceeding the emission thresholds as time passes. The ARB Truck and Bus Regulation requires truck fleets to operate

only 2010 and newer trucks by 2024, which results in substantial emission reductions. The benefits of this regulation are included in the CalEEMod model. The emissions in 2025 without mitigation were modeled with CalEEMod to determine the throughput that could be produced without exceeding the SJVAPCD thresholds. The results show that an increase of 500,000 tons per year above the 800,000 ton per year baseline (1,300,000 tons per year) would not exceed the thresholds in 2025. In other words, the project could add 100,000 tons of throughput each year through 2025 without exceeding the threshold. The results of the analysis for a 500,000-ton-per-year increase from baseline are provided in Table 19 [in the AQ-GHG Report, **Table 4.1-11** in this Draft SEIR]."[52]

Table 4.1-11
Operational Air Pollutant Emission in 2025 (500,000 Tons/Year – Unmitigated)

Scenario	Emissions (tons per year)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Project Increase 500,000 tons/year	1.26	9.64	13.23	7.70	1.10
CEQA Significance threshold	10	10	100	15	15
Exceed threshold—significant impact?	No	No	No	No	No

Notes:
ROG = reactive organic gases NO_X = nitrogen oxides PM_{10} and $PM_{2.5}$ = particulate matter
Area source emissions include emissions from natural gas, landscape, and painting.
Source: CalEEMod output (Appendix A).

"If demand for material were to increase by more than 395,000 tons between 2020 and 2025, mitigation beyond compliance with regulations would be required. The ARB In-Use Off-Road Diesel-Fueled Fleet regulation requires fleets such as those operated by the Deer Creek Mine to reduce NO_X emissions each year to meet fleet average emission targets. In addition, the regulation requires fleets to implement best available control technology (BACT) on 10 percent of the equipment until all equipment meets the requirement. BACT for most off-road equipment requires models that are EPA Tier 4-certified, with some exemptions for equipment age and low usage.

To operate at the maximum throughput increase of 700,000 tons per year (1,500,000 tons per year) requires accelerating the replacement of equipment with Tier 4 models beyond the replacement rates required by the regulation. Using a fleet consisting of all Tier 4-interim and Tier 4-final certified equipment in 2020 would allow throughput to increase by 500,000 tons per year from baseline (1,300,000 tons/year). Recognizing that replacing all non-Tier 4 equipment with Tier 4 all at once would incur substantial costs, the applicant could gradually change out the fleet beyond the amounts required by regulation but continue operating at the lower throughput level until the fleet changeout is complete. A mitigation measure has been included to provide the applicant with the flexibility to increase throughput and implement the early changeout of equipment or to delay the equipment changeout until a future date and

[52] Op. Cit. 94.

maintain 395,000 ton per year increase from baseline or 1,195,000 tons per year from the facility.

Project emissions at the maximum increase in throughput in 2025 would exceed the threshold for NO_X and PM_{10} prior to the application of mitigation measures. The change of the off-road equipment to Tier 4 would reduce NO_X emissions to less than significant levels.

The project emissions with an increase of 700,000 tons per year (maximum throughput of 1,500,000 tons per year) in 2025 without mitigation is provided in Table 20 [in the AQ-GHG Report, **Table 4.1-12** in this Draft SEIR]. The emissions prior to applying mitigation measures exceed the SJVAPCD thresholds for NO_X and PM_{10}. CO emissions increased somewhat, due to the increasing throughput"[53]

Table 4.1-12
Operational Air Pollutant Emission in 2025 (700,000 Tons/Year – Unmitigated)

	Emissions (tons per year)				
Scenario	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Project Increase 700,000 tons/year	1.76	13.50	18.52	10.78	1.54
CEQA Significance threshold	10	10	100	15	15
Exceed threshold—significant impact?	No	Yes	No	No	No

Notes:
ROG = reactive organic gases NO_X = nitrogen oxides PM_{10} and $PM_{2.5}$ = particulate matter
Area source emissions include emissions from natural gas, landscape, and painting.
Source: CalEEMod output (Appendix A).

"Project emissions including all Tier 4 off-road equipment are shown in Table 21 [in the AQ-GHG Report, **Table 4.1-13** in this Draft SEIR]. The emissions with an increase of 700,000 tons per year (1,500,000 tons per year) would result in less than significant impacts with the implementation of mitigation measures to reduce NO_X and PM_{10}."[54]

Table 4.1-13
Operational Air Pollutant Emission in 2025 (700,000 Tons/Year – Mitigated)

	Emissions (tons per year)				
Scenario	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Project Increase 700,000 tons/year	0.44	9.80	17.70	8.19	1.42
CEQA Significance threshold	10	10	100	15	15
Exceed threshold—significant impact?	No	No	No	Yes	No

Notes:
ROG = reactive organic gases NO_X = nitrogen oxides PM_{10} and $PM_{2.5}$ = particulate matter
Area source emissions include emissions from natural gas, landscape, and painting.
Source: CalEEMod output (Appendix A).

[53] Op. Cit. 94-95.
[54] Op Cit. 95.

The second component (i.e., criteria) used to evaluate potential Project impacts is to determine if the Project is consistent with current air quality attainment plans including control measures and regulations. As indicated in the AQ-GHG Report at its *Plan Approach* discussion, "In accordance with CEQA Guidelines 15130(b), this part of the analysis of cumulative impacts is based on a summary of projections analysis. This analysis considers the current CEQA Guidelines, which includes the amendments approved by the Natural Resources Agency, effective on December 28, 2018. Under the amended CEQA Guidelines, cumulative impacts may be analyzed using other plans that evaluate relevant cumulative effects. The air quality attainment plans describe and evaluate the future projected emissions sources in the Basin and set forth a strategy to meet both state and federal Clean Air Act planning requirements and federal ambient air quality standards. The District attainment plans are based on a summary of projections that accounts for projected growth throughout the Air Basin, and the controls needed to achieve ambient air quality standards. In accordance with CEQA Guidelines Section 15064, subdivision (h)(3), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously approved plan or mitigation program. Therefore, the plans are relevant plans for a CEQA cumulative impacts analysis. As discussed in Impact AIR-1 [in the AQ-GHG Report, Item a) in this resource discussion], the project is consistent with the air quality attainment plans. Therefore, according to this criterion, this impact is less than significant.

The history and development of the SJVAPCD's current Ozone Attainment Plan is described in Section 2.4, Air Quality Plans [of the AQ-GHG Report]. The 2007 8-Hour Ozone Plan contains measures to achieve reductions in emissions of ozone precursors, and sets plans towards attainment of ambient ozone standards by 2023. The 2012 $PM_{2.5}$ Plan and the 2015 $PM_{2.5}$ Plan for the 1997 $PM_{2.5}$ Standard require fewer NO_X reductions to attain the $PM_{2.5}$ standard than the Ozone Plan, so the Ozone Plan is considered the applicable plan for reductions of the ozone precursors NO_X and ROG. The 2012 $PM_{2.5}$ Plan requires reductions in directly emitted $PM_{2.5}$ from combustion sources, such as diesel engines and fireplaces, and from fugitive dust to attain the ambient standard and is the applicable plan for $PM_{2.5}$ emissions. $PM_{2.5}$ is also formed in secondary reactions in the atmosphere involving NO_X and ammonia to form nitrate particles. Reductions in NO_X required for ozone attainment are also sufficient for $PM_{2.5}$ attainment. As discussed in Impact AIR-1 [in the AQ-GHG Report, Item a) in this resource discussion], the project is consistent with all applicable control measures in the air quality attainment plans. The project would comply with any District rules and regulations that may pertain to implementation of the AQPs. Therefore, impacts would be less than significant with regard to compliance with applicable rules and regulations.

This project does not exceed SJVAPCD thresholds; therefore, the project is considered less than significant for this criterion."[55]

The third component (i.e.; criteria) used to evaluate potential Project impacts is to determine if the Project would result in less than significant cumulative health effects from the

[55] Op. Cit. 96-97.

nonattainment pollutants. As indicated in the AQ-GHG Report at its *Project Health Impacts* discussion, "In the 5th District Court of Appeal case *Sierra Club v. County of Fresno (Friant Ranch, L.P.)*, the Court found the project EIR deficient because it did not identify specific health related effects resulting from the estimated amount of pollutants generated by the project. The ruling stated that the EIR should give a "sense of the nature and magnitude of the 'health and safety problems' caused by a project's air pollution. The EIR should translate the emission numbers into adverse impacts or to understand why such translation is not possible at this time (and what limited translation is, in fact, possible)."

The standard measure of the severity of impact is the concentration of pollutant in the atmosphere compared to the ambient air quality standard for the pollutant for a specified period of time. The severity of the impact increases with the concentration and the amount of time that people are exposed to the pollutant. The change in health impacts with concentration is described in Table 3 and Table 4 [in the AQ-GHG Report, **Tables 4.1-6,** and **4.1-7** in this Draft SEIR] using the EPA's Air Quality Index. The pollutants of concern in the Friant Ranch ruling were regional criteria pollutants ozone, and PM_{10}. It is important to note that the potential for localized impacts can be addressed through dispersion modeling. The SJVAPCD includes screening criteria that if exceeded would require dispersion modeling to determine if project emissions would result in a significant health impact. For this project, no significant localized health impacts would occur with application of mitigation measures. Regional pollutants require more complex modeling as described below.

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

Emissions throughout the San Joaquin Valley are projected to markedly decline in the coming decade. The SJVAPCD 2016 Ozone Plan predicts NO_X emissions will decline to 103 tons per day by 2029 or 54 percent from 2019 levels through implementation of control measures included in the plan. This means that ozone health impacts to residents of the San Joaquin Valley will be lower than currently experienced and most areas of the San Joaquin Valley will have attained ozone air quality standards. The plan accounts for growth in population at rates

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

Particulate emission impacts can be localized and regional. Particulates can be directly emitted and can be formed in the atmosphere with chemical reactions. Small directly emitted particles such as diesel emissions and other combustion emissions can remain in the atmosphere for a long time and can be transported over long distances. Large particles such as fugitive dust tend to be deposited a short distance from where emitted but can also travel long distances during periods of high winds. Particulates can be washed out of the atmosphere by rain and deposited on surfaces. Secondary particulates formed in the atmosphere such as ammonium nitrate require NO_X and ammonia and require low inversion levels, and certain ranges of temperature and humidity to result in substantial concentrations. These complications make modeling project particulate emissions to determine concentration feasible only for directly emitted particles at receptor locations close to the project site. Regional particulate concentrations are modeled using a gridded inventory (emissions in tons/day are placed within a 4-kilometer, three-dimensional grid to spatially allocate the emissions geographically) and an atmospheric chemistry component is used to simulate the chemical reactions. The model uses relative reduction factors to determine the amount of reductions of each PM component will be needed to attain the air quality standards on the days with the conditions most favorable to high particulate concentrations. Only very large projects with emissions well in excess of SJVAPCD thresholds of significance would produce sufficient emissions to determine a project's individual contribution to the particulate concentration and health impact."[56]

In addition to the Project's potential health impacts, the AQ-GHG Report's *Cumulative Health Impacts* discussion evaluates health implications from nonattainment of some criteria pollutants. "The Air Basin is in nonattainment for ozone, PM_{10} (State only), and $PM_{2.5}$, which means that the background levels of those pollutants are at times higher than the ambient air quality standards. The air quality standards were set to protect public health, including the health of sensitive individuals (such as children, the elderly, and the infirm). Therefore, when the concentration of those pollutants exceeds the standard, it is likely that some sensitive individuals in the population would experience health effects that were described in Table 1 [in the AQ-GHG Report]. However, the health effects are a factor of the dose-response curve. Concentration of the pollutant in the air (dose), the length of time exposed, and the response of the individual are factors involved in the severity and nature of health impacts. If a significant health impact results from project emissions, it does not mean that 100 percent of

[56] Op. Cit. 97-98.

the population would experience health effects. Table 2, Table 3, and Table 4 [in the AQ-GHG Report, **Tables 4.1-5, 4.1-6,** and **4.1-7** in this Draft SEIR] relate the pollutant concentration experienced by residents using air quality data for the nearest air monitoring station to the health impacts ascribed to those concentrations by the EPA Air Quality Index. This provides a more detailed look at the actual impacts currently experienced by residents near the project site.

Since the Basin is nonattainment for ozone, PM10, and $PM_{2.5}$, it is considered to have an existing significant cumulative health impact without the project. When this occurs, the analysis considers whether the project's contribution to the existing violation of air quality standards is cumulatively considerable. The SJVAPCD regional thresholds for NO_X, VOC, PM_{10}, or $PM_{2.5}$ are applied as cumulative contribution thresholds. Projects that exceed the regional thresholds would have a cumulatively considerable health impact. As shown in Table 17 [in the AQ-GHG Report, **Table 4.1-9** in this Draft SEIR], the regional analysis of operational emissions indicates that the project would not exceed the District's significance thresholds with an increase in throughput of 395,000 tons per year in 2020 without mitigation. Table 18 [in the AQ-GHG Report, **Table 4.1-10** in this Draft SEIR] shows that the project would not exceed the District's significance levels with a throughput of 500,000 tons per year in 2025 without mitigation. Table 21 [in the AQ-GHG Report, **Table 4.1-13** in this Draft SEIR] shows that the project at the proposed maximum increase of 700,000 tons per year in 2025 would not exceed the District's thresholds with the application of Mitigation Measures AIR-2a, AIR-2b, and AIR-2c [in the AQ-GHG Report, **Mitigation Measures 4.1-1, 4.1-2,** and **4.1-3** in this Draft SEIR]. Therefore, the project is consistent with the applicable Air Quality Plan.

The SJVAPCD Air Quality Attainment Plans predict that nonattainment pollutant emissions will continue to decline each year as regulations adopted to reduce these emissions are implemented, accounting for growth projected for the region. Therefore, the cumulative health impact will also decline even with the project's emission contribution."[57]

Mitigation Measure(s): ***See Mitigation Measures 4.1-1*** through ***4.1-3***

Mitigation Measures 4.1-1 through ***4.1-3*** are required to reduce project ozone precursor emissions and diesel particulate matter emissions to less than significant levels.

4.1-1 The following air pollution control measure shall be implemented to reduce emissions from off-road equipment: Idling times shall be minimized either by shutting equipment off when not in use or by reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of the California Code of Regulations). Clear signage shall be provided where clearly visible to equipment users.[58]

[57] Op. Cit. 98-99.
[58] Op. Cit. 99.

4.1-2 Prior to increasing production beyond 395,000 tons per year of additional material, but less than 500,000 tons of material, the applicant shall ensure that the off-road equipment fleet meets EPA Tier 4 Interim or Tier 4 NOx emissions standards. If the increase in production to 500,000 tons per year is deferred until 2025, compliance only with the ARB In-Use Off-Road Diesel-Fueled Fleet regulation is required to increase throughput by 500,000 tons per year (1,300,000 tons per year).[59]

4.1-3 Prior to increasing production by 700,000 tons per year to the 1,500,000 tons per year permit limit in the year 2025 or later, the applicant shall ensure that the off-road equipment fleet meets EPA Tier 4 Interim or Tier 4 NOx emissions standards.[60]

Conclusion: ***Less Than Significant Impacts With Mitigation***

As noted earlier, the Project construction- and operations-related emissions would not exceed the Air District's thresholds of significance and would not contribute substantially to an existing or projected air quality violation. Therefore, the Project would result in ***Less Than Significant Project-specific and Cumulative Impacts With Mitigation*** related to this Checklist Item.

c) Expose sensitive receptors to substantial pollutant concentrations?

Project Impact Analysis: ***Less Than Significant Impact With Mitigation***

The AQ-GHG Report contains a comprehensive analysis of potential exposure risks to sensitive receptors as applicable to the Project. The discussion includes sensitive receptors, a localized pollutant analysis, air quality-based concentration significance thresholds, thresholds for health risks, results of localized criteria pollutant assessment, results of operational health risk assessment, valley fever, and naturally occurring asbestos (see pages 100-107 of the AQ-GHG Report included in Appendix "A" of this Draft SEIR). Also, it is noted that the existing Deer Creek Mine facility is an existing source of toxic emissions but is not one of the sources identified in the ARB Air Quality Land Use Handbook for siting sensitive land uses.[61] A health risk assessment (HRA) was prepared to evaluate the Project's potential impact related to toxic emissions. The AQ-GHG Report concludes, "In summary, the project would not exceed SJVAPCD localized emission thresholds for any criteria pollutant with the inclusion of Mitigation Measures AIR-2a, AIR-2b, and AIR-2c [in the AQ-GHG Report, **Mitigation Measures 4.1-1, 4.1-2,** and **4.1-3** in this Draft SEIR]. The project TAC emissions would not result in a significant increase in cancer risk or non-cancer risk with the inclusion of Mitigation Measures AIR-2a, 2b, and 2c [in the AQ-GHG Report, **Mitigation Measures 4.1-1, 4.1-2,** and

[59] Op. Cit.
[60] Op. Cit.
[61] California Air Resources Board. Air Quality and Land Use Handbook: A Community Health Perspective accessed August 2019 at www.arb.ca.gov/ch/landuse.htm.

4.1-3 in this Draft SEIR]. Fugitive unpaved dust emissions would exceed SJVAPCD concentration-based thresholds without application of additional mitigation to reduce this impact. With paving of 0.2 mile of unpaved haul road and increasing watering to three times per day, this impact would be reduced to less than significant levels. The project would not result in a significant impact from Valley fever spores with compliance with SJVAPCD Regulation VIII during soil disturbing activity. The project is not in area known to have naturally occurring asbestos. Therefore, the project would not result in significant impacts to sensitive receptors."[62] The AQ-GHG Report also included ***Mitigation Measure 4.1-4*** and ***4.1-5*** (measures MM AIR 3a and MM AIR 3b in the AQ-GHG Report).

Cumulative Impact Analysis: ***Less Than Significant Impact With Mitigation***

The geographic area of this cumulative analysis is the San Joaquin Valley Air Basin. Although there are sensitive receptors (in the form of residences) along the Project's alignment, it is anticipated that the Project would not expose sensitive receptors to substantial pollutant concentrations. Therefore, based on the above analysis and projected emissions from the Project's construction phase, the Project would result in a ***Less Than Significant Impact With Mitigation*** related to this Checklist Item.

Mitigation Measure(s): ***See Mitigation Measures 4.1-4*** and ***4.1-5.***

In addition to ***Mitigation Measures 4.1-1*** through ***4.1-3***, ***Mitigation Measures 4.1-4*** and ***4.1-5*** are also required to reduce project fugitive dust emissions to a less than significant level.

4.1-4 Prior to reaching the maximum throughput increase of 700,000 tons per year or the 1,500,000 tons permit limit, the operator shall pave at least 0.20 mile of unpaved access road starting from the site entrance on Deer Creek Road.

4.1-5 Unpaved haul roads shall be controlled with the application of water as needed to reduce fugitive dust to less than 20 percent opacity. Water shall be applied three times per day to achieve a 61 percent control and the opacity limit.

Conclusion: ***Less Than Significant Impact With Mitigation***

As noted earlier, the Project would result in ***Less Than Significant Project-specific and Cumulative Impacts With Mitigation*** related to this Checklist Item.

d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?

Project Impact Analysis: ***Less Than Significant Impact***

[62] AQ-GHG Report. Pages 107-108.

The site is located in a generally remote area, the nearest residence is located approximately 450 feet south of the site, the next nearest residence is located approximately 1,500 feet west of the site. There are no other sensitive receptors such as schools, day-care centers, or hospitals nearby. As noted in the AQ-GHG Report, "Odor impacts on residential areas and other sensitive receptors, such as hospitals, day-care centers, schools, etc. warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas. Two situations create a potential for odor impact. The first occurs when a new odor source is located near an existing sensitive receptor. The second occurs when a new sensitive receptor locates near an existing source of odor. According to the *CBIA v. BAAQMD* ruling, impacts of existing sources of odors on the project are not subject to CEQA review. Therefore, the following analysis is provided for information only. The District has determined the common land use are known to produce odors in the Air Basin. These types are shown in Table 31 [in the AQ-GHG Report, **Table 4.1-14** in this Draft SEIR)."[63]

Table 4.1-14
Screening Levels for Potential Odor Sources

Odor Generator	Screening Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	2 miles
Petroleum Refinery	1 mile
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g., auto body shop)	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile
Source: SJVAPCD 2015a.	

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

- **Generators:** projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate, and

- **Receivers:** residential or other sensitive receptor projects or other projects built for the intent of attracting people located near existing odor sources.

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

[63] Ibid. 108

Project Analysis

The increase in mining activity from the project does not include uses normally considered to cause odor impacts. The project site includes an existing asphalt batch that is a potential source of odors, but the plant will continue to operate at current levels and is not part of the expansion project.

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

Because the sources of odors for the project will dissipate with distance and should not reach an objectionable level at nearby residences and that no complaints have been registered, this impact is considered less than significant."[64]

Cumulative Impact Analysis: ***Less Than Significant Impact***

The geographic area of this cumulative analysis is the San Joaquin Valley Air Basin. This cumulative analysis is based on the information provided in the AQ-GHG Report (included in Appendix "A" of this Draft SEIR). As such, the Project would result in ***Less Than Significant Impacts*** related to this Checklist Item.

Mitigation Measure(s): ***None Required.***

Conclusion: ***Less Than Significant Impact***

As previously noted, the Project would result in ***Less Than Significant Project-specific and Cumulative Impacts*** related to this Checklist Item.

[64] Op. Cit. 109

DEFINITIONS

Ambient Air Quality Standards, These standards measure outdoor air quality. They identify the maximum acceptable average concentrations of air pollutants during a specified period of time. These standards have been adopted at a State and Federal level.

Best Available Control Measures (BACM), A set of programs that identify and implement potentially best available control measures affecting local air quality issues.

Best Available Control Technologies (BACT), The most stringent emission limitation or control technique of the following: 1.) Achieved in practice for such category and class of source 2.) Contained in any State Implementation Plan approved by the Environmental Protection Agency for such category and class of source. A specific limitation or control technique shall not apply if the owner of the proposed emissions unit demonstrates to the satisfaction of the APCO that such a limitation or control technique is not presently achievable 3.) Contained in an applicable federal New Source Performance Standard or 4.) Any other emission limitation or control technique, including process and equipment changes of basic or control equipment, found by the APCO to be cost effective and technologically feasible for such class or category of sources or for a specific source.

Carbon Dioxide (CO_2) - A naturally occurring gas, and also a by-product of burning fossil fuels and biomass, as well as land-use changes and other industrial processes. It is the principal anthropogenic greenhouse gas that affects the Earth's radiative balance. It is the reference gas against which other greenhouse gases are measured and therefore has a Global Warming Potential of 1.

Carbon Monoxide (CO), Carbon monoxide is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels and is emitted directly into the air (unlike ozone).

Climate Change - Climate change refers to a statistically significant variation in either the mean state of the climate or in its variability, persisting for an extended period (typically decades or longer). Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use.

Global Warming - Global warming is an average increase in the temperature of the atmosphere near the Earth's surface and in the troposphere, which can contribute to changes in global climate patterns. Global warming can occur from a variety of causes, both natural and human induced. In common usage, "global warming" often refers to the warming that can occur as a result of increased emissions of greenhouse gases from human activities.

Greenhouse Effect - Trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. Some of the heat flowing back toward space from the Earth's surface is absorbed by water vapor, carbon dioxide, ozone, and several other gases in the atmosphere and then reradiated back toward the Earth's surface. If the atmospheric concentrations of these greenhouse gases rise, the average temperature of the lower atmosphere will gradually increase.

Greenhouse Gas - Any gas that absorbs infrared radiation in the atmosphere. Greenhouse gases include, but are not limited to, water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrochlorofluorocarbons (HCFCs), ozone (O_3), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Hydrogen Sulfide (H_2S), Hydrogen sulfide is a highly toxic flammable gas. Because it is heavier than air, it tends to accumulate at the bottom of poorly ventilated spaces.

Lead (Pb), Lead is the only substance which is currently listed as both a criteria air pollutant and a toxic air contaminant. Smelters and battery plants are the major sources of the pollutant "lead" in the air. The highest concentrations of lead are found in the vicinity of nonferrous smelters and other stationary sources of lead emissions. The EPA's health-based national air quality standard for lead is 1.5 micrograms per cubic meter ($\mu g/m_3$) [measured as a quarterly average].

Metropolitan Planning Organization (MPO), Tulare County Association of Governments (TCAG) is the MPO for Tulare County. MPO's are responsible for developing reasonably available control measures (RACM) and best available control measures (BACM) for use in air quality attainment plans and for addressing Transportation Conformity requirements of the federal Clean Air Act.

Mobile Source, A mobile emission source is a moving object, such as on-road and off-road vehicles, boats, airplanes, lawn equipment, and small utility engines.

Nitrogen Oxides (Oxides of Nitrogen, NO_x), NO_x are compounds of nitric oxide (NO) and nitrogen dioxide (NO_2). NO_x are primarily created from the combustion process and are a major contributor to ozone smog and acid rain formation. NOx also forms ammonium nitrate particulate in chemical reactions that occur when NOx forms nitric acid and combines with ammonia. Ammonium nitrate particulate is an important contributor to PM10 and PM2.5.

Ozone (O_3), Ozone is a pungent, colorless, toxic gas created in the atmosphere rather than emitted directly into the air. O_3 is produced in complex atmospheric reactions involving oxides of nitrogen, reactive organic gases (ROG), and ultraviolet energy from the sun in a photochemical reaction. Motor vehicles are the major sources of O_3 precursors.

Ozone Precursors, Chemicals such as non-methane hydrocarbons, also referred to as ROG, and oxides of nitrogen, occurring either naturally or as a result of human activities, which contribute to the formation of ozone, which is a major component of smog.

Photochemical, Some air pollutants are direct emissions, such as the CO produced by an automobile's engine. Other pollutants, primarily O_3, are formed when two or more chemicals react (using energy from the sun) in the atmosphere to form a new chemical. This is a photochemical reaction.

Particulate Matter 2.5 Micrometers ($PM_{2.5}$), The federal government has recently added standards for smaller dust particulates. $PM_{2.5}$ refers to dust/particulates/aerosols that are 2.5 microns in diameter or smaller. Particles of this size can be inhaled more deeply in the lungs and the chemical compositions of some particles are toxic and have serious health impacts.

Particulate Matter 10 Micrometers (PM_{10}), Dust and other particulates exhibit a range of particle sizes. Federal and State air quality regulations reflect the fact that smaller particles are easier to inhale and can be more damaging to health. PM_{10} refers to dust/particulates that are 10 microns in diameter or smaller. The fraction of PM between $PM_{2.5}$ and PM_{10} is comprised primarily of fugitive dust. The particles between PM_{10} and $PM_{2.5}$ are primarily combustion products and secondary particles formed by chemical reactions in the atmosphere.

Reactive Organic Gas (ROG), A photo chemically reactive gas, composed of non-methane hydrocarbons that may contribute to the formation of smog. Also sometimes referred to as Volatile Organic Compounds (VOCs).

Reasonable Available Control Measures (RACM), A broadly defined term referring to technologies and other measures that can be used to control pollution. They include Reasonably Available Control Technology and other measures. In the case of PM_{10}, RACM refers to approaches for controlling small or dispersed source categories such as road dust, woodstoves, and open burning. Regional Transportation Planning Agencies are required to implement RACM for transportation sources as part of the federal ozone attainment plan process in partnership with the Air District.

Reasonable Available Control Technologies (RACT), Devices, systems, process modifications, or other apparatuses or techniques that are reasonably available, taking into account: the necessity of imposing such controls in order to attain and maintain a national ambient air quality standard; the social, environmental, and economic impact of such controls; and alternative means of providing for attainment and maintenance of such a standard.

San Joaquin Valley Air Basin (SJVAB), An air basin is a geographic area that exhibits similar meteorological and geographic conditions. California is divided into 15 air basins to assist with the statewide regional management of air quality issues. The SJVAB extends in the Central Valley from San Joaquin County in the north to the valley portion of Kern County in the south.

San Joaquin Valley Unified Air Pollution Control District (Air District), The Air District is the regulatory agency responsible for developing air quality plans, monitoring air quality, developing air quality regulations, and permitting programs on stationary/industrial sources and agriculture and reporting air quality data for the SJVAB. The Air District also regulates indirect sources and has limited authority over transportation sources through the implementation of transportation control measures (TCM).

Sensitive Receptors, Sensitive receptors are defined as land uses that typically accommodate sensitive population groups such as long-term health care facilities, rehabilitation centers, retirement homes, convalescent homes, residences, schools, childcare centers, and playgrounds.

Sensitive Population Groups, Sensitive population groups are a subset of the general population that is at a greater risk than the general population to the effects of air pollution. These groups include the elderly, infants and children, and individuals with respiratory problems, such as asthma.

Sulfur Dioxide (SO_2), Sulfur dioxide belongs to the family of SOx. These gases are formed when fuel containing sulfur (mainly coal and oil) is burned, and during metal smelting and other industrial processes.

Stationary Source, A stationary emission source is a non-mobile source, such as a power plant, refinery, or manufacturing facility.

Sulfates, Sulfates occur as microscopic particles (aerosols) resulting from fossil fuel and biomass combustion. SOx can form sulfuric acid in the atmosphere that in the presence of ammonia forms ammonium sulfate particulates, a small but important component of PM_{10} and $PM_{2.5}$. Sulfates increase the acidity of the atmosphere and form acid rain.

Transportation Conformity, A federal requirement for transportation plans and projects to demonstrate that they will not result in emissions that exceed attainment plan emission budgets or exceed air quality standards.

Transportation Control Measures (TCMs), Any measure that is identified for the purposes of reducing emissions or concentrations of air pollutants from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions.

Transportation Management Agencies, Transportation Management Agencies are private, non-profit, member-controlled organizations that provide transportation services in a particular area, such as a commercial district, mall, medical center, or industrial park. Transportation Management Agencies are appropriate for any geographic area where there are multiple employers or businesses clustered together that can benefit from cooperative transportation management or parking brokerage services. Regional and local governments, business associations, and individual businesses can all help establish Transportation Management Agencies.

Transportation Management Associations (TMAs), Groups of employers uniting together to work collectively to manage transportation demand in a particular area.

Tulare County Association of Governments (TCAG), TCAG is the Transportation Planning Agency (TPA) for Tulare County. TCAG is also designated as a Metropolitan Planning Organization (MPO), the agency responsible for preparing long range Regional Transportation Plans and demonstrating Transportation Conformity with air quality plans.

Wood-burning Devices, Wood-burning devices are designed to burn “solid fuels” such as cordwood, pellet fuel, manufactured logs, or any other non-gaseous or non-liquid fuels.

ACRONYMS

ACM	Asbestos Containing Materials
AIR DISTRICT	San Joaquin Valley Unified Air Pollution Control District
ARB	California Air Resources Board
AQI	Air Quality Index
ATCM	Airborne Toxic Control Measure
BACM	Best Available Control Measures
BACT	Best Available Control Technologies
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal EPA	California Environmental Protection Agency
CARB or ARB	California Air Resources Board
CCAA	California Clean Air Act
CEQA	California Environmental Quality Act
CH_4	Methane
CO	Carbon Monoxide
DPM	Diesel Particulate Matter
EPA	United States Environmental Protection Agency
GAMAQI	Guide for Assessing and Mitigating Air Quality Impacts
GVWR	Gross Vehicle Weight Rate
HCFCs	Hydrochlorofluorocarbons
HFCs	Hydrofluorocarbons
HI	Hazard Index
H_2S	Hydrogen Sulfide
LEV	Low-Emissions Vehicle
NAAQS	National Ambient Air Quality Standards
NESHAPs	National Emissions Standards for Hazardous Air Pollutants
NO_2	Nitrogen Dioxide
NSPS	Standards of Performance for Stationary Compression- Ignition Internal Combustion Engines
NSR	New Source Review
MPO	Metropolitan Planning Organization
O_3	Ozone
OAL	Office of Administrative Law
Pb	Lead
PFCs	Perfluorocarbons
$PM_{2.5}$	Particulate Matter 2.5 Micrometers
PM_{10}	Particulate Matter 10 Micrometers
RACM	Reasonable Available Control Measures
RACT	Reasonable Available Control Technologies
RDEIR	Recirculated Draft Environmental Impact Report
ROG	Reactive Organic Gases
SEKI	Sequoia and Kings Canyon National Park

SIP	State Implementation Plan
SF_6	Sulfur Hexafluoride
SO_2	Sulfur Dioxide
SJVAPCD	San Joaquin Valley Unified Air Pollution Control District
SJVAB	San Joaquin Valley Air Basin
TAC	Toxic Air Contaminants
TCAG	Tulare County Association of Governments
TCM	Transportation Control Measures
VOC	Volatile Organic Compound
WWTP	Waste Water Treatment Plant

REFERENCES

"Air Quality and Greenhouse Gas Analysis Report Deer Creek Mine Expansion Project Tulare County, California." (AQ-GHG Report) October 2019. Prepared by Mitchell Air Quality Consulting and included in Appendix "A" of this SEIR.

San Joaquin Valley Unified Air Pollution Control District. *2019 Air Monitoring Network Plan.* https://valleyair.org/aqinfo/Docs/2019-Air-Monitoring-Network-Plan.pdf. Accessed July 2019.

San Joaquin Valley Unified Air Pollution Control District. *About the District*. http://www.valleyair.org/General_info/aboutdist.htm#Mission. August 2019.

San Joaquin Valley Unified Air Pollution Control District. *Air Quality Guidelines for General Plans*. Accessed June 2019at: http://www.valleyair.org/transportation/Entire-AQGGP.pdf.

San Joaquin Valley Unified Air Pollution Control District. *Ambient Air Quality Standards & Valley Attainment Status.* Accessed June 2019at: http://www.valleyair.org/aqinfo/attainment.htm.

San Joaquin Valley Unified Air Pollution Control District. *Current District Rules and Regulations.* Accessed August 2019 at: http://www.valleyair.org/rules/1ruleslist.htm.

San Joaquin Valley Unified Air Pollution Control District. *Guidance for Assessing and Mitigating Air Quality Impacts*. March 19, 2015. Accessed August 2019 at: http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf.

San Joaquin Valley Unified Air Pollution Control District. *Ozone Plans*. Accessed August 2019 at: http://www.valleyair.org/Air_Quality_Plans/Ozone_Plans.htm.

San Joaquin Valley Unified Air Pollution Control District. *Particulate Matter Plans*. Accessed August 2019 at: http://www.valleyair.org/Air_Quality_Plans/PM_Plans.htm.

San Joaquin Valley Unified Air Pollution Control District. *Rule 9510 (Indirect Source Review).* Accessed August 2019 at: http://www.valleyair.org/rules/currntrules/r9510.pdf.

State of California. Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387. Guidelines for Implementation of the California Environmental Quality Act.

State of California. Air Resources Board. Frequently Asked Questions. Airborne Toxic Control Measure for Stationary Compression Ignition Engines, Requirements for Stationary Engines Use in Non-Agricultural Applications. Accessed August 2019 at: http://www.arb.ca.gov/diesel/documents/atcmfaq.pdf.

State of California. Air Resources Board. Air Quality and Land Use Handbook: A Community Health Perspective. Accessed August 2019 at: www.arb.ca.gov/ch/landuse.htm.

State of California. Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective.* April 2005. Accessed August 2019 at: www.arb.ca.gov/ch/landuse.htm.

State of California. Air Resources Board. *Ambient Air Quality Standards.* Accessed July 2019: https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf?_ga=2.37139495.687085110.1562705746-1292949104.1524090547.

State of California. Air Resources Board. *ARB Fact Sheet: Air Pollution Sources, Effects and Control.* Accessed 2019 at: http://www.arb.ca.gov/research/health/fs/fs2/fs2.htm..

State of California. Air Resources Board. Stationary Source Division, Emissions Assessment Branch. *Frequently Asked Questions. Airborne Toxic Control Measure For Stationary Compression Ignition Engines, Requirements for Stationary Engines Use in Non-Agricultural Applications.* May 2011. Accessed August 2019 at: http://www.arb.ca.gov/diesel/documents/atcmfaq.pdf.

State of California. Air Resources Board. *Top 4 Summary.* Accessed August 2019 at: http://www.arb.ca.gov/adam/topfour/topfour1.php.

State of California. Air Resources Board. PM-10 air monitoring data. Accessed August 2019 at: https://www.arb.ca.gov/adam/select8/sc8display.php

State of California. Business, Transportation and Housing Agency and California Environmental Protection Agency. Goods Movement Action Plan. January 2007. Accessed in August 2019 at: https://ww3.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf.

Tulare County General Plan 2030 Update. August 2012. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/documents.html.

Tulare County General Plan 2030 Update Background Report. February 2010. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/BackgroundReport.pdf

Tulare County General Plan 2030 Update, Recirculated Draft Environmental Impact Report (RDEIR). February 2010. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/documents.html, then access by clicking "Recirculated DEIR".

United State Environmental Protection Agency. AirNow. *Air Quality Index (AQI) Basics.* Accessed July 2019 at: http://www.airnow.gov/index.cfm?action=aqibasics.aqi. .

United State Environmental Protection Agency. AirNow. *AQI Calculator: AQI to Concentration.* Accessed July 2019 at: http://www.airnow.gov/index.cfm?action=resources.aqi_conc_calc.

United State Environmental Protection Agency. AirNow. *AQI Calculator: Concentration to AQI.* Accessed July 2019 at: http://www.airnow.gov/index.cfm?action=resources.conc_aqi_calc.

Biological Resources
Chapter 4.2

SUMMARY OF FINDINGS

The proposed Project will result in ***Less Than Significant Impact With Mitigation*** to Biological Resources. A detailed review of potential impacts is provided in the following analysis. Consultants Live Oak Associates, Inc. (LOA) prepared/completed a Biotic Evaluation (BE) for the proposed Project in May 2019. This evaluation included a reconnaissance-level biological field survey for biotic habitats, the plants and animals occurring in those habitats, and significant habitat values that may be protected by state and federal law. The BE is included in Appendix "B" of this draft Subsequent Environmental Impact Report (draft Supplemental EIR, draft SEIR, or SEIR).

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

According to Section 15382 of the CEQA Guidelines, a significant 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 interest.[1]

The California Environmental Quality Act (CEQA; California Public Resources Code §§ 21000-21177) requires that State agencies, local governments, and special districts evaluate and disclose impacts from "projects" in the State. CEQA Guidelines Section 15380 clearly indicates that species of special concern (SSCs) should be included in an analysis of project impacts if they can be shown to meet the criteria of sensitivity.[2]

CEQA Guidelines Sections 15063 and 15065 address how an impact is identified as significant. These sections are particularly relevant to SSCs. Project-level impacts to listed, rare, threatened, or endangered species are generally considered significant, and therefore require lead agencies to prepare an Environmental Impact Report to fully analyze and evaluate the impacts. In determining to assign "impact significance" to populations of non-listed species, factors which are usually considered include population-level effects, proportion of the species' range affected by a project, regional effects, and impacts to habitat features.[3]

This section of the draft SEIR for the Project meets CEQA requirements by addressing potential impacts to biological resources on the proposed Project site, which is located in a portion of the San Joaquin Valley in Tulare County. The "Environmental Setting" section provides a description

[1] Title 14. California Code of Regulations. Chapter 3. Guidelines for Implementation of the California Environmental Quality Act http://www.resources.ca.gov/ceqa/guidelines/art20.html. Accessed August 2019.
[2] Ibid.
[3] Op. Cit.

of biological resources in the region, with special emphasis on the proposed Project site and vicinity. The "Regulatory Setting" provides a description of applicable State and local regulatory policies. A description of the potential impacts of the proposed project is also provided and includes the identification of feasible mitigation to avoid or lessen the impacts.

Thresholds of Significance

The geographical area may be either statewide or nationwide, depending on the sensitive status of the species. Standards for listing as federal endangered species are determined by the Federal Endangered Species Act, administered by U.S. Department of Fish and Wildlife. Standards for listing of California special status species (Endangered, Threatened, Candidate Endangered, Candidate Threatened, and Sensitive Species) are administered by the California Department of Fish and Wildlife (DFW). These requirements are described in further detail in the "Regulatory" section of this document.

ENVIRONMENTAL SETTING

"The project site is located in the low foothills of the southern Sierra Nevada on the eastern edge of the Tulare Basin. Current land use in the region consists of urban areas such as the City of Porterville and the community of Terra Bella, and agricultural endeavors primarily in the form of citrus groves, and rangeland.

Like most of California, the Tulare Basin and lower Sierra foothills have a Mediterranean climate. Warm dry summers are followed by cool moist winters. Summer temperatures commonly exceed 90 to 100 degrees Fahrenheit, and the relative humidity is generally very low. Winter temperatures rarely rise much above 70 degrees Fahrenheit, with daytime highs often below 60 degrees Fahrenheit. Annual precipitation within the project site is about 11 inches, almost 85% of which falls between the months of October and March. Nearly all precipitation falls in the form of rain.

The project site is adjacent to Deer Creek, which historically drained into Tulare Lake. This waterway was historically characterized by riparian, wetland, and aquatic ecosystems that supported large populations of diverse native plants and animals. Agricultural diversions and channel realignments downstream of the project site have eliminated much of the original riparian habitat of this creek, and aquatic and wetland habitats have been greatly degraded from agricultural runoff and diversions. Tulare Lake has long been drained and converted to farmland and urban uses.

Native plant and animal species once abundant in the region have become locally extirpated or have experienced large reductions in their populations due to conversion of upland, riparian, and aquatic habitats to agricultural and urban uses. Remaining native habitats are particularly valuable to native wildlife species including special status species that still persist in the region."[4]

[4] *"Biotic Evaluation Deer Creek Rock Mine Expansion Project Tulare County, California."* (BE) Page 6. Prepared by Live Oak Associates, Inc. May 2019 and included in Appendix "B" of this draft SEIR.

"The project site consists of non-native grassland and a citrus orchard. The project site is gently sloping with elevations ranging from approximately 570 to 860 feet National Geodetic Vertical Datum (NGVD). The project site contains one soil mapping unit: Cibo-Rock outcrop complex, 15 to 50 percent slopes. This moderately deep well-drained soil has formed from weathered basic igneous rock. Small rock outcrops occurred in the upper elevations of the site, consisting of exposed hard gabbro. This soil mapping unit can contain inclusions of Centerville clay, Coarsegold loam, Las Posas loam, and Trabuco loam. During the field visit to the project site, a number of areas of Centerville clay were identifiable within the Cibo Rock Outcrop Complex. This soil mapping unit is not considered hydric, meaning it doesn't have the propensity to support seasonal pools that could provide habitat for sensitive plant or animal species. While soils of the site are mostly undisturbed, soils within the citrus orchard have been significantly disturbed by agricultural use of this area.

Surrounding land uses consist of the operating Deer Creek Rock Mine to the west, continuing citrus orchard to the south and open rangeland to the north and east."[5]

Land-Use Types/Biotic Habitats

As part of its biological evaluation LOA included the following description/analysis in the BE included in Appendix "B" of this SEIR.

"Land-use types/biotic habitats of the site comprise non-native grassland and orchard (Figure 3[of the BE]). A list of vascular plants identified on the site has been provided in Appendix B [of the BE]. A list of terrestrial vertebrates using or potentially using the project site has been provided in Appendix C [of the BE]."[6]

Non-native Grassland

"Non-native grassland occurs across most of the site. The grasses and forbs present in this habitat consist primarily of annuals of European origin. At the time of the field survey, annual grasses included ripgut brome (*Bromus diandrus*), soft-chess brome (*Bromus hordeaceous*), red brome (*Bromus madritensis ssp. rubens*), barnyard barley (*Hordeum murinum* ssp. *leporinum*), wild oats (*Avena fatua* and *A. barbata*), and rattail fescue (*Vulpia myuros*). Interspersed throughout the non-native grasses were a number of native and non-native forbs including broad-leaf filaree (*Erodium botrys*), rancher's fireweed (*Amsinckia intermedia*), bur clover (*Medicago polymorpha*), smooth cat's ear (*Hypochaeris glabra*), blow-wives (*Achyrachaena mollis*), bird's-eye gilia (*Gilia bicolor*), rusty popcornflower (*Plagiobothrys nothofulvus*), and common lomatium (*Lomatium utriculatum*). The small patchy areas of Centerville clay supported California plantain (*Plantago erecta*), hogwallow starfish (*Hesperevax caulescens*), and pretty face (*Triteleia ixioides*). Rocky outcrops supported caterpillar phacelia (*Phacelia cicutaria*) and rattlesnake sandmat (*Euphorbia polycarpa*)

[5] Ibid. 6 and 7.
[6] Op. Cit. 7.

As the spring-flowering annuals set seed and die, summer annuals bloom and set seed. Two summer annuals observed during the survey were Heerman's tarweed (*Holocarpha heermanii*) and woolly milkweed (*Asclepias vestita*).

Grasslands of the site provide suitable habitat for a number of amphibians and reptiles. Amphibians such as western toads (*Anaxyrus boreas*) and Pacific chorus frogs (*Pseudacris regilla*) are likely to disperse into and through the non-native grasslands of the site during winter and spring. Common reptile species likely to use this habitat include common side-blotched lizard (*Uta stansburiana*), western whiptails (*Cnemidophorus tigris*), gopher snakes (*Pituophis melanoleucus*), common kingsnakes (*Lampropeltis getulus*), and western rattlesnakes (*Crotalus viridis*).

Numerous species of birds would use the site's grassland habitat for foraging, and some birds are also known to nest in grassland habitats. Resident birds using the grassland include mourning doves (*Zenaida macroura*), western meadowlarks (*Sternella neglecta*), Brewer's blackbirds (*Euphagus cyanocephalus*), and European starlings (*Sturnus vulgaris*). Common winter migrants attracted to grasslands of the region are savannah sparrows (*Passerculus sandwichensis*), American pipits (*Anthus rebescens*), and mountain bluebirds (*Sialia currucoides*). Summer migrants using the site's grassland for foraging would include western kingbirds (*Tyrannus verticalis*) and tree swallows (*Tachycineta bicolor*). Various raptors (birds of prey) would also be expected to forage within the grassland. These would include red-tailed hawks (*Buteo jamaicensis*), red-shouldered hawks (*Buteo lineatus*), and American kestrels (*Falco sparverius*), all of which could occur on the site throughout the year.

Although evidence of small mammal burrowing activity was absent from the site, a number of small mammal species associated with the grassland would provide a primary source of prey for various predators. Deer mice (*Peromyscus maniculatus*), California voles (*Microtus californicus*), and Botta's pocket gophers (*Thomomys bottae*) would all attract various snakes, raptors, and mammalian predators. Predators such as gray fox (*Urocyon cinereoargenteus*), coyote (*Canis latrans*), and bobcats (*Lynx rufus*) are expected to forage in the site's grassland from time to time."[7]

Orchard

"The citrus orchard contains highly disturbed soils and no discernable understory vegetation. This highly disturbed landscape provides habitat of marginal quality for most native terrestrial vertebrates. Regular orchard maintenance and harvest activities create routine disturbance that greatly reduces the habitat value of the orchard. As a result, reptile, bird, and mammal use of this area would be minimal. At most, animals such as the common side-blotched lizard may be found along the margin of the orchard adjacent to grassland habitat. A few bird species such as the American robin (*Turdus migratorius*), northern mockingbird (*Mimus polyglottos*), and Brewer's blackbird could find limited foraging and nesting opportunity in the canopy of the orchard trees."[8]

[7] Op. Cit. 7, 9 and 10.
[8] Op. Cit. 10.

Special Status Plants and Animals

"Several species of plants and animals within the state of California have low populations and/or limited distributions. Such species may be considered "rare" and are vulnerable to extirpation as the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described more fully in Section 3.2, state and federal laws have provided the CDFW and the USFWS with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as "threatened" or "endangered" under state and federal endangered species legislation. Others have been designated as candidates for such listing. Still others have been designated as "species of special concern" by the CDFW. The California Native Plant Society (CNPS) has developed its own set of lists of native plants considered rare, threatened, or endangered (CNPS 2019). Collectively, these plants and animals are referred to as "special status species."

The California Natural Diversity Data Base (CNDDB) was queried for special status species occurrences in the nine USGS 7.5-minute quadrangles containing and immediately surrounding the project site (*Success Dam, Globe, Gibbon Peak, Fountain Springs, Ducor, Porterville, Lindsay, Frazier Valley,* and *Springville*). These species, and their potential to occur on the project site, are listed in Table 1 on the following pages. Sources of information for this table included *California's Wildlife, Volumes I, II, and III* (Zeiner et. al 1988-1990), *California Natural Diversity Data Base* (CDFW 2019), *Endangered and Threatened Wildlife and Plants* (USFWS 2019), *The Recovery Plan for Upland Species of the San Joaquin Valley, California* (USFWS 1998), *The Jepson Manual: Vascular Plants of California, second edition* (Baldwin et al 2012), and *The California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2019), Calflora.org, eBird.org, and various technical reports prepared by LOA for the Deer Creek Rock Mine.

Special status species occurrences within 5 kilometers of the project site are depicted in Figure 4 and San Joaquin kit fox (*Vulpes macrotis mutica*) occurrences within 10 miles are presented in Figure 5."[9]

Jurisdictional Waters

"Jurisdictional waters include rivers, creeks, and drainages that have a defined bed and bank and which, at the very least, carry ephemeral flows. Jurisdictional waters also include lakes, ponds, reservoirs, and wetlands. Such waters may be subject to the regulatory authority of the USACE, the CDFW, and the California Regional Water Quality Control Board (RWQCB). See Section 3.2.5 of this report for additional information. The project site contains no hydrologic features. As a result, jurisdictional waters are absent from the project site."[10]

[9] Op. Cit. 10 and 11.
[10] Op. Cit. 18.

Natural Communities of Special Concern

"Natural communities of special concern are those that are of limited distribution, distinguished by significant biological diversity, home to special status plant and animal species, of importance in maintaining water quality or sustaining flows, etc. Examples of natural communities of special concern include various types of wetlands and riparian habitat. Natural communities of special concern are absent from the project area."[11]

Wildlife Movement Corridors

"Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, rivers and creeks supporting riparian vegetation, and ridgelines.

The project area does not contain features that would function as wildlife movement corridor. However, the Pacific flyway, one of four major bird migration routes in North America, passes over the project area and much of the rest of California."[12]

Designated Critical Habitat

"The USFWS often designates areas of "critical habitat" when it lists species as threatened or endangered. Critical habitat is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Designated critical habitat is absent from the project area."[13]

REGULATORY SETTING

Applicable Federal, State, and local regulations specific to biological resources are described below. The following environmental regulatory settings were summarized, in part, from information contained in the Tulare County General Plan 2010 Background Report.

Federal Agencies & Regulations

Federal Endangered Species Act

"The U.S. Fish and Wildlife Service (USFWS) administers the federal Endangered Species Act (16 USC Section 153 et seq.) and thereby has jurisdiction over federally listed threatened, endangered, and proposed species. Projects that may result in a "take" of a listed species or critical habitat must consult with the USFWS. "Take" is broadly defined as harassment, harm, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collection; any attempt to engage in such conduct;

[11] Op. Cit.
[12] Op. Cit. 19.
[13] Op. Cit.

or destruction of habitat that prevents an endangered species from recovering (16 USC 1532, 50 CFR 17.3). Federal agencies that propose, fund, or must issue a permit for a project that may affect a listed species or critical habitat are required to consult with the USFWS under Section 7 of the Federal Endangered Species Act. If it is determined that a federally listed species or critical habitat may be adversely affected by the federal action, the USFWS will issue a "Biological Opinion" to the federal agency that describes minimization and avoidance measures that must be implemented as part of the federal action. Projects that do not have a federal nexus must apply for a take permit under Section 10 of the Act. Section 10 of the act requires that the project applicant prepare a habitat conservation plan as part of the permit application (16 USC 1539)."[14]

"Under Section 4 of the Federal Endangered Species Act, a species can be removed, or delisted, from the list of threatened and endangered species. Delisting is a formal action made by the USFWS and is the result of a determined successful recovery of a species. This action requires posts in the federal registry and a public comment period before a final determination is made by the USFWS."[15]

Habitat Conservation Plans

"Habitat Conservation Plans (HCPs) are required for a non-federal entity that has requested a take permit of a federal listed species or critical habitat under Section 10 of the Endangered Species Act. HCPs are designed to offset harmful effects of a proposed project on federally listed species. These plans are utilized to achieve long-term biological and regulatory goals. Implementation of HCPs allows development and projects to occur while providing conservation measures that protect federally listed species or their critical habitat and offset the incidental take of a proposed project. HCPs substantially reduce the burden of the Endangered Species Act on small landowners by providing efficient mechanisms for compliance with the ESA, thereby distributing the economic and logistic effects of compliance. A broad range of landowner activities can be legally protected under these plans (County of Tulare, 2010 Background Report, pages 9-6 and 9-7, 2010a). There are generally two types of HCPs, project specific HCPs which typically protect a few species and have a short duration and multi-species HCPs which typically cover the development of a larger area and have a longer duration."[16]

Migratory Bird Treaty and Bald and Golden Eagle Protection Act

"The Migratory Bird Treaty Act (MBTA, 16 USC Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668) protect certain species of birds from direct "take". The MBTA protects migrant bird species from take by setting hunting limits and seasons and protecting occupied nests and eggs. The Bald and Golden Eagle Protection Act (16 USC Sections 668-668d) prohibits the take or commerce of any part of Bald and Golden Eagles. The USFWS administers both acts, and reviews federal agency actions that may affect species protected by the acts."[17]

[14] Tulare County General Plan Update Recirculated DEIR. Page 3.11-2.
[15] Ibid.
[16] Op. Cit.
[17] Op. Cit. 3.11-3.

Clean Water Act - Section 404

"Wetlands and other waters of the U.S. are subject to the jurisdiction of the U.S. Army Corp of Engineers (USACE) and U.S. Environmental Protection Agency (EPA) under Section 404 of the Clean Water Act (33 U.S.C. 1251 et seq., 1972). Together, the EPA and the USACE determine whether they have jurisdiction over the non-navigable tributaries that are not relatively permanent based on a fact-specific analysis to determine if there is a significant nexus. These non-navigable tributaries include wetlands adjacent to non-navigable tributaries that are not relatively permanent and wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary."[18]

"Wet areas that are not regulated by this Act do not have a hydrologic link to other waters of the U.S., either through surface or subsurface flow and include ditches that drain uplands, swales or other erosional features. The USACE has the authority to issue a permit for any discharge, fill, or dredge of wetlands on a case-by-case basis, or by a general permit. General permits are handled through a Nationwide Permit (NWP) process. These permits allow specific activities that generally create minimal environmental effects. Projects that qualify under the NWP program must fulfill several general and specific conditions under each applicable NWP. If a proposed project cannot meet the conditions of each applicable NWP, an individual permit would likely be required from the USACE."[19]

State Agencies & Regulations

California Department of Fish and Wildlife (formerly Department of Fish and Game)

"The California Department of Fish and Wildlife (DFW) regulates the modification of the bed, bank, or channel of a waterway under Sections 1601-1607 of the California Fish and Game Code. Also included are modifications that divert, obstruct, or change the natural flow of a waterway. Any party who proposes an activity that may modify a feature regulated by the Fish and Game Code must notify DFW before project construction. DFW will then decide whether to enter into a Streambed Alteration Agreement with the project applicant either under Section 1601 (for public entities) or Section 1603 (for private entities) of the Fish and Game Code."[20]

California Endangered Species Act

"DFW administers the California Endangered Species Act of 1984 (Fish and Game Code Section 2080), which regulates the listing and "take" of endangered and threatened State-listed species. A "take" may be permitted by California Department of Fish and Game through implementing a management agreement. "Take" is defined by the California Endangered Species Act as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" a State-listed species (Fish and Game Code Sec. 86). Under State laws, DFW is empowered to review projects for their potential impacts to State-listed species and their habitats.

[18] Op. Cit. 3.11-1.
[19] Op. Cit. 3.11-1 to 3.11.2.
[20] Op. Cit. 3.11-3.

The DFW maintains lists for Candidate-Endangered Species (SCE) and Candidate-Threatened Species (SCT). California candidate species are afforded the same level of protection as State-listed species. California also designates Species of Special Concern (CSC) that are species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. These species do not have the same legal protection as listed species, but may be added to official lists in the future. The CSC list is intended by DFW as a management tool for consideration in future land use decisions (Fish and Game Code Section 2080).

All State lead agencies must consult with DFW under the California Endangered Species Act when a proposed project may affect State-listed species. DFW would determine if a project under review would jeopardize or result in taking of a State-listed species, or destroy or adversely modify its essential habitat, also known as a "jeopardy finding" (Fish and Game Code Sec. 2090). For projects where DFW has made a jeopardy finding, DFW must specify reasonable and prudent alternatives to the proposed project to the State lead agency (Fish and Game Code Sec. 2090 et seq.)."[21]

Natural Communities Conservation Planning Act

"The Natural Communities Conservation Planning Act allows a process for developing natural community conservation plans (NCCPs) under DFW direction. NCCPs allow for regional protection of wildlife diversity, while allowing compatible development. DFW may permit takings of State-listed species whose conservation and management are provided in a NCCP, once a NCCP is prepared (Fish and Game Code Secs. 2800 et seq.)."[22]

Federally and State-Protected Lands

"Ownership of California's wildlands are divided primarily between federal, state, and private entities. State-owned land is managed under the leadership of the Departments of Fish and Game (DFW), Parks and Recreation, and Forestry and Fire Protection (CDF). Tulare County has protected lands in the form of wildlife refuges, national parks, and other lands that have large limitations on appropriate land uses. Some areas are created to protect special status species and their ecosystems."[23]

California Wetlands Conservation Policy

"The California Wetlands Conservation Policy's goal is to establish a policy framework and strategy that will ensure no overall net loss and achieve a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California. Additionally, the policy aims to reduce procedural complexity in the administration of State and federal wetlands conservation programs and to encourage partnerships with a primary focus on landowner incentive programs and cooperative planning efforts. These objectives are achieved through three policy means:

[21] Op. Cit.
[22] Op. Cit. 3.11-4.
[23] Op. Cit.

statewide policy initiatives, three geographically based regional strategies in which wetland programs can be implemented, and creation of interagency wetlands task force to direct and coordinate administration and implementation of the policy. Leading agencies include the Resources Agency and the California Environmental Protection Agency (Cal/EPA) in cooperation with Business, Transportation and Housing Agency, Department of Flood and Agriculture, Trade and Commerce Agency, Governor's Office of Planning and Research, Department of Fish and Game, Department of Water Resources, and the State Water Resources Control Board."[24]

Birds of Prey

As noted in the Biotic Evaluation, "Birds of prey are protected in California under provisions of the Fish and Game Code (Section 3503.5), which states that it is unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks and eagles) or Strigiformes (owls), as well as their nests and eggs. The bald eagle and golden eagle are afforded additional protection under the federal Bald and Golden Eagle Protection Act (16 USC 668), which makes it unlawful to kill birds or their eggs."[25]

CEQA and Oak Woodland Protection

CEQA Statute Section 21083.4, "Counties; Conversion of Oak Woodlands; Mitigation Alternatives," requires that counties determine whether a development will have potential impacts on oak woodlands:

> 21083.4(a): "For purposes of this section, "oak" means a native tree species in the genus Quercus, not designated as Group A or Group B commercial species pursuant to regulations adopted by the State Board of Forestry and Fire Protection pursuant to Section 4526, and that is 5 inches or more in diameter at breast height."
>
> 21083.4(b): " …a county shall determine whether a project within its jurisdiction may result in a conversion of oak woodlands that will have a significant effect on the environment. If a county determines that there may be a significant effect to oak woodlands, the county shall require one or more of the…[listed] oak woodlands mitigation alternatives…"

The Project sites is not located in an oak woodland area.

Local Policy & Regulations

Tulare County General Plan Policies

The Tulare County General Plan has a number of policies that apply to projects within County of Tulare. General Plan policies that relate to the proposed Project are listed below.

[24] Op. Cit.

[25] Biotic Evaluation Deer Creek Rock Mine Expansion Project Tulare County, California. Page 6. Prepared by Live Oak Associates, Inc. May 2019 and included in Appendix "B" of this draft SEIR.

ERM-1.1 Protection of Rare and Endangered Species - The County shall ensure the protection of environmentally sensitive wildlife and plant life, including those species designated as rare, threatened, and/or endangered by State and/or Federal government, through compatible land use development.

ERM-1.2 Development in Environmentally Sensitive Areas - The County shall limit or modify proposed development within areas that contain sensitive habitat for special status species and direct development into less significant habitat areas. Development in natural habitats shall be controlled so as to minimize erosion and maximize beneficial vegetative growth.

ERM-1.4 Protect Riparian Areas - The County shall protect riparian areas through habitat preservation, designation as open space or recreational land uses, bank stabilization, and development controls.

ERM-1.5 Riparian Management Plans and Mining Reclamation Plans - The County shall require mining reclamation plans and other management plans to include measures that protect, maintain, and restore riparian resources and habitats.

ERM-1.6 Management of Wetlands - The County shall support the preservation and management of wetland and riparian plant communities for passive recreation, groundwater recharge, and wildlife habitats.

ERM-1.7 Planting of Native Vegetation - The County 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.

ERM-1.12 Management of Oak Woodland Communities - The County shall support the conservation and management of oak woodland communities and their habitats.

ERM-1.16 Cooperate with Wildlife Agencies - The County shall cooperate with State and federal wildlife agencies to address linkages between habitat areas.

ERM-1.17 Conservation Plan Coordination - The County shall coordinate with local, State, and federal habitat conservation planning efforts (including Section 10 Habitat Conservation Plan) to protect critical habitat areas that support endangered species and other special-status species.

IMPACT EVALUATION

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 Game or U.S. Fish and Wildlife Service?**

Project Impact Analysis: ***Less Than Significant Impact With Mitigation***

As noted in Table 1 in the BE (see Appendix "B" of this SEIR), 15 special status vascular plant species and 16 special status animal species were determined to occur in the general vicinity of the Deer Creek Expansion Project.

Project Impacts to Special Status Plant Species

"Fifteen (15) special status vascular plant species are known to occur in the region: Kaweah brodiaea, Springville clarkia, San Joaquin woollythreads, striped adobe lily, San Joaquin adobe sunburst, Keck's checkerbloom, Abrams' onion, Munz's iris, rose-flowered larkspur, recurved larkspur, spiny-sepaled button celery, Madera leptosiphon, calico monkeyflower, shining navarretia, and chaparral ragwort (see Table 1 [in the BE]). Due to the absence of suitable habitat on the project site, the project site being located outside the range of these species, and/or the absence of these species during spring transect surveys at a time when the species would have been observable, all 15 of these species are not expected to occur on the site. Therefore, the proposed project would not affect regional populations of these species and impacts would be less than significant."[26]

Project Impact to Special Status Animal Species

"Of the 16 special status animal species that potentially occur in the project vicinity, 9 are considered absent or unlikely to occur within the project site due to the absence of suitable habitat, and/or the site being situated outside of the species' known distribution. These species include the vernal pool fairy shrimp, foothill yellow-legged frog, California condor, California wolverine, San Joaquin kit fox, western pond turtle, Northern California legless lizard, burrowing owl, and American badger (see Table 1 [in the BE]). The project does not have the potential to significantly impact these species through construction mortality or loss of habitat because there is little or no likelihood that they are present."[27]

However, the BE opines that the are potential project impacts to nesting loggerhead shrikes and other migratory birds, as follows; "The project site contains suitable nesting habitat for a few avian species protected by state laws in the form of grasslands and citrus trees. If birds were to be nesting on or adjacent to the project site at the time of construction, project-related activities could result in the abandonment of active nests or direct mortality to these birds. Construction activities that adversely affect the nesting success of raptors or result in mortality of individual birds constitute a violation of state laws (see Sections 3.2.3 and 3.2.4 [of the BE]) and would be considered a significant impact under CEQA."[28] Therefore, as noted in the BE, "In order to minimize construction disturbance to nesting birds, the applicant will implement the

[26] Ibid. 29.
[27] Op Cit. 30.
[28] Op Cit. 27.

following measure(s) [Mitigation Measures 3.3.1a, -b, and -c in the BE and **4.2-1, 4.2-2,** and **4.2-3** in this SEIR], as necessary, prior to project construction:"[29]

Less Than Significant Project-specific Impact With Mitigation related to this Checklist Item will occur.

Cumulative Impact Analysis: ***Less Than Significant Impact With Mitigation***

The geographic area of this cumulative analysis is the San Joaquin Valley. While the study area is limited to Tulare County, sensitive species with similar habitat requirements may exist in other portions of the San Joaquin Valley; and therefore, cumulative impacts would extend beyond Tulare County political boundaries.

The proposed Project would only contribute to cumulative impacts related to this Checklist item if Project-specific impacts were to occur. As noted earlier, the Project has the potential to result in loss of habitat or direct impact to these special status species, ***Less Than Significant Cumulative Impact With Mitigation*** related to this Checklist Item will occur.

Mitigation Measure(s): ***See Mitigation Measures 4.2-1 through 4.2-3.***

4.2-1 (Avoidance). In order to avoid impacts to nesting birds, construction will occur, where possible, outside the nesting season, or between September 1 and January 31.[30]

4.2-2 (Pre-construction Surveys). If construction must occur during the nesting season (February 1-August 31), a qualified biologist will conduct pre-construction surveys for active bird nests within 10 days of the onset of project initiation. Nest surveys will encompass the project site and adjacent lands within 250 feet for migratory birds and 500 feet for raptors. Inaccessible portions of the survey area will be scanned with binoculars or spotting scope, as appropriate. If no active nests are found within the survey area, no further mitigation is required.[31]

4.2-3 (Establish Buffers). If active nests are found within the survey area, a qualified biologist will establish appropriate no-disturbance buffers based on species tolerance of human disturbance, baseline levels of disturbance, and barriers that may separate the nest from construction disturbance. These buffers will remain in place until the breeding season has ended or until the qualified biologist has

[29] Op. Cit.
[30] Op. Cit. 27. Mitigation Measure 3.3.1a in the BE.
[31] Op. Cit. Mitigation Measure 3.3.1b in the BE.

determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.[32]

Compliance with the above mitigation measures would reduce impacts to nesting raptors and migratory birds, to a less than significant level under CEQA, and ensure compliance with state laws.

Conclusion: ***Less Than Significant Impact With Mitigation***

As noted earlier, ***Less Than Significant Project-specific and Cumulative Impacts*** related to this Checklist Item will occur.

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 Game or US Fish and Wildlife Service?

Project Impact Analysis: ***No Impact***

"No riparian or other sensitive habitats occur on the project site. Because these habitats are absent, they will not be impacted by project activities."[33] As such, ***No Project-specific Impacts*** related to this Checklist Item will occur.

Cumulative Impact Analysis: ***No Impact***

The geographic area of this cumulative analysis is the San Joaquin Valley. While the study area is limited to Tulare County, sensitive species with similar habitat requirements may exist in other portions of the San Joaquin Valley; and therefore, cumulative impacts will extend beyond Tulare County political boundaries.

The proposed Project would only contribute to cumulative impacts related to this Checklist Item if Project-specific impacts were to occur. As the proposed Project does not result in loss of habitat or direct impact to these special status species, ***No Cumulative Impacts*** will occur.

Mitigation Measure(s): ***None Required.***

Conclusion: ***No Impact***

As noted earlier, ***No Project-specific or Cumulative Impacts*** related to this Checklist Item will occur.

[32] Op. Cit. Mitigation Measure 3.3.1c in the BE.
[33] Op Cit. 31.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Project Impact Analysis: ***No Impact***

"The project site contains no hydrologic features. As such, federally protected waters and waters of the state are absent from the project site. The project will have no impact on jurisdictional waters."[34] As such, ***No Project-specific Impacts*** related to this Checklist Item will occur

Cumulative Impact Analysis: ***No Impact***

The geographic area of this cumulative analysis is the western U.S. While the study area is limited to Tulare County, federally protected wetlands exist in other portions of the U.S., and therefore cumulative impacts will extend beyond Tulare County political boundaries.

The proposed Project would only contribute to cumulative impacts related to this Checklist item if Project-specific impacts were to occur. As the proposed Project would not impact federally protected wetlands, ***No Cumulative Impacts*** will occur.

Mitigation Measure(s): ***None Required.***

Conclusion: ***No Impact***

As noted earlier, ***No Project-specific or Cumulative Impacts*** related to this Checklist item will occur.

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?

Project Impact Analysis: ***No Impact***

"While some common wildlife species, primarily birds, are expected to regularly use and/or pass through the site, the project site does not contain any features that would function as a fish or wildlife movement corridor or be considered a nursery site.

Therefore, the project will not substantially impede the movement of native fish or wildlife species, nor impede their use of a nursery site. Project impacts to wildlife movements, movement corridors, and nursery sites are considered less than significant under CEQA."[35]

[34] Op Cit.
[35] Op Cit. 30-31.

As such, ***No Project-specific Impacts*** related to this Checklist Item will occur.

Cumulative Impact Analysis: ***No Impact***

The geographic area of this cumulative analysis is the San Joaquin Valley. While the study area is limited to Tulare County, corridors for fish and wildlife species with similar habitat requirements may exist in other portions of the San Joaquin Valley, and therefore cumulative impacts will extend beyond Tulare County political boundaries.

The proposed Project would only contribute to cumulative impacts related to this Checklist item if Project-specific impacts were to occur. As the proposed Project does not impact federally protected wetlands, wildlife corridors or wildlife nurseries, ***No Cumulative Impacts*** will occur.

Mitigation Measure(s): ***None Required.***

Conclusion: ***No Impact***

As noted earlier, ***No Project-specific or Cumulative Impacts*** related to this Checklist Item will occur.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Project Impact Analysis: ***No Impact***

"The proposed project appears to be consistent with the goals and policies of the Tulare County General Plan. No known Habitat Conservation Plans or Natural Community Conservation Plans are in effect for the area. Therefore, the project would be carried out in compliance with local policies and ordinances."[36] ***No Project-specific Impacts*** related to this Checklist Item will occur.

Cumulative Impact Analysis: ***No Impact***

The geographic area of this cumulative analysis is Tulare County.

There will be no impacts to policies or ordinances relating to biological resources, and therefore there will be ***No Cumulative Impacts*** related to this Checklist Item.

Mitigation Measure(s): ***None Required.***

Conclusion: ***No Impact***

[36] Op Cit. 31.

As noted earlier, no Project-specific or cumulative impacts related to this Checklist item will occur.

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?

Project Impact Analysis: ***No Impact***

As noted earlier, there are two habitat conservation plans that apply in Tulare County. The Kern Water Habitat Conservation Plan only applies to an area in Allensworth (near the southwest quadrant of the County) and the Project site is not subject to this Plan. The Recovery Plan for Upland Species in the San Joaquin Valley outlines a number of species that are important to the San Joaquin Valley. None of these species were identified on the Project site. As such, ***No Project-specific Impacts*** related to this Checklist Item will occur.

Cumulative Impact Analysis: ***No Impact***

The geographic area of this cumulative analysis is California. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

There are no impacts related to habitat conservation plans, and therefore there are ***No Cumulative Impacts*** that will conflict with local policies or ordinances.

Mitigation Measure(s): ***None Required.***

Conclusion: ***No Impact***

As noted earlier, ***No Project-specific or Cumulative Impacts*** related to this Checklist Item will occur.

REFERENCES

"Biotic Evaluation Deer Creek Rock Mine Expansion Project Tulare County, California. Prepared by Live Oak Associates, Inc. May 2019 and included in Appendix "B" of this SEIR.

California Department of Fish & Wildlife, Species of Special Concern, which can be accessed at: https://www.wildlife.ca.gov/Conservation/SSC. Accessed July 2019.

Kern Water Bank, Habitat Conservation Plan/Natural Community Conservation Plan, Kern Water Bank Authority. October 2, 1997.

Recovery Plan for Upland Species of the San Joaquin Valley, California, U.S. Fish and Wildlife Service, 1998.

Tulare County General Plan 2030 Update DEIR.

Cultural Resources
Chapter 4.3

SUMMARY OF FINDINGS

The proposed Project will result in a ***Less Than Significant Impact With Mitigation*** to Cultural Resources. Consultant Culturescape completed a cultural resources study, including a records search and survey which is included in Appendix "C" of this draft Subsequent Environmental Impact Report (draft Subsequent EIR, draft SEIR,or SEIR). Research consisted of a records search of recorded historical and archaeological sites and maps of the affected area by personnel at the Southern San Joaquin Information Center (SSJVIC), located at California State University, Bakersfield, California. The efforts also included contact with Native American Heritage Commission which conducted a Sacred Lands File Search and provided a list of tribal contacts, and correspondence with representatives of affected tribes, a literature review of historic and archaeological data pertaining to the area in question, and a field survey. A detailed review of potential impacts is provided in the following analysis.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

Several CEQA statutes and guidelines address requirements for cultural resources, including historic and archaeological resources. If a proposed Project may cause a substantial adverse effect on the significance of a historical resource, then the project may be considered to have a significant effect on the environment, and the impacts must be evaluated under CEQA.[1] The definition of "historical resources" is included in Section 15064.5 of CEQA Guidelines, and includes both historical and archaeological resources. "Substantial adverse change" is defined as "physical demolition, destruction, relocation, or alteration of the resource…"

Section 15064.5 also provides guidelines when there is a probable likelihood of Native American remains existing in the project site. Provisions for the accidental discovery of historical or unique archaeological resources accidentally discovered during construction include a recommendation for evaluation by a qualified archaeologist, with follow up as necessary.

Public Resources Code Section 5097.5 prohibits excavation or removal of any "vertebrate paleontological site…or any other archaeological, paleontological or historical feature, situated on public lands, except with express permission of the public agency having jurisdiction over such lands."

This section of the draft SEIR for the proposed Project meets CEQA requirements by addressing potential impacts to cultural resources on the proposed Project site. The "Environmental Setting"

[1] California Code. Public Resources Code. Division 13. Chapter 2.6. Section 21084.1. Accessed August 2019 at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=21084.1.

section provides a description of cultural resources in the region, with special emphasis on the proposed Project site and vicinity. The "Regulatory Setting" section provides a description of applicable State and local regulatory policies. Results of cultural resources field study and reports from CHRIS are included. A description of potential impacts is provided, along with feasible mitigation measures to reduce the impacts to less than significant.

CEQA Thresholds of Significance

Under CEQA Guidelines Section 15064.5. (b) "A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment."

(1) Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

(2) The significance of an historical resource is materially impaired when a project:

(A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

(B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(C) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

(3) Generally, a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995), Weeks and Grimmer, shall be considered as mitigated to a level of less than a significant impact on the historical resource.

(4) A lead agency shall identify potentially feasible measures to mitigate significant adverse changes in the significance of an historical resource. The lead agency shall ensure that any adopted measures to mitigate or avoid significant adverse changes are fully enforceable through permit conditions, agreements, or other measures.

(5) When a project will affect state-owned historical resources, as described in Public

Resources Code Section 5024, and the lead agency is a state agency, the lead agency shall consult with the State Historic Preservation Officer as provided in Public Resources Code Section 5024.5. Consultation should be coordinated in a timely fashion with the preparation of environmental documents."[2]

ENVIRONMENTAL SETTING

"Tulare County lies within a culturally rich province of the San Joaquin Valley. Studies of the prehistory of the area show inhabitants of the San Joaquin Valley maintained fairly dense populations situated along the banks of major waterways, wetlands, and streams. Tulare County was inhabited by aboriginal California Native American groups consisting of the Southern Valley Yokuts, Foothill Yokuts, Monache, and Tubatulabal. Of the main groups inhabiting the Tulare County area, the Southern Valley Yokuts occupied the largest territory."[3]

"California's coast was initially explored by Spanish (and a few Russian) military expeditions during the late 1500s. However, European settlement did not occur until the arrival into southern California of land-based expeditions originating from Spanish Mexico starting in the 1760s. Early settlement in the Tulare County area focused on ranching. In 1872, the Southern Pacific Railroad entered Tulare County, connecting the San Joaquin Valley with markets in the north and east. About the same time, valley settlers constructed a series of water conveyance systems (canals, dams, and ditches) across the valley. With ample water supplies and the assurance of rail transport for commodities such as grain, row crops, and fruit, a number of farming colonies soon appeared throughout the region."[4]

"The colonies grew to become cities such as Tulare, Visalia, Porterville, and Hanford. Visalia, the County seat, became the service, processing, and distribution center for the growing number of farms, dairies, and cattle ranches. By 1900, Tulare County boasted a population of about 18,000. New transportation links such as SR 99 (completed during the 1950s), affordable housing, light industry, and agricultural commerce brought steady growth to the valley. The California Department of Finance estimated the 2007 Tulare County population to be 430,167"[5]A summary of the southern San Joaquin Valley during the Prehistoric Period, an Ethnographic summary, and a Historic Period summary is included as Appendix D [of the Cultural Study].

<u>Existing Cultural and Historic Resources</u>

"Tulare County's known and recorded cultural resources were identified through historical records, such as those found in the National Register of Historic Places, the Historic American Building Survey/Historic American Engineering Record (HABS/HAER), the California Register of Historic Resources, California Historical Landmarks, and the Tulare County Historical Society list of historic resources."[6]

[2] CEQA Guidelines, Section 15064.5 (b).
[3] Tulare County General Plan Update 2030. Page 8-5.
[4] Ibid.
[5] Op. Cit. 8-6.
[6] Tulare County General Plan 2030 Update *Background Report.* Page 9-56.

Due to the sensitivity of many prehistoric, ethnohistoric, and historic archaeological sites, locations of these resources are not available to the general public. The Information Center at California State University, Bakersfield houses records associated with reported cultural resources surveys, including the records pertinent to sensitive sites, such as burial grounds, important village sites, and other buried historical resources protected under state and federal laws.

As indicated earlier, consultants Culturescape prepared a cultural resource inventory for historic and prehistoric sites within the proposed project area (20 acres) located approximately six miles southeast of the city of Porterville in Tulare County, California located in the NE ¼ of Section 21 T. 22 S., R. 28E M.D.B. & M., on the Success Dam 7.5 Quadrangle USGS topographic map.[7] The following excerpt provides an objective description of by a qualified expert :

"Natural Setting

"The project area is located approximately six miles southeast of Porterville (Figures 1-2), a rural community within the San Joaquin Valley. Its elevation is approximately 850 feet above sea level at the highest point falling to about 550 feet near Deer Creek in the north. This is part of the Great Central Valley. This encompasses an area that is approximately 430 miles long north/south and 40 miles wide. "The valley floor is composed of several thousands of feet of sediments deposited from runoff from the surrounding mountains" (Schoenherr 1995:516). The rainfall in this area averages between 10-12 inches per year. Agriculture and overgrazing have modified the area with the introduction of invasive weeds and desertification is apparent over most of the area, with the most obvious indications being salt build up and polluted waterways (Schoenherr 1995:16). The valley is divided and named for the two river systems that drain it; the Sacramento in the north and the San Joaquin in the south. This area supported a wide variety of wildlife, including elk, pronghorn, and mule deer until the advent of agriculture. Pronghorn were rare by 1875, and by 1885 only one band of elk were limited to the area around Buena Vista (Schoenherr 1995:549, 550). The project area is located in the Lower Sonoran Lifezone within the California Valley Grassland Community. The natural water source near the project area is Deer Creek."[8]

The Windmiller Pattern

As defined by the Society for California Archaeology, there are several chronological and cultural units (i.e., periods, phases, horizons, stages, patterns, etc.) that define California prehistory. "The literature on prehistoric California contains numerous designations for units referring to chronological, geographical, cultural, technological, or functional diversity in the archaeological record. These dimensions have often been invoked in overlapping or inconsistent ways."[9] As noted in the Cultural Study, the Windmiller Pattern was prevalent in the San Joaquin

[7] "Twenty Acre Expansion of the Deer Creek Rock Company Porterville, Tulare County, California" Page i. June 2019 Prepared by Culturescape and included in Appendix "C" of this SEIR.

[8] Ibid 4.

[9] Society for California Archaeology. Chronological and Cultural Units. A Glossary of Proper Names in California History. Accessed August 2019 at: https://scahome.org/about-ca-archaeology/glossary-of-terms/chronological-and-cultural-units/.

Valley, which includes Tulare County's prehistory. As defined by Society for California Archaeology, a Pattern is "A geographically and chronologically extended cultural unit within a region, characterized by similar technology, economy, and burial practices. A pattern has been defined as "a configuration of basic traits representing a cultural adaptation" (Bennyhoff and Fredrickson 1994:20). Geographical and chronological subdivisions of patterns have been termed *aspects* and *phases*.[10]"

"The Windmiller Pattern appears to be widespread in the San Joaquin Valley dating from the Middle Archaic through the Upper Archaic based on burial patterns found as far south as Buena Vista Lake (Rosenthal Et AL. 2007:154, 155). The Windmiller Pattern is more prevalent in the Central Valley and is represented by a successful utilization of resources. This is demonstrated by the recovery of a wide variety of projectile point types, baked clay line weights for fishing, trident bone spear tips for fishing, two types of bone fish hooks, and the faunal remains of both terrestrial and aquatic species (Bennyhoff 1950; Ragir 1972). Trade objects that were obtained were "generally obtained as finished items rather than as raw material" (Moratto 2004:203 [1984]). The presence of artifacts made of exotic materials, such as obsidian, shell, and quartz, indicates that by 4000 B.C. an extensive trade network existed in central California. The Windmiller people excelled in flaked and ground stone production. Especially notable are ground and polished charmstones of alabaster, marble, and diorite (Moratto 2004:203 [1984]).

Delta Windmiller burials occur both in village plots and in cemeteries separate from habitation sites. Burials typically (85%) contain both grave goods and red ochre (Moratto 2004:203 [1984]). The position of the dead follows certain traits, where "Skeletons are most often extended ventrally and oriented toward the west, although westerly oriented dorsal extensions are also common. Flexed burials, non-westerly orientation and cremations occur infrequently" (Moratto 2004:203 [1984]). At four Windmiller sites burials were oriented towards the summer and winter solstice (Moratto 2004:203 [1984]). Burial patterns included internment on low rises above the river flood plain, a greater quantity of wealth and variety along with "more advanced technology in that greater attention was paid to finished products and to artistic elaboration" (Wallace 1978:32).

Ethnography

Yokuts

The area of the proposed site is linked to the Yokuts who were linguistically associated to Penutian speakers. These included the Costanoan, Miwok, Wintun, Maidu, and Yokuts (Heizer and Elasser 1980:137). The estimate for the time depth based on "the small phonological and morphological differences among Yokuts subgroups . . . indicates a relatively recent date for proto-Yokuts, probably between 1,500 and 1,000 years ago" (Golla 2007:76) While they could understand each other, the dialect of this group varied from the northern to the southern end of the San Joaquin Valley.

[10] Ibid.

Sutton (2010:3-30) has proposed that an earlier language group of Uto-Aztecan was pervasive in The Great Central Valley based on similarities of language and burial patterns in Central Coastal California. He has suggested that this language group was a remnant of an earlier sub-group known as Takic, previously referred to as "Shoshonean" language that was originally called "The Southern California" branch. Based on these and previous studies, it is thought that this language group originated in the southern foothills of the Sierra Nevada and that these groups occupied the Southern San Joaquin Valley in the Middle Holocene (Sutton 2010:6).

"To the north of the Chumash, there is some linguistic evidence of 'ancient and long-term contact' between Salinian and Uto-Aztecan . . . This contact may have been severed by the entry of Yokuts into the San Joaquin Valley (circa 3000 cal B.P.)" [Sutton 2010:8].

The Yokuts held territory "from the San Joaquin Valley floor from the mouth of the San Joaquin River south to Tehachapi Pass to the lower Sierran foothills south of the Fresno River and the lower Kern and Kings river lands in the southern valley" (Heizer and Elasser 1980:14-15). There were at least 50 distinct tribes within this area of approximately 250 by 100 miles (Heizer and Elasser 1980:15, 16; Kroeber 1976:475; Heizer and Whipple 1971:370). The Yokuts differed from other groups in that "They are divided into true tribes" . . . each has a name, a dialect, and a territory" (Heizer and Whipple 1971:369; Kroeber 1976:474). The area of the "valley edge and the foothill margin, particularly towards the better-watered Sierra slopes to the east…" led to denser populations south of the Fresno River (Heizer and Whipple 1971:91). While these groups were somewhat mobile to reflect changes in resource availability, some areas were occupied by particular groups "with sufficient permanence to become identified with it" (Heizer and Whipple 1971:370). Individual Yokut groups identified with their name or village more than with the Yokuts as a whole.

The village of Bokninuwa was located on Deer Creek, however, these lands were ceded in 1851 and tribal members were relocated to the Kings River Reservation (Access Genealogy). Hostilities between tribal people were instigated by settlers after that time. This was driven by miner's incursions into tribal lands and led by Walter Harvey who was elected as judge. In an attempt to intervene, James Savage, acting in the defense of the Yokuts was shot and killed by Harvey. The area had a relative peace for a few years until 1856 when the last Indian war was fought near Battle Mountain on the North Fork of the Tule River. This included over 600 tribal members against local militia known as the Tulare Mounted Volunteers and another group of 100 men from Keyesville. Troops were sent from Fort Tejon and from Fort Miller which hauled an artillery piece. The Yokuts were in in general decline after that time (Historynet).

Historical Background/ Affiliations

The first Europeans to reach the interior valleys were deserting Spanish soldiers from San Diego in 1772 and although there were no permanent settlements the interior valley became well known (Smith, 1976: preface). By 1807 the mission system along the coast was well in place and at this time an expedition under the command of Color-Sergeant Gabriel Moraga was sent into the interior to locate mission sites. This expedition closely followed the present route of Highway 99. This expedition continued east along Mariposa Creek. It was on this expedition that Moraga

located the Merced River and proposed this area as a possible mission site (Smith 1939/1976:36; Bingaman 1968:2). On a second expedition in 1810 Moraga reversed this decision (Smith, 1976:38).

A second expedition occurred in 1814 by Sargent Ortega, Padre Cabot and thirty men entering the village of Bubal on the southern shore of Tulare Lake. The village contained an estimated 700 residents. The expedition continued north along the Kings River and although the area lacked timber for the construction of large buildings, Cabot recommended this area near the river was suitable for a mission (Smith 1976:42). Several expeditions occurred between 1815 and 1822, however, tribal people were uncooperative and would flee when approached by the Spanish, leading to hostilities between the two. After spending some time in the Porterville area Moraga moved south along the Kern River (Smith 1962:37).

The majority of California was considered unoccupied or Indian territory. Ranchos and missionary development remained clustered in small areas. Effort to secularize the California missions began as early as 1813 having the effect of weakening the mission control of land and by 1834 was California law (Robinson 1979: 29, 30). In 1848, the Treaty of Guadalupe Hidalgo was signed annexing California from Mexico. This treaty recognized the right of California Native Americans "to occupy their lands until voluntary relinquishment". The policy at this time until 1878 was to recognize the tribes as nations and to enter into treaties with them as such (Robinson 1979:13, 14; Cossley-Batt 1928:133-141 Rawls 1984:148).

> Accordingly, when California became a part of the Union, three commissioners were appointed, under the provisions of the Act of September 30, 1850, to affect a just settlement with the California Indians. Redick McKee, G. W. Barbour, and O. M. Wozencraft, representing the United States, proceeded to negotiate with the headmen of California tribes. Between March 19, 1851, and January 7, 1852 they met 402 tribal heads…and entered into eighteen treaties. [Robinson 1979:14]

None of these were ratified. By signing the treaties, the tribes agreed to move to areas in reserve. These areas were contested by whites in the area, this and failure of Indians to present claims for their property in front of the Land Commissioners resulted in the loss of future claims for the property and these lands reverted to public domain (Robinson 1979:15,16). The Native American village community was thought to be the result of pressure from influx of Spanish, Mexican and Caucasian immigrants (Heizer 1971:376).

Tulare County was organized on April 20, 1852 and was comprised of more than half of the southern portion of Mariposa County extending from Nevada to the Coast Range (Smith 1976:340). Early stage routes included the Tule River Station near the present town of Porterville. "The only station between this and Visalia was originally called Packwood and was also known as Lone Cottonwood and the Pike Lawless Ranch. This was located one mile south of the Outside Creek Bridge" (Smith 1962:51). Royal Porter Putnam had this stage depot and later a trading Post at this location in 1859. He laid out the town out in 1864 and it was listed on the official railway map in 1900 as Porterville (Gudde 1962:240). The Southern Pacific built a branch line into the area in 1888 (Smith 1962:209).

Citrus trees were started in Tulare County in 1870 with an estimated 100 trees started. This was expanded in 1890 to around 1000 and continued to expand with 1,034,012 boxes produced in 1900. By 1920 the orange crop was valued at $9,783,330.00 (Urbana Planning and Preservation 2019). Citrus continues to be a major industry with Tulare county leading California with 1.3 billion in crop production in 2017 (California Citrus Mutual 2019, Tulare County still number 1 in Citrus)"[11]

REGULATORY SETTING

Federal Agencies & Regulations

The National Historic Preservation Act

"With passage of the National Historic Preservation Act (NHPA) in 1966, Congress made the federal government a full partner and a leader in historic preservation. While Congress recognized that national goals for historic preservation could best be achieved by supporting the drive, enthusiasm, and wishes of local citizens and communities, it understood that the federal government must set an example through enlightened policies and practices.

In the words of the NHPA, the federal government's role is to "provide leadership" for preservation, "contribute to" and "give maximum encouragement" to preservation, and "foster conditions under which our modern society and our prehistoric and historic resources can exist in productive harmony." Indeed, an underlying motivation for passage of the NHPA was to transform the federal government from an agent of indifference, frequently responsible for needless loss of historic resources, to a facilitator, an agent of thoughtful change, and a responsible steward for future generations.

Section 106 of the NHPA requires that federal agencies take into account the effects of their actions on historic properties and give the ACHP an opportunity to comment on any effects. The ACHP has issued regulations that guide how agencies should fulfill this responsibility."[12]

State Agencies & Regulations

California State Office of Historic Preservation (OHP)

"The California State Office of Historic Preservation (OHP) is responsible for administering federally and state mandated historic preservation programs to further the identification, evaluation, registration and protection of California's irreplaceable archaeological and historical resources under the direction of the State Historic Preservation Officer (SHPO), appointed by the governor, and the State Historical Resources Commission, a gubernatorial appointee, and the State Historic Resources Commission."[13]

[11] Op. Cit. 6 through 9.

[12] Advisory Council on Historic Preservation. National Historic Preservation Act. Accessed August 2019 at: https://www.achp.gov/preservation-legislation.

[13] California State Parks. Office of Historic Preservation. Accessed August 2019 at: http://ohp.parks.ca.gov/?page_id=1066,

"The California State Office of Historic Preservation (OHP) is responsible for administering federally and state mandated historic preservation programs to further the identification, evaluation, registration and protection of California's irreplaceable archaeological and historical resources under the direction of the State Historic Preservation Officer (SHPO), a gubernatorial appointee, and the State Historical Resources Commission. OHP's responsibilities include: Identifying, evaluating, and registering historic properties; Ensuring compliance with federal and state regulatory obligations; Encouraging the adoption of economic incentives programs designed to benefit property owners; Encouraging economic revitalization by promoting a historic preservation ethic through preservation education and public awareness and, most significantly, by demonstrating leadership and stewardship for historic preservation in California."[14]

"The California Historical Resources Information System (CHRIS) consists of the California Office of Historic Preservation (OHP), nine Information Centers (ICs), and the State Historical Resources Commission (SHRC). The OHP administers and coordinates the CHRIS and presents proposed CHRIS policies to the SHRC, which approves these polices in public meetings. The CHRIS Inventory includes the State Historic Resources Inventory maintained by the OHP as defined in California Public Resources Code § 5020.1(p), and the larger number of resource records and research reports managed under contract by the nine ICs."[15]

"The CHRIS Information Centers (ICs) are located on California State University and University of California campuses in regions throughout the state. The nine ICs provide historical resources information, generally on a fee-for-service basis, to local governments, state and federal agencies, Native American tribes, and individuals with responsibilities under the National Environmental Policy Act, the National Historic Preservation Act, and the California Environmental Quality Act (CEQA), as well as to the general public. Currently, the OHP and the ICs each maintain separate parts of the CHRIS Inventory. The OHP's portion of the Inventory is forwarded to the ICs according to their county-based service areas so that it can be accessed by CHRIS users. It is statewide in scope, but primarily includes information that has been submitted directly to the OHP. Each of the ICs maintains a part of the CHRIS Inventory that although it is geographically limited to that IC's service area, includes both information forwarded from the OHP and information that has been submitted directly to that IC by users of the CHRIS. These different parts of the CHRIS Inventory are a combination of paper documents and maps and digital files (whether submitted digitally or converted to that format by the CHRIS). The collective information managed electronically in the CHRIS Inventory is generally referred to as the CHRIS Database."[16] Tulare, Fresno, Kern, Kings and Madera counties are served by the Southern San Joaquin Valley Historical Resources Information Center (Center), located at

[14] California State Parks. Office of Historic Preservation. Mission and Responsibilities. Accessed August 2019 at: http://ohp.parks.ca.gov/?page_id=1066

[15] California State Parks. California Office of Historic Preservation. California Historical Resources Information System. Accessed August 2019 at: http://ohp.parks.ca.gov/?page_id=1068.

[16] California State Parks. California Office of Historic Preservation. About the CHRIS Information Centers. Accessed August 2019 at: http://ohp.parks.ca.gov/?page_id=28730.

California State University, Bakersfield, in Bakersfield, CA. The Center provides information on known historic and cultural resources to governments, institutions and individuals.[17]

A historical resource may be eligible for inclusion in the California Register of Historical Resources (CRHR) if it meets the following four Criteria for Designation:

> "Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States (Criterion 1).
>
> Associated with the lives of persons important to local, California or national history (Criterion 2).
>
> Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values (Criterion 3).
>
> Has yielded, or may be likely to yield, information important in prehistory or local, California or national history (Criterion 4)."[18]

<u>CEQA Guidelines: Historical Resources Definition</u>

CEQA Guidelines Section 15064.5(a) defines a historical resource as:

"(1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code §5024.1, Title 14 CCR, Section 4850 et seq.).

(2) A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

(3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code, § 5024.1, Title 14 CCR, Section 4852) including the following:

[17] California State Parks. California Office of Historic Preservation. Information Centers Locations and Contacts. Accessed August 2019 at: http://ohp.parks.ca.gov/pages/1068/files/IC_Roster_03-22-2019.pdf.

[18] California State Parks. Office of Historic Preservation. California Register of Historical Resources. Accessed August 2019 at: http://www.ohp.parks.ca.gov/?page_id=21238.

(A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Is associated with the lives of persons important in our past;

(C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

(D) Has yielded, or may be likely to yield, information important in prehistory or history.

(4) The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1."[19]

CEQA Guidelines: Archaeological Resources

Section 15064.5(c) of CEQA Guidelines provides specific guidance on the treatment of archaeological resources as noted below.

"(1) When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subdivision (a).

(2) If a lead agency determines that the archaeological site is an historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, and this section, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.

(3) If an archaeological site does not meet the criteria defined in subdivision (a), but does meet the definition of a unique archeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c-f) do not apply to surveys and site evaluation activities intended to determine whether the project location contains unique archaeological resources.

(4) If an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process."[20]

CEQA Guidelines: Human Remains

[19] CEQA Guidelines, Section 15064.5(a)
[20] CEQA Guidelines, Section 15064.5(c)

Public Resources Code Sections 5097.94 and 5097.98 provide guidance on the disposition of Native American burials (human remains), and fall within the jurisdiction of the Native American Heritage Commission:

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

(1) The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (Health and Safety Code Section 7050.5).

(2) The requirements of CEQA and the Coastal Act."[21]

"(e) In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:

(1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

(A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and

(B) If the coroner determines the remains to be Native American:

1. The coroner shall contact the Native American Heritage Commission within 24 hours.

2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.

3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or

(2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

(A) The Native American Heritage Commission is unable to identify a most

[21] CEQA Guidelines, Section 15064.5(d)

likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.

(B) The descendant identified fails to make a recommendation; or

(C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner."[22]

"(f) As part of the objectives, criteria, and procedures required by Section 21082 of the Public Resources Code, a lead agency should make provisions for historical or unique archaeological resources accidentally discovered during construction. These provisions should include an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place."[23]

CEQA Guidelines: Paleontological Resources

Public Resources Code Section 5097.5 prohibits excavation or removal of any "vertebrate paleontological site…or any other archaeological, paleontological or historical feature, situated on public lands, except with express permission of the public agency having jurisdiction over such lands."

Tribal Consultation Requirements: SB 18 (Burton, 2004)

On September 29, 2004, Governor Schwarzenegger signed Senate Bill 18, Tribal Consultation Guidelines, into law. SB 18, enacted March 1, 2005, creates a mechanism for California Native American Tribes to identify culturally significant sites that are located within public or private lands within the city or county's jurisdiction. SB 18 requires cities and counties to contact, and offer to consult with, California Native American Tribes before adopting or amending a General Plan, a Specific Plan, or when designating land as Open Space, for the purpose of protecting Native American Cultural Places (PRC 5097.9 and 5097.993). The Native American Heritage Commission (NAHC) provides local governments with a consultation list of tribal governments with traditional lands or cultural places located within the Project Area of Potential Effect. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe.[24]

Local Policy & Regulations

Tulare County General Plan Policies

[22] CEQA Guidelines, Section 15064.5 (e)
[23] CEQA Guidelines, Section 15064.5(f)
[24] Government Code §65352.3

The Tulare County General Plan has a number of policies that apply to projects within County of Tulare. General Plan policies that relate to the proposed Project are listed below.

ERM-6.1 Evaluation of Cultural and Archaeological Resources - The County shall participate in and support efforts to identify its significant cultural and archaeological resources using appropriate State and Federal standards.

ERM-6.2 Protection of Resources with Potential State or Federal Designations - The County shall protect cultural and archaeological sites with demonstrated potential for placement on the National Register of Historic Places and/or inclusion in the California State Office of Historic Preservation's California Points of Interest and California Inventory of Historic Resources. Such sites may be of Statewide or local significance and have anthropological, cultural, military, political, architectural, economic, scientific, religious, or other values as determined by a qualified archaeological professional.

ERM-6.3 Alteration of Sites with Identified Cultural Resources - When planning any development or alteration of a site with identified cultural or archaeological resources, consideration should be given to ways of protecting the resources. Development can be permitted in these areas only after a site specific investigation has been conducted pursuant to CEQA to define the extent and value of resource, and mitigation measures proposed for any impacts the development may have on the resource.

ERM-6.4 Mitigation - If preservation of cultural resources is not feasible, every effort shall be made to mitigate impacts, including relocation of structures, adaptive reuse, preservation of facades, and thorough documentation and archival of records.

ERM-6.9 Confidentiality of Archaeological Sites - The County shall, within its power, maintain confidentiality regarding the locations of archaeological sites in order to preserve and protect these resources from vandalism and the unauthorized removal of artifacts.

IMPACT EVALUATION

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?

Project Impact Analysis: ***No Impact***

An archeological reconnaissance (Cultural Assessment) was conducted on the site on September 2, 2014 for the *existing* mining operation; additional reconnaissance would also be undertaken for this proposed Project as described below. All of the area is currently within an open rock quarry. As noted in the earlier Cultural Assessment conducted in September 2014, "Physical inspection of the open rock quarry was impossible due to active mining operations, and given the extent of disturbance, unnecessary given that no intact soils remain in the proposed Project area. The northern and northwestern perimeter of the mining area

along Deer Creek within an existing orchard were also inspected for cultural resources. No cultural resources were noted in these areas"[25].

During this amendment process (PMR 19-001), consultant Culturescape conducted a cultural resource inventory for historic and prehistoric sites within the proposed project area (i.e., the 20-acre expansion area).[26]Also, as contained in the Cultural Study, "Correspondence with the Native American Heritage Commission (NAHC) was conducted as part of the AB 52 process by Tulare County Resource Management Agency. The results of the NAHC search on February 27, 2019 indicated that a sacred site or an area of significance was within the proposed project area. In an e-mail dated April 3, 2019, a list of tribal representatives was provided to Culturescape by Live Oak Associates, with the suggestion that the Tule River Indian Tribe be contacted for more information. Shana Powers of the Santa Rosa Tachi Yokuts Tribe requested County consultation as per AB 52. The County suggested April 19, 23 and 25, 2019 as tentative days for a meeting, however, no response was given as of May 6, 2019. A telephone call was made to the Tule River Tribe on April 30 for information about the area. Kerri Vera, Environmental Director thought that this might pertain to another project, she was provided with my e-mail to send her a map, but no response was received as of May 6, 2019. On May 6, 2019 a call was placed to Shana Powers of the Santa Rosa Rancheria Tachi Yokuts Tribe for information regarding the area. She was concerned that buried deposits may be present. She was given my contact information to submit information regarding known Tribal Cultural Properties in the area. No further calls were received as of the time of this report."[27]

"A records search conducted by the Southern San Joaquin Valley Information Center (SSJVIC) resulted in no previously reported cultural resources within the project area. The search located two previous cultural studies within the project area, TU-01335, a phase I survey in 2008 for Garden Grove Estates, located at the northwest, and TU-01336 that took place in 2009 for a 29-acre expansion of the Deer Creek Quarry. A third study, TU-01602 was conducted approximately ½ mile to the southeast for the replacement of thirteen Southern California Edison power poles. No cultural resources were located during these studies within the proposed project or within ½ mile radius of the property. There are no resources that are listed in the National Register of Historic Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks."[28]

"No prehistoric cultural artifacts were observed during the survey. Visibility varied from very good within a developed lemon grove to very poor in the open grazing land that

[25] "Cultural Resources Assessment, Deer Creek Rock Company, Surface Mining Permit Amendment, Northern Foot of Tennessee Ridge, Five Miles Southeast of Porterville, Tulare County, California, (APN 305-190-021) September 2014. Page 11.

[26] "Twenty Acre Expansion of the Deer Creek Rock Company Porterville, Tulare County, California" Page i. June 2019 Prepared by Culturescape and included in Appendix "C" of this SEIR.

[27] Ibid. Summary of Findings. i.

[28] Op. Cit.

predominates the north half of the property. Wild oats, ruderal grasses and forbs dominated the landscape and offered less than 10% ground visibility."[29]

As noted earlier, the proposed Project site is already an existing mining operation in full production that proposes a 20-acre expansion. It is highly developed and the ground disturbance and mining of rock continues to occur. There are no rock outcroppings, artifacts (including arrowheads, fire or grinding pits, drawings, or caves), buildings or other structures that could have any cultural values. Despite the absence of documented cultural resources within the project area, undiscovered potentially significant resources might still exist in the area. As indicated in the Cultural Study, "If buried cultural materials are encountered during construction, work is to stop in that area until a qualified archaeologist can evaluate the nature and significance of the find."[30] Based on this analysis, implementation of **Mitigation Measure 4.3-1** would reduce potential Project-specific impacts related to this Checklist Item to a level considered ***Less Than Significant***.

Cumulative Impact Analysis: ***Less Than Significant Impact With Mitigation***

The geographic area of this cumulative analysis is Tulare County.

The proposed Project would only contribute to cumulative impacts related to this Checklist Item if Project-specific impacts were to occur. As the proposed Project would be mitigated to a level considered less than significant, cumulative impacts would also be considered ***Less Than Significant With Mitigation***.

Mitigation Measure(s): ***See Mitigation Measure 4.3-1.***

4.3-1. In the event that archaeological or paleontological resources are discovered during site excavation, the County shall require that grading and construction work on the project site be immediately suspended until the significance of the features can be determined by a qualified archaeologist or paleontologist. In this event, the property owner shall retain a qualified archaeologist/paleontologist to make recommendations for measures necessary to protect any site determined to contain or constitute an historical resource, a unique archaeological resource, or a unique paleontological resource or to undertake data recover, excavation analysis, and curation of archaeological or paleontological materials. County staff shall consider such recommendations and implement them where they are feasible in light of Project design as previously approved by the County.

Conclusion: ***Less Than Significant Impact With Mitigation***

With implementation of **Mitigation Measure 4.3-1**, potential Project-specific and cumulative impacts related to this Checklist Item will be reduced to a ***Less Than Significant*** level.

[29] Op. Cit.
[30] Op. Cit.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Project Impact Analysis: ***Less Than Significant Impact With Mitigation***

The Project site is an existing mining operation that proposes a 20-acre expansion. As noted in the Cultural Study (included in Appendix "C" of this SEIR), no paleontological resources or sites, or unique geologic features have previously been encountered on the proposed Project site. Also as noted earlier, a cultural resources record search was conducted as noted in a letter dated April 8, 2019 from the Southern San Joaquin Valley Historical Resources Information Center, Bakersfield. No archaeological deposits or isolated finds were identified during the cultural resources records search.

Although no archaeological deposits have been identified, there is the potential that archaeological resources may be discovered. With the implementation of **Mitigation Measure 4.3-1**, ***Less Than Significant Project-specific Impacts*** related to this Checklist Item will occur.

Cumulative Impact Analysis: ***Less Than Significant Impact With Mitigation***

The geographic area of this cumulative analysis is Tulare County.

The proposed Project would only contribute to cumulative impacts related to this Checklist Item if Project-specific impacts were to occur. As such, the proposed Project will result in ***Less Than Significant Project-Specific and Cumulative Impacts With Mitigation***.

Mitigation Measure: ***See Mitigation Measure 4.3-1.***

Conclusion: ***Less Than Significant Impact With Mitigation***

With implementation of **Mitigation Measure 4.3-1**, potential Project-specific and cumulative impacts related to this Checklist Item will be reduced to a ***Less Than Significant*** level.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Project Impact Analysis: ***Less Than Significant Impact With Mitigation***

The Project site is an existing mining operation that proposes a 20-acre expansion. No paleontological resources or sites, or unique geologic features have previously been encountered on the proposed Project site. As noted earlier, a cultural resources records search was conducted of the site. No archaeological deposits or isolated finds were identified during that search. Also, see discussion 4.3 Item a), earlier.

Although it cannot conclusively be demonstrated that no subsurface paleontological resources are present, it is possible to mitigate potentially significant impacts with **Mitigation Measure 4.3-2**. With implementation the **Mitigation Measure 4.3-2**, Project-specific impacts related to this Checklist Item will be reduced to ***Less Than Significant*** levels.

Cumulative Impact Analysis: ***Less Than Significant Impact With Mitigation***

The geographic area of this cumulative analysis is Tulare County. The proposed Project would only contribute to cumulative impacts related to this Checklist Item if Project-specific impacts were to occur. As such, the proposed Project would result in ***Less Than Significant Project-Specific and Cumulative Impacts With Mitigation***.

Mitigation Measure: ***See Mitigation Measure 4.3-2.***

4.3-2. The property owner shall avoid and minimize impacts to paleontological resources. If a potentially significant paleontological resource is encountered during ground disturbing activities, all construction within a 100-foot radius of the find shall immediately cease until a qualified paleontologist determines whether the resources requires further study. The owner shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. The paleontologist shall notify the Tulare County Resource Management Agency and the project proponent of the procedures that must be followed before construction is allowed to resume at the location of the find. If the find is determined to be significant and the Tulare County Resource Management Agency determines avoidance is not feasible, the paleontologist shall design and implement a data recovery plan consistent with applicable standards. The plan shall be submitted to the Tulare County Resource Management Agency for review and approval. Upon approval, the plan shall be incorporated into the project.

Conclusion: ***Less Than Significant With Mitigation***

With implementation of **Mitigation Measure 4.3-1**, potential Project-specific and cumulative impacts related to this Checklist Item will be reduced to a ***Less Than Significant*** level.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Project Impact Analysis: ***Less Than Significant Impact with Mitigation***

As noted earlier, the Project site is an existing mining operation that proposes a 20-acre expansion; and no cultural resources have been encountered previously on the proposed Project site, as described in the Cultural Study and at Item 4.3 a), earlier. Although it cannot conclusively be demonstrated that no subsurface human remains are present, it is possible to

mitigate potentially significant impacts with implementation of **Mitigation Measure 4.3-3**, this Checklist Item will be reduced to ***Less Than Significant Project-specific Impacts***.

Cumulative Impact Analysis: ***Less Than Significant Impact With Mitigation***

The geographic area of this cumulative analysis is Tulare County.

The proposed Project would only contribute to cumulative impacts related to this Checklist Item if Project-specific impacts were to occur. Potential impacts to this resource by the proposed Project would be reduced to ***Less Than Significant Project-specific and Cumulative Impacts with Mitigation***.

Mitigation Measures: ***See Mitigation Measure 4.3-3.***

Measure 4.3-3. Consistent with Section 7050.5 of the California Health and Safety Code and (CEQA Guidelines) Section 15064.5, if human remains of Native American origin are discovered during project construction, it is necessary to comply with State laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American Heritage Commission (Public Resources Code Sec. 5097). In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:

1. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:
    a. The Tulare County Coroner/Sheriff must be contacted to determine that no investigation of the cause of death is required; and
    b. If the coroner determines the remains to be Native American:
        i. The coroner shall contact the Native American Heritage Commission within 24 hours.
        ii. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
        iii. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code section 5097.98, or
2. Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

a. The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.

b. The descendant fails to make a recommendation; or

c. The landowner or his authorized representative rejects the recommendation of the descendent.

Conclusion: ***Less Than Significant Impact With Mitigation***

With implementation of **Mitigation Measures 4.3-1, 4.3-2,** and **4.3-3**, potential ***Project-specific and Cumulative Impacts*** related to this Checklist Item will be reduced to ***Less Than Significant.***

DEFINITIONS

"**Aspect** – A cultural unit represented by stylistically distinctive artifact assemblages within a region. Aspects have been defined as geographical subdivisions of *patterns*, and have in turn been subdivided into chronologically sequential *phases*."[31]

"Pattern - A geographically and chronologically extended cultural unit within a region, characterized by similar technology, economy, and burial practices. A pattern has been defined as "a configuration of basic traits representing a cultural adaptation" (Bennyhoff and Fredrickson 1994:20). Geographical and chronological subdivisions of patterns have been termed *aspects* and *phases*."[32]

"**Phase** – A highly localized and chronologically restricted cultural unit. Phases have been treated as chronological subdivisions of *aspects*. A phase has been defined as "an archaeological unit possessing traits sufficiently characteristic to distinguish it…spatially limited to the order of magnitude or a locality or region and chronologically limited to a relatively brief interval of time (Willey and Phillips 1958:22)."[33]

"**Windmiller** - A middle to late Holocene tradition, pattern, facies, or culture in central California, particularly in the Sacramento delta, dated between 5000-2500 and 2000-500 B.C. The Windmiller tradition has been identified with the Early horizon or period and classified within the late Archaic period. Locally the Windmiller facies was followed by the Morse, Deterding, Brazil, Need, or Orwood facies. The pattern has been identified with the Utian ethnolinguistic group. The type site is the Windmiller Mound Site (SAC-107). (Beardsley 1954; Bennyhoff and Fredrickson 1994; Chartkoff and Chartkoff 1984; Fredrickson 1994; Lillard et al.

[31] Society for California Archaeology. Chronological and Cultural Units. A Glossary of Proper Names in California History. Accessed August 2019 at: https://scahome.org/about-ca-archaeology/glossary-of-terms/chronological-and-cultural-units/.
[32] Ibid.
[33] Op. Cit.

1939; Ragir 1972)"[34] "*culture* - A unit that is distinctive in its material traces and bounded in its geographical and chronological ranges. Archaeological cultures are sometimes interpreted as corresponding to socially organized groups, ethnolinguistic groups, or groups sharing a common nonmaterial culture."[35]; "*facies* - A unit composed of closely related components from several sites, perhaps essentially equivalent to a phase or, in some usage, a complex."[36]; "*tradition* - An interpretive unit that links together culturally related, successive units into a chronologically more extended unit. A tradition has been defined as "a (primarily) temporal continuity represented by persistent configurations in single technologies or other systems of related forms" (Willey and Phillips 1958:37)"[37].

REFERENCES

Advisory Council on Historic Preservation. Accessed August 2019 at: https://www.achp.gov/preservation-legislation.

California Government Code. Title 7. Planning and Land Use. Division 1 Planning and Zoning. Chapter 3 Local Planning. Article 6. Preparation, Adoption, and Amendment of the General Plan. Section 65352.3 Accessed August 2019 at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=65352.3.&lawCode=GOV.

California Natural Resources Agency Title 14 California Code of Regulations. Chapter 3. Guidelines for Implementation of the California Environmental Quality Act. Sections 15064.5 (a), 15064.5 (b), 15064.5 (c), 15064.5(d), 15064.5 (e), Section 15064.5(f) http://resources.ca.gov/ceqa/guidelines/art5.html.

California Public Resources Code. Division 13. Chapter 2.6. Section 21084.1. Accessed August 2019 at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=21084.1.

California State Parks. Office of Historic Preservation. California Register of Historical Resources. Accessed August 2019 at: http://www.ohp.parks.ca.gov/?page_id=21238.

[34] Op. Cit.
[35] Op. Cit.
[36] Op. Cit.
[37] Op. Cit.

California State Parks. Office of Historic Preservation. Mission and Responsibilities. Accessed August 2019 at: http://ohp.parks.ca.gov/?page_id=1066.

California Office of Historic Preservation. California Historical Resources Information System. Accessed August 2019 at: http://ohp.parks.ca.gov/?page_id=1068.

California State Parks. California Office of Historic Preservation. About the CHRIS Information Centers. Accessed August 2019 at: http://ohp.parks.ca.gov/?page_id=28730.

California State Parks. California Office of Historic Preservation. Information Centers Locations and Contacts. Accessed August 2019 at: http://ohp.parks.ca.gov/pages/1068/files/IC_Roster_03-22-2019.pdf.

"Cultural Resources Assessment, Deer Creek Rock Company, Surface Mining Permit Amendment, Northern Foot of Tennessee Ridge, Five Miles Southeast of Porterville, Tulare County, California (APN 305-190-021)". Prepared by Sierra Valley Cultural Planning. September 2014 and is included as Appendix "D" of the Deer Creek Rock SMARA Permit Amendment DEIR (SCH No. 20144081023). November 2014. Certified and adopted by the Tulare County Planning Commission on March 11, 2015. Resolution No. 9055. See: https://tularecounty.ca.gov/rma/index.cfm/projects/planning-projects/applicant-projects/deer-creek/deir-deer-creek-mine-pmr-14-002/.

Society for California Archaeology. Chronological and Cultural Units. A Glossary of Proper Names in California History. Accessed August 2019 at: https://scahome.org/about-ca-archaeology/glossary-of-terms/chronological-and-cultural-units/

"Twenty Acre Expansion of the Deer Creek Rock Company Porterville, Tulare County, California" Page i. June 2019 Prepared by Culturescape and included in Appendix "C" of this SEIR.

Tulare County General Plan 2030 Update Background Report. February 2010. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/Appendix%20B%20-%20Background%20Report.pdf.

Tulare County General Plan Update 2030. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/

Energy
Chapter 4.4

SUMMARY OF FINDINGS

Based on the impact analysis below, potential impacts to Energy as a result of the proposed Project are determined to be ***Less Than Significant***. The impact determinations in this chapter are based upon information obtained from the Project Description, numerous State of California energy-related sources that are publically and readily available, references listed at the end of this chapter, and in the *"Air Quality and Greenhouse Gas Analysis Report Deer Creek Mine Expansion Project Tulare County, California."* (AQ-GHG Report) prepared by consultant Mitchell Air Quality Consulting for this Project, which is provided in Appendix "A" of this document. A detailed review of potential impacts is provided in the analysis below.

INTRODUCTION

Energy consumption is analyzed in an EIR because of the environmental impacts associated with its production and usage. Such impacts include the depletion of nonrenewable resources (e.g., oil, natural gas, coal, etc.) and emission of pollutants during both the production and consumption phases. Energy usage is typically quantified using the British Thermal Unit (BTU). The BTU is the amount of energy that is required to raise the temperature of one pound of water by one degree Fahrenheit. As points of reference, the approximate amount of energy contained in a gallon of gasoline, a cubic foot of natural gas, and a kilowatt hour (kWhr) of electricity are 123,000 BTUs, 1,000 BTUs, and 3,400 BTUs, respectively. Natural gas usage is expressed in therms. A therm is equal to 100,000 BTU. Energy conservation is embodied in many federal, state and local statutes and policies. At the federal level, energy standards apply to numerous products (e.g., the EnergyStar™ program) and transportation (e.g., fuel efficiency standards). At the state level, Title 24 of the California Administrative Code sets energy standards for buildings, rebates/tax credits are provided for installation of renewable energy systems, and the Flex Your Power program promotes conservation in multiple areas. Also, as described further in this section, the Tulare County General Plan currently contains policies that promotes energy conservation and efficiency measures, energy conservation awareness, and renewable energy.

<u>California Environmental Quality Act (CEQA) Requirements</u>

"In 1974, the Legislature adopted the Warren-Alquist State Energy Resources Conservation and Development Act. (Pub. Resources Code, § 25000 et seq.) That act created what is now known as the California Energy Commission, and enabled it to adopt building energy standards. (See, e.g., id. at § 25402.) At that time, the Legislature found the "rapid rate of growth in demand for electric energy is in part due to wasteful, uneconomic, inefficient, and unnecessary uses of power and a continuation of this trend will result in serious depletion or irreversible commitment of energy,

land and water resources, and potential threats to the state's environmental quality." (Id. at § 25002; see also § 25007 ("It is further the policy of the state and the intent of the Legislature to employ a range of measures to reduce wasteful, uneconomical, and unnecessary uses of energy, thereby reducing the rate of growth of energy consumption, prudently conserve energy resources, and assure statewide environmental, public safety, and land use goals"))

The same year that the Legislature adopted Warren-Alquist, it also added section 21100(b)(3) to CEQA, requiring environmental impact reports to include "measures to reduce the wasteful, inefficient, and unnecessary consumption of energy." As explained by a court shortly after it was enacted, the "energy mitigation amendment is substantive and not procedural in nature and was enacted for the purpose of requiring the lead agencies to focus upon the energy problem in the preparation of the final EIR." (People v. County of Kern (1976) 62 Cal.App.3d 761, 774 (emphasis added)). It compels an affirmative investigation of the project's potential energy use and feasible ways to reduce that use.

Though Appendix F of the CEQA Guidelines has contained guidance on energy analysis for decades, implementation among lead agencies has not been consistent. (See, e.g., California Clean Energy Committee v. City of Woodland, supra, 225 Cal.App.4th 173, 209.) While California is a leader in energy conservation, the importance of addressing energy impacts has not diminished since 1974. On the contrary, given the need to avoid the effects of climate change, energy use is an issue that we cannot afford to ignore. As the California Energy Commission's Integrated Energy Policy Report (2016) explains:

> Energy fuels the economy, but it is also the biggest source of greenhouse gas emissions that lead to climate change. Despite California's leadership, Californians are experiencing the impacts of climate change including higher temperatures, prolonged drought, and more wildfires. There is an urgent need to reduce greenhouse gas emissions and increase the state's resiliency to climate change. . . . ¶ . . . With transportation accounting for about 37 percent of California's greenhouse gas emissions in 2014, transforming California's transportation system away from gasoline to zero emission and near-zero-emission vehicles is a fundamental part of the state's efforts to meet its climate goals. Energy efficiency and demand response are also key components of the state's strategy to reduce greenhouse gas emissions. (Id. at pp. 5, 8, 10.) Appendix F was revised in 2009 to clarify that analysis of energy impacts is mandatory. OPR today proposes to add a subdivision in section 15126.2 on energy impacts to further elevate the issue, and remove any question about whether such an analysis is required."[1]

Further, an "Explanation of Proposed Amendments" contained in the Proposed Update (and now adopted amendments) to the CEQA Guidelines documents stated that OPR proposed to add a new subdivision (b) to section 15126.2 which discusses the required contents of an environmental

[1] State of California. Office of Planning and Research. Proposed Update to the CEQA Guidelines/ November 2017. Pages 65-66. Accessed September 2019 at: http://opr.ca.gov/docs/20171127_Comprehensive_CEQA_Guidelines_Package_Nov_2017.pdf

impact report. The new subdivision would specifically address the analysis of a project's potential energy impacts. This addition is necessary for several reasons explained as follows. [2]

> "The first sentence clarifies that an EIR must analyze whether a project will result in significant environmental effects due to "wasteful, inefficient, or unnecessary consumption of energy." This clarification is necessary to implement Public Resources Code section 21100(b)(3). Since the duty to impose mitigation measures arises when a lead agency determines that the project may have a significant effect, section 21100(b)(3) necessarily requires both analysis and a determination of significance in addition to energy efficiency measures. (Pub. Resources Code, § 21002.)
>
> The second sentence further clarifies that all aspects of the project must be considered in the analysis. This clarification is consistent with the rule that lead agencies must consider the "whole of the project" in considering impacts. It is also necessary to ensure that lead agencies consider issues beyond just building design. (See, e.g., California Clean Energy Com. v. City of Woodland, supra, 225 Cal.App.4th at pp. 210-212.) The analysis of vehicle miles traveled provided in proposed section 15064.3 (implementing Public Resources Code section 21099 (SB 743)) on transportation impacts may be relevant to this analysis.
>
> The third sentence signals that the analysis of energy impacts may need to extend beyond building code compliance. (Ibid.) The requirement to determine whether a project's use of energy is "wasteful, inefficient, and unnecessary" compels consideration of the project in its context. (Pub. Resources Code, § 21100(b)(3).) While building code compliance is a relevant factor, the generalized rules in the building code will not necessarily indicate whether a particular project's energy use could be improved. (Tracy First v. City of Tracy (2009) 177 Cal.App.4th 912, 933 (after analysis, lead agency concludes that project proposed to be at least 25% more energy efficient than the building code requires would have a less than significant impact); see also CEQA Guidelines, Appendix F, § II.C.4 (describing building code compliance as one of several different considerations in determining the significance of a project's energy impacts).) That the Legislature added the energy analysis requirement in CEQA at the same time that it created an Energy Commission authorized to impose building energy standards indicates that compliance with the building code is a necessary but not exclusive means of satisfying CEQA's independent requirement to analyze energy impacts broadly.
>
> The new proposed [now adopted] subdivision (b) also provides a cross-reference to Appendix F. This cross-reference is necessary to direct lead agencies to the more detailed provisions contained in that appendix. Finally, new proposed subdivision (b) cautions that the analysis of energy impacts is subject to the rule of reason, and must focus on energy demand actually caused by the project. This sentence is necessary to place reasonable limits on the analysis. Specifically, it signals that a full "lifecycle" analysis that would account

[2] Ibid. 66.

for energy used in building materials and consumer products will generally not be required. (See also Cal. Natural Resources Agency, Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97 (Dec. 2009) at pp. 71-72.)"[3]

Specifically, Section 15121.6 added new sub-section (b), to wit: "(b) Energy Impacts. If the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary consumption of energy, the EIR shall analyze and mitigate that energy use. 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. (Guidance on information that may be included in such an analysis is presented in Appendix F.) This analysis is subject to the rule of reason and shall focus on energy demand that is caused by the project. This analysis may be included in related analyses of air quality, greenhouse gas emissions or utilities in the discretion of the lead agency."[4]

CEQA Thresholds of Significance

- Result in significant environmental effects due to wasteful, inefficient, or unnecessary consumption of energy.
- The project's energy use for all project phases and components, including transportation-related energy, during construction and operation.
- The project's size, location, orientation, equipment use and any renewable energy features that could be incorporated into the project.
- Analysis is subject to the rule of reason and shall focus on energy demand that is caused by the project.

ENVIRONMENTAL SETTING

Natural Gas and Electric Service

"Southern California Edison provides electric service to the majority of Tulare County, including the majority of the San Joaquin Valley and the foothills. Natural gas service is primarily provided by The Gas Company (formerly Southern California Gas Company). Pacific Gas & Electric also serves northern Tulare County's electric needs on limited basis. The electrical facilities network includes both overhead and underground lines, with new development required to install underground service lines. All utility providers indicate that additional service should be available to new development, depending on the necessary load of the services requested."[5]

[3] Op. Cit. 66-67.

[4] Op. Cit. 67-68.

[5] Tulare County General Plan 2030 Update Recirculated Draft EIR. 3.4 Energy and Global Climate Change. February 2010. Page 3.4-13 Accessed November 2019 at: http://generalplan.co.tulare.ca.us/documents/generalplan2010/RecirculatedDraftEIR.pdf

Existing Energy Consumption

Electrical and natural gas services for the Project area are provided by Southern California Edison (SCE), and Southern California Gas Company (SoCal Gas), respectively. In 2018, SCE provided 4,422.976762 gigawatt-hours (GWh) of electricity to Tulare County customers.[6] Also in 2016, SoCal Gas provided a total of 157.285390 million therms in Tulare County[7] See **Table 4.4-1**.

Table 4.4-1
2018 County and State Energy Demands on Energy Providers Southern California Gas and Southern California Edison[8][9]

Demand by:	Electricity (in MWh)	Gas (in Therms)
Tulare County	[1]4,433,976.762	[2]157,285,390
SCE and SCG Service Areas	[1]83,399,988.199	[2]5,156,078,935

Notes: 1 Converted to MWh as CEC Energy Reports expresses in Millions of kWh (GWh).
2 Converted to MWh as CEC Energy Reports expresses in Millions of Therms.

The Project site anticipates continued service for electricity from SCE and natural gas from SoCal Gas.

REGULATORY SETTING

Federal Agencies & Regulations

Energy Policy Act of 2005

The Energy Policy Act of 2005 seeks to reduce reliance on non-renewable energy resources and provide incentives to reduce current demand on these resources. For example, under the Act, consumers and businesses can obtain federal tax credits for purchasing fuel efficient appliances and products, including buying hybrid vehicles, building energy-efficient buildings, and improving the energy efficiency of commercial buildings. Additionally, tax credits are available for the installation of qualified fuel cells, stationary microturbine power plants, and solar power equipment.

State Agencies & Regulations

California Energy Commission

The California Energy Commission (CEC) was created in 1974 to serve as the state's primary energy policy and planning agency. The CEC is tasked with reducing energy costs and environmental impacts of energy use - such as greenhouse gas emissions - while ensuring a safe, resilient, and reliable supply of energy.

[6] California Energy Commission. California Energy Consumption Database. Electricity Consumption by County. Energy reports accessed November 2019 at: http://ecdms.energy.ca.gov/elecbycounty.aspx.
[7] Ibid. Gas Consumption by County. Accessed August 2019 at: http://ecdms.energy.ca.gov/gasbycounty.aspx.
[8] Op. Cit. Accessed November 2019 at: http://ecdms.energy.ca.gov/elecbycounty.aspx
[9] Op. Cit. Accessed November 2019 at: http://ecdms.energy.ca.gov/elecbyplan.aspx

California 2008 Energy Action Plan Update[10]

The 2008 update to the 2005 Energy Action Plan II is the State's principal energy planning and policy document (State of California 2008). The updated document examines the state's ongoing actions in the context of global climate change. The 2005 Energy Action Plan II continues the goals of the original 2003 Energy Action Plan, describes a coordinated implementation plan for state energy policies, and identifies specific action areas to ensure that California's energy resources are adequate, affordable, technologically advanced, and environmentally sound. In accordance with this plan, the first-priority actions to address California's increasing energy demands are energy efficiency and demand response (i.e., reduction of customer energy usage during peak periods to address system reliability and support the best use of energy infrastructure). Additional priorities include the use of renewable sources of power and distributed generation (i.e., the use of relatively small power plants near or at centers of high demand). To the extent that these actions are unable to satisfy the increasing energy demand and transmission capacity needs, clean and efficient fossil-fired generation is supported. The California 2008 Energy Action Plan Update examines policy changes in the areas of energy efficiency, demand response, renewable energy, electricity reliability and infrastructure, electricity market structure, natural gas supply and infrastructure, research and development, and climate change.

State of California Integrated Energy Policy (SB 1389)

State of California Integrated Energy Policy (SB 1389) In 2002, the Legislature passed Senate Bill 1389, which required the California Energy Commission (CEC) to develop an integrated energy plan every two years for electricity, natural gas, and transportation fuels, for the California Energy Policy Report. The plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for Zero Emission Vehicles and their infrastructure needs, and encouragement of urban designs that reduce vehicles miles traveled and accommodate pedestrian and bicycle access.

The CEC adopted the 2013 Integrated Energy Policy Report on February 20, 2014. The 2013 Integrated Energy Policy Report provides the results of the CEC's assessment of a variety of issues, including:

- Ensuring that the state has sufficient, reliable, and sage energy infrastructure to meet current and future energy demands;
- Monitoring publicly-owned utilities' progress towards achieving 10-year energy efficiency targets; defining and including zero-net-energy goals in state building standards;

[10] California Energy Commission. 2008 Energy Action Plan. February 2008. Accessed November 2019 at: https://ww2.energy.ca.gov/2008publications/CEC-100-2008-001/CEC-100-2008-001.PDF

- Overcoming challenges to increased use of geothermal heat pump/ground loop technologies and procurement of biomethane;
- Using demand response to meet California's energy needs and integrate renewable
- technologies;
- Removing barriers to bioenergy development; planning for California's electricity infrastructure needs given potential retirement of power plants and the closure of the San Onofre Nuclear Generating Station;
- Estimating new generation costs for utility-scale renewable and fossil-fueled generation;
- Planning for new or upgraded transmission infrastructure;
- Monitoring utilities' progress in implementing past recommendations related to nuclear power plants;
- Tracking natural gas market trends;
- Implementing the Alternative and Renewable Fuel and Vehicle Technology Program; and,
- Addressing the vulnerability of California's energy supply and demand infrastructure to the effects of climate change; and planning for potential electricity system needs in 2030.

California Senate Bill 1037 and Assembly Bill 2021

In 2003, the CPUC and CEC adopted an Energy Action Plan that prioritized resources for meeting California's future energy needs, with energy efficiency identified as the highest priority. Since then, this policy goal has been codified as SB 1037 and AB 2021 into statute through legislation that requires electric utilities to meet their resource needs first with energy efficiency.[11] This policy also set new targets for statewide annual energy demand reductions of 32,000 GWh and 800 million therms from business-as-usual[12]—enough to power more than 5 million homes or replace the need to build about ten new large power plants (500 MW each). These targets represent a higher goal than existing efficiency targets established by CPUC for investor-owned utilities due to the inclusion of innovative strategies. Achieving the State's energy efficiency targets will require coordinated efforts from the State, the federal government, energy companies, and customers. The California Air Resources Board (ARB) will work with CEC and CPUC to facilitate these partnerships. California's energy efficiency programs for buildings and appliances have generated more than $50 billion in savings over the past three decades.

California Global Warming Solutions Act of 2006 (Assembly Bill 32)

California Global Warming Solutions Act of 2006 (Assembly Bill 32) Assembly Bill 32 (Health and Safety Code Sections 38500–38599; AB 32), also known as the California Global Warming Solutions Act of 2006, commits the state to achieving year 2000 GHG emission levels by 2010 and year 1990 levels by 2020. To achieve these goals, AB 32 tasked the California Public Utilities

[11] SB 1037 (Kehoe, Chapter 366, Statutes of 2005) and AB 2021 (Levine, Chapter 734, Statutes of 2006) directed electricity corporations subject to CPUC's authority and publicly-owned electricity utilities to first meet their unmet resource needs through all available energy efficiency and demand response resources that are cost-effective, reliable, and feasible.

[12] The savings targeted here are additional to savings currently assumed to be incorporated in CEC's 2007 demand forecasts. However, CEC has initiated a public process to better determine the quantity of energy savings from standards, utility programs, and market effects that are embedded in the baseline demand forecast.

Commission and CEC with providing information, analysis, and recommendations to the California Air Resources Board regarding ways to reduce GHG emissions in the electricity and natural gas utility sectors.

California Energy Code (Title 24, Part 6, Building Energy Efficiency Standards)

California Code of Regulations Title 24, Part 6 comprises the California Energy Code, which was adopted to ensure that building construction, system design and installation achieve energy efficiency. The California Energy Code was first established in 1978 by the CEC in response to a legislative mandate to reduce California's energy consumption, and apply to energy consumed for heating, cooling, ventilation, water heating, and lighting in new residential and non-residential buildings. The standards are updated periodically to increase the baseline energy efficiency requirements. The 2013 Building Energy Efficiency Standards focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings and include requirements to enable both demand reductions during critical peak periods and future solar electric and thermal system installations. Although it was not originally intended to reduce greenhouse gas (GHG) emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

California Green Building Standards Code (Title 24, Part II, CALGreen)

The California Building Standards Commission adopted the California Green Buildings Standards Code (CALGreen in Part 11 of the Title 24 Building Standards Code) for all new construction statewide on July 17, 2008. Originally a volunteer measure, the code became mandatory in 2010 and the most recent update (2013) went into effect on January 1, 2014. CALGreen sets targets for energy efficiency, water consumption, dual plumbing systems for potable and recyclable water, diversion of construction waste from landfills, and use of environmentally sensitive materials in construction and design, including eco-friendly flooring, carpeting, paint, coatings, thermal insulation, and acoustical wall and ceiling panels. The 2013 CALGreen Code includes mandatory measures for non-residential development related to site development; water use; weather resistance and moisture management; construction waste reduction, disposal, and recycling; building maintenance and operation; pollutant control; indoor air quality; environmental comfort; and outdoor air quality. Mandatory measures for residential development pertain to green building; planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; environmental quality; and installer and special inspector qualifications.

Clean Energy and Pollution Reduction Act (SB 350)

The Clean Energy and Pollution Reduction Act (SB 350) was passed by California Governor Brown on October 7, 2015, and establishes new clean energy, clean air, and greenhouse gas reduction goals for the year 2030 and beyond. SB 350 establishes a greenhouse gas reduction target of 40 percent below 1990 levels for the State of California, further enhancing the ability for the state to meet the goal of reducing greenhouse gas emissions by 80 percent below 1990 levels by the year 2050.

Renewable Portfolio Standard (SB 1078 and SB 107)

Established in 2002 under SB 1078, the state's Renewables Portfolio Standard (RPS) was amended under SB 107 to require accelerated energy reduction goals by requiring that by the year 2010, 20 percent of electricity sales in the state be served by renewable energy resources. In years following its adoption, Executive Order S-14-08 was signed, requiring electricity retail sellers to provide 33 percent of their service loads with renewable energy by the year 2020. In 2011, SB X1-2 was signed, aligning the RPS target with the 33 percent requirement by the year 2020. This new RPS applied to all state electricity retailers, including publicly owned utilities, investor-owned utilities, electrical service providers, and community choice aggregators. All entities included under the RPS were required to adopted the RPS 20 percent by year 2020 reduction goal by the end of 2013, adopt a reduction goal of 25 percent by the end of 2016, and meet the 33 percent reduction goal by the end of 2020. In addition, the Air Resources Board, under Executive Order S-21-09, was required to adopt regulations consistent with these 33 percent renewable energy targets.

Local Policy & Regulations

Tulare County General Plan Policies

The Tulare County General Plan has a number of policies that apply to projects within County of Tulare. General Plan policies that relate to the proposed Project are listed below.

ERM-4.1 Energy Conservation and Efficiency Measures - The County shall encourage the use of solar energy, solar hot water panels, and other energy conservation and efficiency features in new construction and renovation of existing structures in accordance with State law.

ERM-4.3 Local and State Programs - The County shall participate, to the extent feasible, in local and State programs that strive to reduce the consumption of natural or man-made energy sources.

ERM-4.4 Promote Energy Conservation Awareness - The County should coordinate with local utility providers to provide public education on energy conservation programs

PROJECT SPECIFIC ENERGY USAGE

Electricity and Natural Gas

Implementation of the proposed Project would result in the commitment of additional electricity provided by Southern California Electricity (SCE) through operation of the Project. The extraction, crushing, sorting, and transport of virgin material by Project do not rely on natural gas usage and gas usage will remain unchanged at 208,749.83 therms as shown in Appendix A of the AQ/GHG study (see Appendix "A" of this draft SEIR). The proposed Project will result in the need for additional electricity as shown in **Table 4.4-2**; but will not increase the use of natural gas. As such, the Project will result in a change of the County's overall electricity demand/consumption.

Table 4.4-2 summarizes anticipated Electricity Consumption of the proposed Project as contained in Appendix A of the AQ/GHG study (see Appendix "A" of this draft SEIR).

Table 4.4-2
Electricity Consumption[13]

	MWh/Year
Consumption (Existing Permit Limit 1,000,000)	3,902.99
Consumption (Baseline 800,000 tons/yr.)	3,122.39
Consumption(Increase 1,500,000 tons/yr.)	5,854.49
Consumption (Increase from Project 700,000 tons/yr.)	2,732.10

Note: Consumption from existing permit from Deer Creek Rock Company, Inc. Quarry Expansion, November 2014.
Consumption rate based on actual usage at the existing facility.

Construction Fuel Consumption

No construction is anticipated or proposed for the Project. Existing structures (e.g., weigh station, office, sheds, etc.) will not be expanded nor will new structures be constructed. As such, the Project will not result in construction-related fuel consumption.

Operational Vehicle Fuel Consumption

Operation of the Project would result in the daily consumption of vehicle fuel as haulers would travel to and from the Project site as they would contribute approximately 95.7 percent of all trips; employees are anticipated to contribute 4.3 percent of all trips. In order to estimate fuel consumption, it is necessary to estimate vehicle type(s), daily distance(s) travelled (in vehicle miles travelled (VMT)), and average fuel economy by vehicle type(s). According to the Tulare County Association of Governments (TCAG), all of Tulare County averaged 10,650,825 million VMT/day.[14] Based on this estimate, adding the Project's VMT (12,115) to the figure provided by TCAG would result in a contribution of approximately 0.0011% of all daily VMT in Tulare County. TCAG also provided an estimated County-wide daily VMT for a broad range of heavy-duty vehicles at 3,127,189; as such, adding the Project's heavy-duty truck VMT to this figure would result in a contribution of approximately 0.0037 percent of heavy-duty truck VMT.

As provided in **Table 4.4-3**, Project operation is anticipated to result in the generation of an additional 3,150,040 VMT annually, or approximately 0.00085 percent of the County's annual VMT (based on 2017 figures). Using vehicle fleet mix data provided by the applicant and average fuel economy information provided by the Bureau of Transportation Statistics, the Project-generated annual VMT would result in the consumption of approximately 9,860 gallons of

[13] AQ and GHG Study. Appendix A: Modeling Assumptions. pdf Page 172. Included in Appendix "A" of this draft SEIR.
[14] Tulare County Association of Government. E-mail received from Roberto Brady, Principal Regional Planner. August 6, 2019.

gasoline fuel per year and 570,754 gallons of diesel fuel per year, representing approximately 0.000024 percent and 0.00042 percent; respectively, of the statewide vehicle fuel demand.[15]

Table 4.4-3
Vehicle Miles Traveled[16,17]

	Population	Total Annual VMT	Daily VMT based on 260 Days/Yr.
State	39,523,613	334,700,000,000	1,338,800,000
Tulare County	471,686	3,686,282,000	14,745,128
Proposed Project [2]	N/A	3,150,000	12,115

Table 4.4-4 shows the number, percent of vehicles, and national average fuel economy/fuel consumption. This information is vital as it provides the calculus for projecting gasoline and diesel fuel usage by the project as shown in **Table 4.4-5**.

Table 4.4-4
Annual Estimated Operational Vehicle Fuel Consumption[18]

Vehicle Type	Project's Annual Number and Percent of Vehicle Trips[1]		National Average Fuel Economy (miles/gallon)[3]	National Annual Average Fuel Consumption (gallons)[4]
Car[1]	7,800	10.86%	23.96	480
Heavy Duty Trucks[2]	64,000	89.14%	5.29	12,889
Total	**71,800**	**100%**	**N/A**	**N/A**

[1] Employee vehicle trips as described in the AQA/GHG analysis; [2]Heavy Duty Trucks; [3]Average fuel economy based on average 2016 U.S. vehicle fuel efficiency (mpg) from Table 4-11: Light Duty Vehicle, Short Wheel Base and Motorcycle Fuel Consumption and Travel; Table 4-12: Average Light Duty Vehicle, Long Wheel Base Fuel Consumption and Travel, and Table 4-13: Single-Unit 2-Axle 6-Tire or More Truck Fuel Consumption and Travel of the National Transportation Statistics.

VMT has been generalized for likely market areas (expressed in round-trip distances) within 25 miles which has been identified by the Applicant as the typical market area. Operationally, the Project extracts raw (virgin) material, crushes it, sorts it, then transports (hauls) it to other facilities to be used as material to produce base rock, concrete, or asphalt. As it is impossible to identify specific destinations of delivery to a project site requiring the material provided by the Project, a reasonable assumption is to generalize likely distances within the Applicant's 25-mile assumption. Given the nature of this Project, it would not be economically viable for the Applicant to haul

[15] California Energy commission Weekly Fuels Watch Report 2018 Weekly Fuels Watch Accessed November 2019 at: https://ww2.energy.ca.gov/almanac/petroleum_data/fuels_watch/index_cms.html

[16] Caltrans. 2016. California Transportation Quick Facts. http://www.caltrans.ca.gov/drisi/library/qfco/tul/tul2017.pdf. Accessed August 2019.

[17] Caltrans. 2017. Tulare County Transportation Quick Facts. http://www.caltrans.ca.gov/drisi/library/qfco/tul/tul2017.pdf. Accessed August 2019.

[18] U.S. Department of Energy. Alternative Fuels Date Center. Average Fuel Economy of Major Vehicle Categories https://afdc.energy.gov/data/10310

materials beyond his established market area as hauling costs escalate with distance. There are numerous virgin material mines in adjacent counties that also compete for a market share thereby limiting the distance the Applicant deems economically realistic and viable. Therefore, the annual VMT for all vehicles types resulting from the Project are estimated at 3,150,000 (or approximately 12,115 per day based on 260 working days) resulting in an estimated annual fuel consumption of 9,860 gallons of gasoline and 570,754 gallons of diesel shown in **Table 4.4-5**.

Table 4-4.5
Fuel Consumption of Vehicles

Vehicle Type	Project's Annual Vehicle Trips	Project's Annual Vehicle Miles Travelled	National Average Fuel Economy (miles/gallon)	Project's Annual Average Fuel Consumption (gallons)
Car	7,800	150,000	23.96	6,260
Heavy Duty Truck	64,000	3,000,000	5.29	567,108
Total	**71,800**	**3,150,000**	**N/A**	**N/A**

CEQA REQUIREMENTS AND ENERGY CONSERVATION STANDARDS

In addition to the recommended thresholds for environmental analysis provided in Appendix G of the CEQA Guidelines, Appendix F requires that an EIR disclose and discuss the potential impacts of a project on energy resources and conservation. An EIR's discussion of impacts on energy resources should provide analysis and discussion of the project's potential to result in the wasteful, inefficient, or irretrievable commitment of energy resources, with particular attention towards electrical, natural gas, and transportation fuel supplies. While no specific thresholds are provided by the CEQA Guidelines, Appendix F offers several recommendations for inclusion in an analysis of impacts on energy resources to determine whether a project would:

a. Use large amounts of fuel or energy in an unnecessary, wasteful, or inefficient manner;
b. Constrain local or regional energy supplies, affect peak and base periods of electrical or natural gas demand, require or result in the construction of new electrical generation and/or transmission facilities, or necessitate the expansion of existing facilities, the construction of which could cause significant environmental effects; or
c. Conflict with existing energy standards, including standards for energy conservation.

Operation of the proposed Project would result in an additional demand of approximately 2,732.1 MWh/year of electricity; 208,749.83 therms/year of natural gas; 6,260 gallons/year of gasoline as vehicle fuel; and 567,108 gallons/year of diesel as vehicle fuel. The most recent energy demands reports are for 2018. Based on 2018 energy demands and capacity of service providers (in this case, Southern California Edison (SCE) and Southern California Gas (SoCal Gas)) for the Project area, estimated operational demand for electricity and natural gas as part of the Project would represents approximately 0.00086 percent of Tulare County's and 0.000014 percent of SCE's total 2018 electricity demands. The Project would represent 0.00019 percent of Tulare County's and 0.000024 percent of SoCal Gas' total 2018 gas demands for the County. Further, as noted earlier, the Project would consume 6,260 gallons of gasoline fuel per year and 567,108 gallons of diesel

fuel per year, representing approximately 0.000015 percent and 0.00040 percent; respectively, of the statewide vehicle fuel demand.[19]

As shown earlier in **Table 4-1**, based on comparisons of the Project's energy demands with Tulare County's and SCE and SoCal Gas Service Areas demand and service capacity in total, the proposed Project is not expected to result in the use of a large amount of fuel or energy in an unnecessary, wasteful, or inefficient manner, nor would it affect regional supplies or peak/base periods of demand as the estimated energy demand is typical for a Project of this size, and would result in a negligible increase in regional energy demands. As such, the proposed Project would not necessitate the expansion of existing facilities or construction of new energy generation or transmission facilities beyond the onsite facilities proposed as part of the Project to serve the new development.

IMPACT EVALUATION

Would the project:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Project Impact Analysis: ***Less Than Significant Impact***

No new construction will occur as the existing structure will continue to be used in their current manner. Therefore, construction-related energy use will result in ***No Impact***.

Operation of the proposed Project would result in the demand for approximately 2,732.1 additional MWh/yr. of electricity (resulting in 5,854.39 MWh/yr. when combining the existing plus additional usage), 6,280 gallons of gasoline fuel per year, and 567,108 gallons of diesel fuel per year. Based on existing energy demands and capacity of service providers, estimated operational demand for electricity as part of the Project would represent 0.00086 percent of Tulare County's and 0.000083 percent of SCE's total 2018 electricity demands. The Project is estimated to use approximately 208,749 therms/yr. of natural gas which would account for 0.00019 percent of Tulare County's and 0.000024 percent of SoCal Gas' total 2018 gas demands for its natural gas service area.

Lastly, also as noted earlier, of the VMT noted in **Table 4.4-3**, approximately 95.7 percent of the Project's VMT is from heavy-duty trucks. Based on VMT, the Project would consume 6,280 gallons of gasoline fuel per year and 567,108 gallons of diesel fuel per year, representing approximately 000015 percent and 0.00040 percent; respectively, of the statewide gasoline and diesel fuel demand. The Project would provide a source of building materials (e.g., asphalt and concrete) that are vital to construction-related activities. Its proximity to SRs 190 and 65 (and

[19] California Energy Commission Weekly Fuels Watch Report 2018 Weekly Fuels Watch. Accessed November 2019 at: https://ww2.energy.ca.gov/almanac/petroleum_data/fuels_watch/index_cms.html.

connectivity to other local and regional transportation corridors), its less than 1% use of electricity energy demand from SCE, its less than 1% of natural gas demand from SoCal Gas, its less than 1% use of gasoline, and its less than 1% use diesel fuels of the entire State's supply, demonstrate that the Project will not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; nor will it conflict with or obstruct a state or local plan for renewable energy or energy efficiency. As such, the Project would result in a ***Less Than Significant Impact*** to these resources.

Cumulative Impact Analysis: ***Less Than Significant Impact***

The geographic area of this cumulative analysis is Tulare County, the 8-County area of the San Joaquin Valley, and the Southern California Edison and Southern California Gas companies service areas. The proposed Project would incrementally contribute to adverse impacts on energy resource demand and conservation when considering the cumulative impact of concurrently planned projects; however, like the proposed Project, discretionary actions requiring agency approval are required to comply with local, regional, state, and federal policies designed to reduce wasteful energy consumption, and improve overall energy conservation and sustainability. Therefore, it is not anticipated that the Project's contribution to cumulative impacts generated with projects provided in Chapter 4 Summary of Cumulative Impacts would result in a significantly considerable wasteful use of energy resources, such that the Project, and other cumulative projects, would have a cumulative effect on energy conservation. Cumulative impacts as of a result of the Project would be ***Less Than Significant.***

Mitigation Measure(s): ***None Required***

Conclusion: ***Less Than Significant Impact***

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Project Impact Analysis: ***Less Than Significant Impact***

See Item a), above.

Cumulative Impact Analysis: ***Less Than Significant Impact***

The geographic area of this cumulative analysis is Tulare County, the 8-County area of the San Joaquin Valley, and the Southern California Edison and Southern California Gas companies service areas.

Mitigation Measure(s): ***None Required***

See Item a), above.

Conclusion: ***Less Than Significant Impact***

See Item a), above.

DEFINITIONS

British Thermal Unit	British Thermal Unit (BTU) is the amount of energy that is required to raise the temperature of one pound of water by one degree Fahrenheit. As points of reference, the approximate amount of energy contained in a gallon of gasoline, a cubic foot of natural gas, and a kilowatt hour (kWhr) of electricity are 123,000 BTUs, 1,000 BTUs, and 3,400 BTUs, respectively. Natural gas usage is expressed in therms. A therm is equal to 100,000 BTU.

ACRONYMS

AB	Assembly Bill (State of California Assembly)
CARB or ARB	California Air Resources Board
BTU	British Thermal Unit
CALGreen	California Green Buildings Standards Code
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CPUC	California Public Utilities Commission
DEIR	Draft Environmental Impact Report
EIR	Environmental Impact Report
GHG	Greenhouse gas
GWh	Gigawatt hour
kWh	Kilowatt hour
OPR	Office of Planning and Research
MWh	Megawatt hour
N/A	Not Applicable
SB	Senate Bill (State of California Senate)
SCE	Southern California Edison Company
SoCal Gas	Southern California Gas Company
U.S. DOT	United States Department of Transportation
VMT	Vehicle Miles Travelled
w/i	within

REFERENCES

State of California. Office of Planning and Research. Proposed Update to the CEQA Guidelines/ November 2017. Pages 65-66. Accessed June 2019 at: http://opr.ca.gov/docs/20171127_Comprehensive_CEQA_Guidelines_Package_Nov_2017.pdf

State of California. California Energy Commission. California Energy Consumption Database. Electricity Consumption by County. Energy reports accessed November 2019 at: http://ecdms.energy.ca.gov/elecbycounty.aspx

State of California. California Energy Commission. California Energy Consumption Database. Gas Consumption by County. Energy reports accessed November 2019 at: http://ecdms.energy.ca.gov/gasbycounty.aspx.

State of California. California Energy Commission. *2008 Energy Action Plan*. February 2008. Accessed November 2019 at: https://ww2.energy.ca.gov/2008publications/CEC-100-2008-001/CEC-100-2008-001.PDF

State of California. California Energy commission Weekly Fuels Watch Report 2018 Weekly Fuels Watch Accessed November 2019 at: https://ww2.energy.ca.gov/almanac/petroleum_data/fuels_watch/index_cms.html

State of California. Department of Transportation (Caltrans). California Transportation Quick Facts. Accessed August 2019 at: http://www.caltrans.ca.gov/drisi/library/qfco/tul/tul2017.pdf.

State of California. Department of Transportation (Caltrans). Tulare County Transportation Quick Facts. Accessed August 2019 at: http://www.caltrans.ca.gov/drisi/library/qfco/tul/tul2017.pdf

Tulare County Association of Government. E-mail received from Roberto Brady, Principal Regional Planner. August 6, 2019.

Tulare County General Plan 2030 Update, August 2012. Accessed November 2019 at: http://generalplan.co.tulare.ca.us/.

Tulare County General Plan 2030 Update, Background Report, February 2010. Accessed November 2019 at: http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/Appendix%20B%20-%20Background%20Report.pdf.

Tulare County General Plan 2030 Update Recirculated Draft EIR. 3.4 Energy and Global Climate Change. February 2010. Accessed November 2019 at: http://generalplan.co.tulare.ca.us/documents/generalplan2010/RecirculatedDraftEIR.pdf

U.S. Department of Energy. Alternative Fuels Date Center. Average Fuel Economy of Major Vehicle Categories. Accessed August 2019 at: https://afdc.energy.gov/data/10310.

Geology and Soils
Chapter 4.5

SUMMARY OF FINDINGS

The proposed Project will result in ***Less Than Significant Impact With Mitigation*** related to Geology and Soils. A detailed review of potential impacts is provided in the following analysis. *"The Hydrology and Water Quality Report for Deer Creek Mine Expansion (PMR19-001) Project"* (Hydrology and Water Quality report, included as Appendix "E") prepared by Mason GeoScience and the *"Custom Soil Resource Report for Tulare County, California, Central Part"* by the USDA NRCS (included in Appendix "D") were used as the basis for determining this Project will result in a less than significant impact.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

This section of the draft Subsequent Environmental Impact Report (draft Supplemental EIR, draft SEIR, or SEIR) addresses potential impacts to Geology and Soils. As required in Section 15126, all phases of the proposed Project will be considered as part of the potential environmental impact.

As noted in Section 15126.2 (a), "[a]n EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the project might cause by bringing development and people into the area affected. For example, an EIR on a subdivision astride an active fault line should identify as a significant effect the seismic hazard to future occupants of the subdivision. The subdivision would have the effect of attracting people to the location and exposing them to the hazards found there. Similarly, the EIR should evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas) as identified in authoritative hazard maps, risk assessments or in land use plans addressing such hazards areas."[1]

[1] CEQA Guidelines, Section 15126.2 (a)

Paleontological resources are protected under the CEQA. Specifically, in Section V(c) of Appendix G of the CEQA Guidelines, the "Environmental Checklist Form," the question is posed: "Will the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" In order to determine the uniqueness of a given paleontological resource, it must first be identified or recovered (i.e., salvaged). Mitigation of this adverse impact to paleontological resources is mandated by CEQA.

The environmental setting provides a description of the Geology and Soils in the County. The regulatory setting provides a description of applicable Federal, State and Local regulatory policies that were developed in part from information contained in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or Tulare County 2030 General Plan EIR incorporated by reference and summarized below. Additional documents utilized are noted as appropriate. A description of the potential impacts of the proposed Project is provided and includes the identification of feasible mitigation measures (if necessary and feasible) to avoid or lessen the impacts.

Thresholds of Significance

The thresholds of significance for this section are established by the CEQA Checklist item as follows:

- Directly or indirectly cause potential substantial adverse effects, including risk of loss, injury, or death involving rupture of known earthquake fault, strong seismic shaking, seismic related ground failure (including liquefaction) or landslides.
- Result in substantial soil erosion or loss of topsoil.
- Be located on a geologic unit or soil that is unstable or become unstable as a result of the and potential result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial direct or indirect risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

ENVIRONMENTAL SETTING

As noted in the *"The Hydrology and Water Quality Report for Proposed Concrete and Asphalt Batch Plant"* report prepared by Consultant Geoscience (and included in Appendix "E" of this draft SEIR), "The site is geologically located within the western foothills at the base of the Sierra Nevada Mountain Range. Site geology was reviewed from the Geologic Map of California, Fresno Sheet, Scale 1:250,000, published by the California Geological Survey, 1965, and Geologic Map of California, Bakersfield Sheet, Scale 1:250,000, published by the California Geological Survey, 1964 (Matthews and Burnett, 1964 and 1965). Subsurface lithology of the site is bedrock mantled

by a relatively thin layer of residual soils derived from weathering of the bedrock parent material. The property area is mapped as primarily Pre-Cretaceous metavolcanic rocks (mv) composed of metamorphosed volcanic and sedimentary rocks with locally intruded ultrabasic rocks with lesser exposures of Mesozoic ultrabasic intrusive rocks (ub) composed of altered serpentine. Recent alluvium (Qal) composed of stream alluvium is located north of the site adjacent to Deer Creek and west of the site within the Deer Creek Floodplain."[2]

"Seismicity varies greatly between the two major geologic provinces represented in Tulare County. The Central Valley is an area of relatively low tectonic activity bordered by mountain ranges on either side. The Sierra Nevada Mountains, partially located within Tulare County, are the result of movement of tectonic plates which resulted in the creation of the mountain range. The Coast Range on the west side of the Central Valley is also a result of these forces, and the continued uplifting of Pacific and North American tectonic plates continues to elevate these ranges. The remaining seismic hazards in Tulare County generally result from movement along faults associated with the creation of these ranges."[3]

"Earthquakes are typically measured in terms of magnitude and intensity. The most commonly known measurement is the Richter Scale, a logarithmic scale which measures the strength of a quake. The Modified Mercalli Intensity Scale measures the intensity of an earthquake as a function of the following factors:

- Magnitude and location of the epicenter;
- Geologic characteristics;
- Groundwater characteristics;
- Duration and characteristic of the ground motion;
- Structural characteristics of a building."[4]

"Faults are the indications of past seismic activity. It is assumed that those that have been active most recently are the most likely to be active in the future. Recent seismic activity is measured in geologic terms. Geologically recent is defined as having occurred within the last two million years (the Quaternary Period). All faults believed to have been active during Quaternary time are considered "potentially active."[5]

"Settlement can occur in poorly consolidated soils during ground-shaking. During settlement, the soil materials are physically rearranged by the shaking and result in reduced stabling alignment of the individual minerals. Settlement of sufficient magnitude to cause significant structural damage is normally associated with rapidly deposited alluvial soils, or improperly founded or poorly compacted fill. These areas are known to undergo extensive settling with the addition of irrigation water, but evidence due to ground-shaking is not available. Fluctuating groundwater levels also

[2] "*The Hydrology and Water Quality Report for Deer Creek Mine Expansion (PMR19-001) Project" report (Hydrology and Water Quality report)"* (Hydrology and Water Quality report). July 2019. Pages 12. Prepared by Mason GeoScience and included in Appendix "E" of this document.

[3] Tulare County General Plan 2030 Update, *Background Report*, Page 8-5.

[4] Ibid.

[5] Op. Cit.

may have changed the local soil characteristics. Sufficient subsurface data is lacking to conclude that settlement would occur during a large earthquake; however, the data is sufficient to indicate that the potential exists in Tulare County."[6]

"Liquefaction is a process whereby soil is temporarily transformed to a fluid form during intense and prolonged ground-shaking. Areas most prone to liquefaction are those that are water saturated (e.g., where the water table is less than 30 feet below the surface) and consist of relatively uniform sands that are low to medium density. In addition to necessary soil conditions, the ground acceleration and duration of the earthquake must be of sufficient energy to induce liquefaction. Scientific studies have shown that the ground acceleration must approach 0.3g before liquefaction occurs in a sandy soil with relative densities typical of the San Joaquin alluvial deposits. Liquefaction during major earthquakes has caused severe damage to structures on level ground as a result of settling, tilting, or floating. Such damage occurred in San Francisco on bay-filled areas during the 1989 Loma Prieta earthquake, even though the epicenter was several miles away. If liquefaction occurs in or under a sloping soil mass, the entire mass may flow toward a lower elevation, such as that which occurred along the coastline near Seward, Alaska during the 1964 earthquake. Also of particular concern in terms of developed and newly developing areas are fill areas that have been poorly compacted."[7]

Earthquake Hazards

"Ground-shaking is the primary seismic hazard in Tulare County because of the county's seismic setting and its record of historical activity. Thus, emphasis focuses on the analysis of expected levels of ground-shaking, which is directly related to the magnitude of a quake and the distance from a quake's epicenter. Magnitude is a measure of the amount of energy released in an earthquake, with higher magnitudes causing increased ground-shaking over longer periods of time, thereby affecting a larger area. Ground-shaking intensity, which is often a more useful measure of earthquake effects than magnitude, is a qualitative measure of the effects felt by population. The valley portion of Tulare County is located on alluvial deposits, which tend to experience greater ground-shaking intensities than areas located on hard rock. Therefore, structures located in the valley will tend to suffer greater damage from ground-shaking than those located in the foothill and mountain areas. However, existing alluvium valleys and weathered or decomposed zones are scattered throughout the mountainous portions of the county which could also experience stronger intensities than the surrounding solid rock areas. The geologic characteristics of an area can therefore be a greater hazard than its distance to the epicenter of the quake."[8]

"There are three faults within the region that have been, and will be, principal sources of potential seismic activity within Tulare County. These faults are described below:

- **San Andreas Fault.** The San Andreas Fault is located approximately 40 miles west of the Tulare County boundary. This fault has a long history of activity, and is thus the primary

[6] Op. Cit. 8-9.
[7] Op. Cit. 8-8 and 8-9.
[8] Op. Cit. Page 8-7.

focus in determining seismic activity within the county. Seismic activity along the fault varies along its span from the Gulf of California to Cape Mendocino. Just west to Tulare County lies the "Central California Active Area," where many earthquakes have originated.

- **Owens Valley Fault Group.** The Owens Valley Fault Group is a complex system containing both active and potentially active faults, located on the eastern base of the Sierra Nevada Mountains. The Group is located within Tulare and Inyo Counties and has historically been the source of seismic activity within Tulare County.
- **Clovis Fault.** The Clovis Fault is considered to be active within the Quaternary Period (within the past two million years), although there is no historic evidence of its activity, and is therefore classified as "potentially active." This fault lies approximately six miles south of the Madera County boundary in Fresno County. Activity along this fault could potentially generate more seismic activity in Tulare County than the San Andreas or Owens Valley fault systems. In particular, a strong earthquake on the Fault could affect northern Tulare County. However, because of the lack of historic activity along the Clovis Fault, inadequate evidence exists for assessing maximum earthquake impacts."[9]

"Older buildings constructed before current building codes were in effect, and even newer buildings constructed before earthquake resistance provisions were included in the current building codes, are most likely to suffer damage in an earthquake. Most of Tulare County's buildings are no more than one or two stories in height and are of wood frame construction, which is considered the most structurally resistant to earthquake damage. Older masonry buildings (without earthquake-resistance reinforcement) are the most susceptible to structural failure, which causes the greatest loss of life. The State of California has identified unreinforced masonry buildings as a safety issue during earthquakes. In high risk areas (Bay Area) inventories and programs to mitigate this issue are required. Because Tulare County is not a high risk area, state law only recommends that programs to retrofit URMs are adopted by jurisdictions."[10]

Soils and Liquefaction

"The San Joaquin Valley portion of Tulare County is located on alluvial deposits, which tend to experience greater ground-shaking intensities than areas located on hard rock. Therefore, structures located in the valley will tend to suffer greater damage from ground-shaking than those located in the foothill and mountain areas. However, existing alluvium valleys and weathered or decomposed zones are scattered throughout the mountainous portions of the county which could also experience stronger intensities than the surrounding solid rock areas. The geologic characteristics of an area can therefore be a greater hazard than its distance to the epicenter of the quake."[11]

"No specific countywide assessments to identify liquefaction hazards have been performed in Tulare County. Areas where groundwater is less than 30 feet below the surface occur primarily in the valley. However, soil types in the area are not conducive to liquefaction because they are either

[9] Op. Cit. Pages 8-6 and 8-7.
[10] Op. Cit. Page 8-8.
[11] Op. Cit. Page 8-7.

too coarse or too high in clay content. Areas subject to 0.3g acceleration or greater are located in a small section of the Sierra Nevada Mountains along the Tulare-Inyo County boundary. However, the depth to groundwater in such areas is greater than in the valley, which would minimize liquefaction potential as well. Detailed geotechnical engineering investigations would be necessary to more accurately evaluate liquefaction potential in specific areas and to identify and map the areal extent of locations subject to liquefaction."[12]

Landslides

"Landslides are a primary geologic hazard and are influenced by four factors:

- Strength of rock and resistance to failure, which is a function of rock type (or geologic formation);
- Geologic structure or orientation of a surface along which slippage could occur;
- Water (can add weight to a potentially unstable mass or influence strength of a potential failure surface); and,
- Topography (amount of slope in combination with gravitation forces)."[13]

Soils in proposed Project area

The proposed Project area is composed of Cibo-Rock outcrop complex with no frequency of flooding or ponding and have moderate water storage ability.[14] The Cibo series consists of moderately deep, well drained soils that formed in material weathered from gabbro. Cibo soils are on uplands. Slope ranges from 15 to 50 percent. This soil is 20 to 40 inches deep to lithic (rock) contact; it is 0-5% gravel.[15] "Gabbro is an igneous rock which has crystallized deep in the Earth. Since the rock cooled and hardened (and crystallized) deep below the Earth's surface, it will be coarse grained. High pressure is usually found deep below the surface of the Earth. Here, molten material cools very slowly. The igneous rocks produced have large crystals. Gabbro has the same mineral composition as basalt (olivine and pyroxene with smaller amounts of feldspar and mica), though basalt cools quickly above the Earth's surface from lava. Gabbro is coarse grained while basalt is fine grained…Gabbro is widely used as crushed stone for concrete aggregate, road base material, and railroad ballast."[16]

Paleontological Resources - Overview

"Paleontological resources (i.e., fossils) are considered nonrenewable scientific resources because once destroyed, they cannot be replaced. As such, paleontological resources are afforded protection under the state and local laws and regulations briefly discussed in this chapter. Federal

[12] Op. Cit. Page 8-9.
[13] Op. Cit. Page 8-10.
[14] USDA NRCS Web Soils Report, "*Custom Soil Resource Report for Tulare County, California, Central Part, Deer Creek Mine Expansion Area".* July 2019. Pages 9 (map) and 13.
[15] USDA SCS and U.S. DOI BIA. Soil Survey of Tulare County, California, Central Part. Page 80. Feb. 1982. Accessed August 2019 at: https://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/tulareCA1982/tulareCA1982.pdf
[16] Minerals Education Coalition. Minerals Resources Database. https://mineralseducationcoalition.org/minerals-database/gabbro/. Accessed August 2019 at:

laws and regulations only apply when projects are located on federal lands or federally managed lands, or when they are federally funded."[17]

"Paleontological resources comprise fossils – the remains or traces of once-living organisms preserved in sedimentary deposits – together with the geologic context in which they occur. Sedimentary deposits include unconsolidated or semi-consolidated "soils" or sedimentary rocks. Most fossil remains are the preserved hard parts of plants or animals, and include bones and/or teeth of once-living vertebrate animals, shells or body impressions of invertebrate animals, and impressions or carbonized or mineralized parts of plants (e.g. "petrified wood"). Trace fossils include preserved footprints, trackways, and burrows of prehistoric animals and root marks created by plants. Fossils are scientifically important as they provide the only available direct evidence of the anatomy, geographic distribution, and paleoecology of organisms of the past. Scientific studies based on fossils and comparisons between them continue to refine details of the basic history of life. In conjunction with physical geologic investigations, the use of fossils as indicators of geologic time and ancient environments also contributes to understanding of the physical history of the earth, the distribution of mineral resources, dynamics of earth processes, and past climatic changes."[18]

Potential for Fossils to Occur within Project Area - Geologic Indicators

As shown in **Figure 4.5-1**, the site lies within metamorphic rock (Pre-Cenozoic period) and is east of Quaternary period deposits.[19] Quaternary period deposits consist of alluvial material that can be conducive to preserving once-living organisms in sedimentary deposits wherein, over time, the once-living organisms became fossilized. "The Quaternary period includes the older Pleistocene Epoch (about 2.6 million to 10,000 years ago) and the Holocene (Recent) Epoch, which includes approximately the last 10,000 years. The Pleistocene Epoch is informally termed the Ice Age, and this is the depositional period which yields vertebrate fossils, and therefore deposits from this period are considered highly sensitive for paleontological resources. The Holocene deposits, which comprise more recent layers that were deposited on top of the Pleistocene material, yield few if any vertebrate fossils, and thus are considered to have a low sensitivity for paleontological resources. However, since Holocene strata have some potential to preserve fossil materials, there is always a possibility of fossil discoveries in these younger materials. In the eastern San Joaquin Valley, the thickness of the Holocene deposits overlying the Pliestocene deposits generally increases with distance westward from the lower foothills of the Sierra.

[17] South County Detention Facility Draft Environmental Impact Report. *Appendix "Historic Resource Report 1545 & 1591 South Newcomb Street, Porterville, CA"* February 2013. Page 2 of Appendix C, *"Paleontological Resources Assessment Report for the South County Detention Facility Project, Porterville, Tulare County, California*". Appendix C. Prepared by Applied EarthWorks, Inc. February 2013. Page 2. Certified and adopted by the Tulare County Board of Supervisors June 25, 2013. Resolution No. 2013-0390.

[18] Sequoia Gateway Commerce and Business Park Specific Plan DEIR (SCH No. 2015081056). Pages. 3.5-3. Prepared by Bert Verrips Environmental Consulting. September 2018. Certified and adopted by the Tulare County Board of Supervisors December 4, 2018. Resolution No. 2018-0938.

[19] GeoScienceWorld Research Article April 1, 2013. Page 193. John Wakabayashi. Accessed August 2019 at: https://pubs.geoscienceworld.org/gsa/geosphere/article/9/2/191/132574/paleochannels-stream-incision-erosion-topographic.

Figure 4.5-1[20]

Topographic evolution and alternative explanations of paleoaltimetry, Sierra Nevada, California

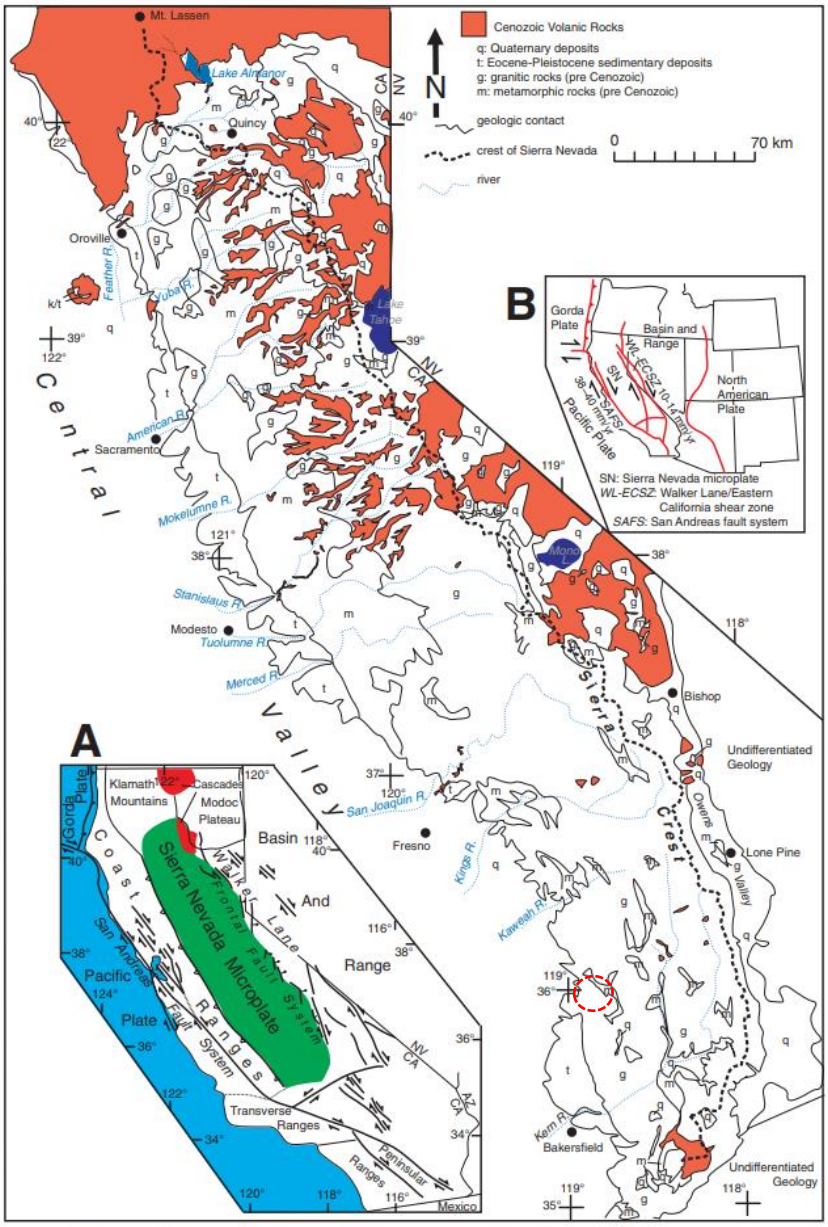


Figure 1. Sierra Nevada showing distribution of Cenozoic and basement rocks along with the current plate-boundary context (inset B) and regional context (inset C). Adapted from Wakabayashi and Sawyer (2001). CA—California; NV—Nevada; AZ—Arizona.

◯ = Approximate Project site area

[20] GeoScienceWorld "Paleochannels, stream incision, erosion, topographic evolution, and alternative explanations of paleoaltimetry, Sierra Nevada, California" Page 193. John Wakabayashi. Geosphere, April 2013. Accessed at: https://pubs.geoscienceworld.org/gsa/geosphere/article/9/2/191/132574/paleochannels-stream-incision-erosion-topographic

While the depth to sensitive Pliestocene strata at the project site has not been determined, two recent EIRs in the immediate project vicinity indicate that the Pliestocene strata are unlikely to occur in the upper 5-6 feet of soil material."[21] The first EIR determined that there was a low probability of encountering fossils in the upper 5 feet; the second EIR determined presumed low paleontological sensitivity because the depth to sensitive Pliestocene was greater than 6 feet.

Unpublished Museum Locality Records

There are four (4) records or reports of known vertebrate fossil localities in the project vicinity, with the nearest vertebrate fossil discoveries (mammoths) occurring east of Terra Bella (approximately five miles west of the Project site) and the second nearest occurring southeast of Fountain Springs (approximately 7.5 miles south of the Project site).[22] The University of California Museum of Paleontology (UCMP) database includes 11 records for vertebrate materials from Pliestocene deposits in Tulare County. These include examples of horse, mammoth, camel, and elephant, with the two Exeter records both consisting of horse fossils (Tulare County 2010a, p. 3.6-12).[23]

Conclusions on Paleontological Potential

A previous study of paleontological resources in the Project vicinity indicated the potential presence of significant fossils within the Pliestocene-era. However, these finds occurred on soils conducive to preserving organic matter which could ultimately fossilize. The Project site lies completely within Cibo-Rock soil, which is generally 20-40 inches deep before contact with rock, and consists of Gabbro (an igneous rock which has crystallized deep in the Earth) which is not conducive to fossilization. However unlikely, it is possible that paleontological resources could be uncovered when overburden soils are removed.

REGULATORY SETTING

Federal Agencies & Regulations

None that apply to the proposed Project.

State Agencies & Regulations

California Building Code

[21] Sequoia Gateway Commerce and Business Park Specific Plan DEIR (SCH No. 2015081056). Pages. 3.5-4. Prepared by Bert Verrips Environmental Consulting. September 2018. Certified and adopted by the Tulare County Board of Supervisors December 4, 2018. Resolution No. 2018-0938.

[22] South County Detention Facility Draft Environmental Impact Report. Appendix C *"Historic Resource Report 1545 & 1591 South Newcomb Street, Porterville, CA"* February 2013. See Appendix C of *"Paleontological Resources Assessment Report for the South County Detention Facility Project, Porterville, Tulare County, California"*. Table 6-1. Page 15. February 2013. Prepared by Applied EarthWorks, Inc. Final EIR certified and adopted by the Tulare County Board of Supervisors June 25, 2013. Resolution No. 2013-0390.

[23] Sequoia Gateway Commerce and Business Park Specific Plan DEIR (SCH No. 2015081056). Page. 3.5-4. Prepared by Bert Verrips Environmental Consulting. September 2018. Certified and adopted by the Tulare County Board of Supervisors December 4, 2018. Resolution No. 2018-0938.

"The California Building Code is another name for the body of regulations known as the California Code of Regulations (C.C.R.), Title 24, Part 2, which is a portion of the California Building Standards Code. Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards."[24]

California Public Resources Code (PRC) 5097.5

PRC Section 5097.5 affirms that no person shall willingly or knowingly excavate, remove, or otherwise destroy a vertebrate paleontological site or paleontological feature without the express permission of the overseeing public land agency. It further states under Code 30244 that any development that would adversely impact paleontological resources shall require reasonable mitigation. These regulations apply to projects located on land owned by or under the jurisdiction of the state or any city, county, district, or other public agency.[25]

Alquist-Priolo Earthquake Fault Zoning Act

"The Alquist- Priolo Earthquake Fault Zoning Act (formerly the Alquist- Priolo Special Studies Zone Act), signed into law December 1972, requires the delineation of zones along active faults in California. The purpose of the Alquist-Priolo Act is to regulate development on or near active fault traces to reduce the hazards associated with fault rupture and to prohibit the location of most structures for human occupancy across these traces."[26]

Local Policy & Regulations

Tulare County General Plan Policies

The Tulare County General Plan has a number of policies that apply to projects within County of Tulare. General Plan policies that relate to the proposed Project are listed below.

ERM-7.2 Soil Productivity - The County shall encourage landowners to participate in programs that reduce soil erosion and increase soil productivity. To this end, the County shall promote coordination between the Natural Resources Conservation Service, Resource Conservation Districts, UC Cooperative Extension, and other similar agencies and organizations.

ERM-7.3 Protection of Soils on Slopes - Unless otherwise provided for in this General Plan, building and road construction on slopes of more than 30 percent shall be prohibited, and development proposals on slopes of 15 percent or more shall be accompanied by plans for control or prevention of erosion, alteration of surface water runoff, soil slippage, and wildfire occurrence.

[24] Tulare County General Plan 2030 Update Background Report. Page 8-3.

[25] Native American Historic Resource Protection Act Archaeological, Paleontological, and Historical Site Native American Historical, Cultural, and Sacred Sites at Section 5097.5 (a) and (b) http://online.sfsu.edu/mgriffin/California%20Public%20Resources%20Code%205097.pdf, access August 2019, and Public Resources Code. Division 20. California Coast Act. Chapter 3. Coastal Resources Planning and Management Policies. Article 5. Land Resources. Section 30244. Accessed August 2019 at: https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=PRC&division=20.&title=&part=&chapter=3.&article=5.

[26] Ibid.

HS-2.1 Continued Evaluation of Earthquake Risks - The County shall continue to evaluate areas to determine levels of earthquake risk.

HS-2.4 Structure Siting - The County shall permit development on soils sensitive to seismic activity permitted only after adequate site analysis, including appropriate siting, design of structure, and foundation integrity.

HS-2.7 Subsidence - The County shall confirm that development is not located in any known areas of active subsidence. If urban development may be located in such an area, a special safety study will be prepared and needed safety measures implemented. The County shall also request that developments provide evidence that its long-term use of ground water resources, where applicable, will not result in notable subsidence attributed to the new extraction of groundwater resources for use by the development.

HS-2.8 Alquist-Priolo Act Compliance - The County shall not permit any structure for human occupancy to be placed within designated Earthquake Fault Zones (pursuant to and as determined by the Alquist-Priolo Earthquake Fault Zoning Act; Public Resource code, Chapter 7.5) unless the specific provision of the Act and Title 14 of the California Code of Regulations have been satisfied.

IMPACT EVALUATION

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?

Project Impact Analysis: ***Less Than Significant Impact***

The proposed Project does not include any new permanent structures. No substantial faults are known to traverse Tulare County according to the Alquist-Priolo Earthquake Fault Zoning Maps and the California Department of Conservation.[27] The proposed Project site is located

[27] California Department of Conservation, Alquist-Priolo Earthquake Fault Zone Maps, http://www.quake.ca.gov/gmaps/WH/regulatorymaps.htm. Accessed July, 2019.

on solid rock formation and is not at risk from subsidence, liquefaction, or sliding. ***Less Than Significant Project-specific Impacts*** related to the Checklist item will occur.

Cumulative Impact Analysis: ***Less Than Significant Impact***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The Project site is appropriate for mining. The proposed Project will not impact other neighboring properties. Mining operations will not occur outside of the proposed Project area. ***Less Than Significant Cumulative Impacts*** related to this Checklist item will occur.

Mitigation Measure(s): ***None Required.***

Conclusion: ***Less Than Significant Impact***

As noted earlier, ***Less Than Significant Project-specific and Cumulative Impacts*** to this Checklist item will occur.

b) Result in substantial soil erosion or the loss of topsoil?

Project Impact Analysis: ***Less Than Significant Impact***

The proposed Project comprises of bedrock. Although topsoil will be removed during the mining operation, the Project includes a Reclamation Plan that will allow for open space/grazing. ***Less Than Significant Project-specific Impacts*** related to this Checklist item will occur.

Cumulative Impact Analysis: ***Less Than Significant Impact***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project includes a Reclamation Plan that will allow for open space/grazing land. ***Less Than Significant Cumulative Impacts*** related to this Checklist item will occur.

Mitigation Measure(s): ***None Required.***

Conclusion: ***Less Than Significant Impact***

As noted earlier, ***Less Than Significant Project-specific and Cumulative Impacts*** to this Checklist item will occur.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Project Impact Analysis: ***Less Than Significant Impact***

As noted in the Response to Item 4.5 a), the Project site is located on solid rock formation and is not at risk from subsidence, liquefaction, or sliding. Therefore, Project-specific impacts will be ***Less Than Significant***.

Cumulative Impact Analysis: ***Less Than Significant Impact***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The Project site is appropriate for mining. The proposed Project will not impact other neighboring properties, as the mining operations will be contained in the proposed Project area. ***Less Than Significant Cumulative Impacts*** related to this Checklist item will occur.

Mitigation Measure(s): ***None Required.***

Conclusion: ***Less Than Significant Impact***

As noted earlier, ***Less Than Significant Project-specific and Cumulative Impacts*** to this Checklist item will occur.

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

Project Impact Analysis: ***Less Than Significant Impact***

The Project site is solid bedrock and is not considered expansive soil. ***Less Than Significant Project-specific Impacts*** related to this Checklist item will occur.

Cumulative Impact Analysis: ***Less Than Significant Impact***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The Project site is appropriate for mining. The proposed Project will not cause soil to become expansive. ***Less Than Significant Cumulative Impacts*** related to this Checklist item will occur.

Mitigation Measure(s): ***None Required.***

Conclusion: ***Less Than Significant Impact***

As noted earlier, ***Less Than Significant Project-specific and Cumulative Impacts*** to this Checklist item will occur.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

Project Impact Analysis: ***Less Than Significant Impact***

There is an existing septic tank and leach field on the Project site and no additional septic system is being proposed. ***Less Than Significant Project-specific Impacts*** related to this Checklist item will occur.

Cumulative Impact Analysis: ***No Impact***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project will not affect the soil capabilities of other sites. ***No Cumulative Impacts*** will occur related to this Checklist item.

Mitigation Measure(s): ***None Required.***

Conclusion: ***Less than Significant Impact***

As noted earlier, ***Less Than Significant Project-specific and Cumulative Impacts*** to this Checklist item will occur.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Project Impact Analysis: ***Less Than Significant Impact With Mitigation***

The Project site is fully developed to accommodate the nature of the operation/business. No paleontological resources or sites, or unique geologic features have previously been encountered on the proposed Project site. As noted earlier, a cultural resources records search was conducted of the site. No archaeological deposits or isolated finds were identified during that search.

Although it cannot conclusively be demonstrated that no subsurface paleontological resources are present, it is possible to mitigate potentially significant impacts with ***Mitigation Measure***

4.5-1. With the implementation the ***Mitigation Measure 4.5-1*** Project-specific impacts related to this Checklist Item will be reduced to a ***Less Than Significant Impact With Mitigation***.

Cumulative Impact Analysis: ***Less Than Significant Impact With Mitigation***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

Although it cannot conclusively be demonstrated that no subsurface paleontological resources are present, it is possible to mitigate potentially significant impacts with ***Mitigation Measure 4.5-1***. With implementation the ***Mitigation Measure 4.5-1***, Project-specific impacts related to this Checklist Item will be reduced to ***Less Than Significant*** levels.

Mitigation Measure(s): ***See Mitigation Measure 4.5-1***

4.5-1 The property owner shall avoid and minimize impacts to paleontological resources. If a potentially significant paleontological resource is encountered during ground disturbing activities, all construction within a 100-foot radius of the find shall immediately cease until a qualified paleontologist determines whether the resources requires further study. The owner shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. The paleontologist shall notify the Tulare County Resource Management Agency and the project proponent of the procedures that must be followed before construction is allowed to resume at the location of the find. If the find is determined to be significant and the Tulare County Resource Management Agency determines avoidance is not feasible, the paleontologist shall design and implement a data recovery plan consistent with applicable standards. The plan shall be submitted to the Tulare County Resource Management Agency for review and approval. Upon approval, the plan shall be incorporated into the project.

Conclusion: ***Less Than Significant Impact With Mitigation***

As noted earlier, ***Less Than Significant Project-specific and Cumulative Impacts With Mitigation*** to this Checklist item will occur.

DEFINITIONS/ACRONYMS

Definitions

Fault - A fault is a fracture in the Earth's crust that is accompanied by displacement between the two sides of the fault. An active fault is defined as a fracture that has shifted in the last 10,000 to 12,000 years (Holocene Period). A potentially active fault is one that has been active in the past 1.6 million years (Quaternary Period). A sufficiently active fault is one that shows evidence of Holocene displacement on one or more of its segments or branches (Hart, 1997).

Liquefaction - Liquefaction in soils and sediments occurs during earthquake events, when soil material is transformed from a solid state to a liquid state, generated by an increase in pressure between pore space and soil particles. Earthquake-induced liquefaction typically occurs in low-lying areas with soils or sediments composed of unconsolidated, saturated, clay-free sands and silts, but it can also occur in dry, granular soils or saturated soils with partial clay content.

Magnitude - Earthquake magnitude is measured by the Richter scale, indicated as a series of Arabic numbers with no theoretical maximum magnitude. The greater the energy released from the fault rupture, the higher the magnitude of the earthquake. Magnitude increases logarithmically in the Richter scale; thus, an earthquake of magnitude 7.0 is thirty times stronger than one of magnitude 6.0. Earthquake energy is most intense at the point of fault slippage, the epicenter, which occurs because the energy radiates from that point in a circular wave pattern. Like a pebble thrown in a pond, the increasing distance from an earthquake's epicenter translates to reduced groundshaking.

REFERENCES

Minerals Education Coalition. Minerals Resources Database. Accessed August 2019 at https://mineralseducationcoalition.org/minerals-database/gabbro/

Sequoia Gateway Commerce and Business Park Specific Plan DEIR (SCH No. 2015081056). Pages. 3.5-3. Prepared by Bert Verrips Environmental Consulting. September 2018. Certified and adopted by the Tulare County Board of Supervisors December 4, 2018. Resolution No. 2018-0938.

State of California. Natural Resources Agency Office of Planning and Research. CEQA Guidelines Sections 15126.2(a). Accessed August 2019 at:
http://resources.ca.gov/ceqa/docs/2018_CEQA_FINAL_TEXT_122818.pdf

State of California Department of Conservation, Alquist-Priolo Earthquake Fault Zone Maps. Accessed July 2019 at: http://www.quake.ca.gov/gmaps/WH/regulatorymaps.htm.

State of California Public Resources Code. Division 20. California Coast Act. Chapter 3. Coastal Resources Planning and Management Policies. Article 5. Land Resources. Section 30244. Accessed August 2019 at: https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=PRC&division=20.&title=&part=&chapter=3.&article=5.

State of California Public Resources Code. Native American Historic Resource Protection Act Archaeological, Paleontological, and Historical Site Native American Historical, Cultural, and Sacred Sites at Section 5097.5 (a) and (b). Accessed August 2019 at: http://online.sfsu.edu/mgriffin/California%20Public%20Resources%20Code%205097.pdf.

South County Detention Facility Draft Environmental Impact Report. Appendix "Historic Resource Report 1545 & 1591 South Newcomb Street, Porterville, CA" February 2013. Page 2 of Appendix C, "Paleontological Resources Assessment Report for the South County Detention Facility Project, Porterville, Tulare County, California". Appendix C. Prepared by Applied EarthWorks, Inc. February 2013. Page 2. Certified and adopted by the Tulare County Board of Supervisors June 25, 2013. Resolution No. 2013-0390.

"The Hydrology and Water Quality Report for Deer Creek Mine Expansion (PMR19-001) Project" report (Hydrology and Water Quality report). July 2019. Prepared by Mason GeoScience and included in Appendix "E" of this document.

Tulare County General Plan 2030 Update, August 2012. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/.

Tulare County General Plan 2030 Update, Background Report, February 2010. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/Appendix%20B%20-%20Background%20Report.pdf.

United States Department of Agriculture. Natural Resource Conservation Service. *"Custom Soil Resource Report for Tulare County, California, Central Part."* July 2019. Included in Appendix "D" of this document

Greenhouse Gas Emissions
Chapter 4.6

SUMMARY OF FINDINGS

The proposed Project will result in ***Less Than Significant Impacts*** related to Greenhouse Gas (GHG) Emissions. The impact determinations in this chapter are based upon information obtained from the References listed at the end of this chapter and in the *"Air Quality and Greenhouse Gas Analysis Report Deer Creek Mine Expansion Project Tulare County, California."* (AQ-GHG Report) prepared by consultant Mitchell Air Quality Consulting for this Project, which is provided in Appendix "A" of this document. A detailed review of potential impacts is provided in the analysis below.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

This section of the Subsequent Environmental Impact Report (SEIR) addresses potential environmental impacts related to GHG emissions. As required in CEQA Guidelines Section 15126, all phases of the proposed Project would be considered as part of the potential environmental impact.[1] As required in CEQA Guidelines Section 15064, the evaluation of the Project's impact on global climate change "shall consider direct physical changes in the environment which may be caused by the project and reasonably foreseeable indirect physical changes in the environment which may be caused by the project."[2] CEQA Guidelines Section 15064.4 provides guidance to lead agencies on determining the significance of GHG emission on global climate change as follows.

"15064.4. Determining the Significance of Impacts from Greenhouse Gas Emissions

(a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

(1) Quantify greenhouse gas emissions resulting from a project; and/or

(2) Rely on a qualitative analysis or performance based standards.

[1] CEQA Guidelines Section 15126. Consideration and Discussion of Environmental Impacts.

[2] CEQA Guidelines Section 15064. Determining the Significance of the Environmental Effects Caused by a Project.

(b) In determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. A lead agency should consider the following factors, among others, when determining the significance of impacts from greenhouse gas emissions on the environment:

(1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;

(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

(3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., section 15183.5(b)). Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the projects incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

(c) A lead agency may use a model or methodology to estimate greenhouse gas emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use."[3]

The "Environmental Setting" provides a description of greenhouse gases and the County's existing (2007) and projected (2030) greenhouse gas emissions inventory. The "Regulatory Setting" provides a description of applicable Federal, State and Local regulatory policies that were developed in part from information contained in the Tulare County General Plan 2030 Update (General Plan), Tulare County General Plan 2030 Update Background Report (Background Report), Tulare County General Plan 2030 Update Recirculated Draft

[3] CEQA Guidelines, Section 15064.4. Determining the Significance of Impacts from Greenhouse Gas Emissions

Environmental Impact Report (RDEIR), and the AQ-GHG Report prepared for this Project, incorporated by reference and summarized below. Additional documents utilized are noted as appropriate. A description of the potential impacts of the Project is provided and includes the identification of feasible mitigation measures (if necessary and feasible) to avoid or lessen the impacts.

Thresholds of Significance

The thresholds of significance for this section are established by the CEQA Checklist Item questions. A significant impact would occur if the project would:

"(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

(b) Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases."[4]

In their document, *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA*, the San Joaquin Valley Unified Air Pollution Control District (Air District) provides the following guidance to lead agencies for determining the cumulative significance of project specific GHG emissions on global climate change:

- "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 Guideline, 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 BAU, including GHG emission

[4] CEQA Guidelines Appendix G: Environmental Checklist Form.

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."[5]

ENVIRONMENTAL SETTING

"Gases that trap heat in the atmosphere are called greenhouse gases (GHGs). The major concern is that increases in GHGs are causing global climate change. Global climate change is a change in the average weather on earth that can be measured by wind patterns, storms, precipitation and temperature. The gases believed to be most responsible for global warming are water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)."[6] "Nitrogen trifluoride was not listed initially in AB 32 but was subsequently added to the list via legislation." [7]

"Greenhouse gases trap heat and make the planet warmer. Human activities are responsible for almost all of the increase in greenhouse gases in the atmosphere over the last 150 years. The largest source of greenhouse gas emissions from human activities in the United States is from burning fossil fuels for electricity, heat, and transportation."[8]

"**Climate Change**

Climate change is a change in the average weather of the earth that is measured by alterations in wind patterns, storms, precipitation, and temperature. These changes are assessed using historical records of temperature changes occurring in the past, such as during previous ice ages. Many of the concerns regarding climate change use this data to extrapolate a level of statistical significance, specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In its Fourth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100, given six scenarios, could range from 1.1 degrees Celsius (°C) to

[5] Air District, Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. Pages 4-5. http://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf. Accessed November 2019.

[6] Tulare County General Plan Background Report. Pages 6-19 to 6-20.

[7] California Air Resources Board. Assembly Bill 32 Overview – What Gases or Compounds are Covered Under AB 32? Website: http://www.arb.ca.gov/cc/ab32/ab32.htm. Accessed November 2019.

[8] United States Environmental Protection Agency. Sources of Greenhouse Gas Emissions – Overview. https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions. Accessed November 2019.

6.4°C. Regardless of analytical methodology, global average temperatures and sea levels are expected to rise under all scenarios (IPCC 2007a). The report also concluded that "[w]arming of the climate system is unequivocal," and that "[m]ost of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations.

An individual project cannot generate enough GHG emissions to cause a discernible change in global climate. However, the project participates in the potential for global climate change by its incremental contribution of GHGs—and when combined with the cumulative increase of all other sources of GHGs—constitute potential influences on global climate change."[9]

"Consequences of Climate Change in California

In California, climate change may result in consequences such as the following (from CCCC 2006 and Moser et al. 2009):

- **A reduction in the quality and supply of water from the Sierra snowpack.** If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. This can lead to challenges in securing adequate water supplies. It can also lead to a potential reduction in hydropower.

- **Increased risk of large wildfires.** If rain increases as temperatures rise, wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30 percent toward the end of the 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 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.

- **Reductions in the quality and quantity of certain agricultural products.** The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.

- **Exacerbation of air quality problems.** If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.

- **A rise in sea levels resulting in the displacement of coastal businesses and residences.** During the past century, sea levels along California's coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming

[9] *"Air Quality and Greenhouse Gas Analysis Report Deer Creek Mine Expansion Project Tulare County, California."* (AQ-GHG Report) October 2019. Page 41. Prepared by consultant Mitchell Air Quality Consulting and included in Appendix "A" of this Draft SEIR.

range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

- **An increase in temperature and extreme weather events.** Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.

- **A decrease in the health and productivity of California's forests.** Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species."[10]

"**Consequences of Climate Change in the Project Area**

Figure 6 [in the AQ-GHG Report, **Figure 4.6-1** in this Draft SEIR] displays a chart of measured historical and projected annual average maximum temperatures in the project area. As shown in the figure, temperatures are expected to rise in all models used for the analysis. The results indicate that the annual mean temperatures are predicted to increase by 5.6 degrees Fahrenheit (°F) based on the 2070 to 2099 projections from a 1965 to 1990 baseline (CalAdapt 2017).

Water Supply

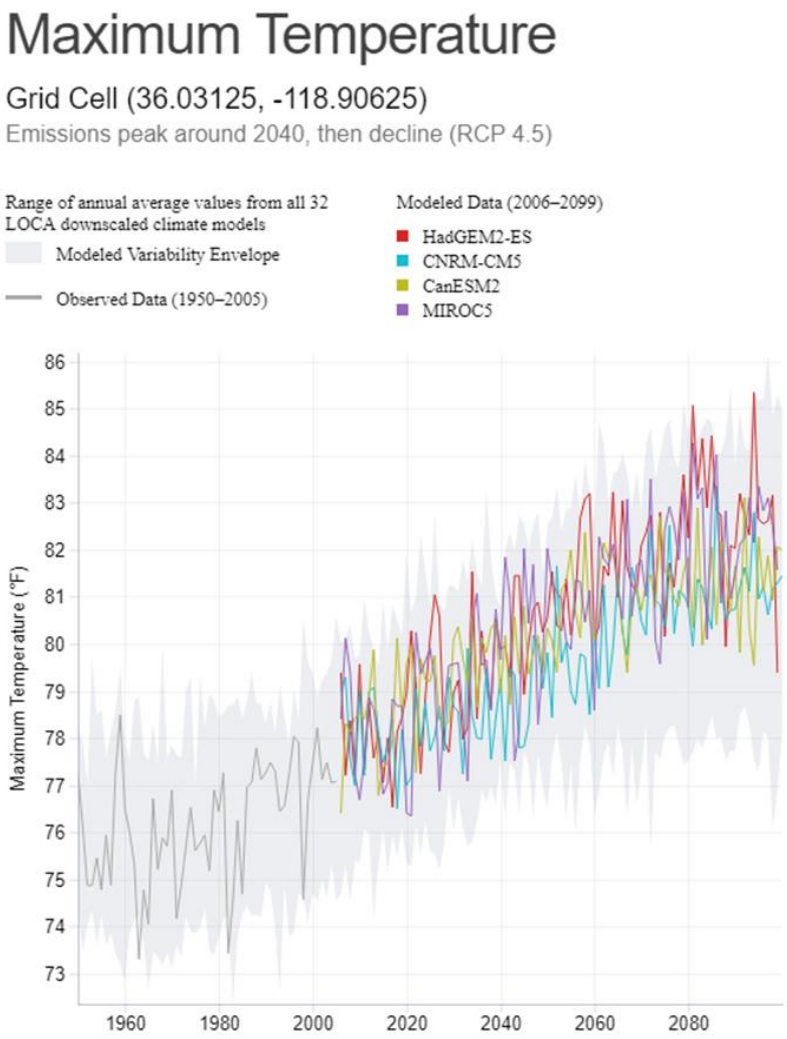
The project would rely on private wells to provide water to the project. The availability of surface water and the rate of groundwater recharge could decline if climate change were to result in reduced snowpack in the Sierra Nevada.

Wildfires

The project site is within a foothill grassland area that is subject to wildfire. The potential for increased temperatures and drought conditions due to climate change would result in increased risk from in the area."[11]

[10] Ibid. 41-42.
[11] Op. Cit. 42

Figure 4.6-1[12]
Observed and Projected Temperatures for Climate Change in the Project Area



"Human Health Effects of GHG Emissions

GHG emissions from development projects would not result in concentrations that would directly impact public health. However, the cumulative effects of GHG emissions on climate change have the potential to cause adverse effects to human health.

[12] Op. Cit. 43.

In its report, Global Climate Change Impacts in the U.S. (2009), the U.S. Global Change Research Program has analyzed the degree to which impacts on human health are expected to impact the United States."[13]

"Potential effects of climate change on public health include:

- Direct Temperature Effects: Climate change may directly affect human health through increases in average temperatures, which are predicted to increase the incidence of heat waves and hot extremes.

- Extreme Events: Climate change may affect the frequency and severity of extreme weather events, such as hurricanes and extreme heat and floods, which can be destructive to human health and well-being.

- Climate-Sensitive Diseases: Climate change may increase the risk of some infectious diseases, particularly those diseases that appear in warm areas and are spread by mosquitoes and other insects, such as malaria, dengue fever, yellow fever, and encephalitis.

- Air Quality: Respiratory disorders may be exacerbated by warming-induced increases in the frequency of smog (ground-level ozone) events and particulate air pollution (EPA 2009a).

Although there could be health effects resulting from changes in the climate and the consequences that can occur, inhalation of GHGs at levels currently in the atmosphere would not result in adverse health effects, with the exception of ozone and aerosols (particulate matter). The potential health effects of ozone and particulate matter are discussed in criteria pollutant analyses. At very high indoor concentrations (not at levels existing outside), carbon dioxide (CO_2), methane, sulfur hexafluoride, and some chlorofluorocarbons can cause suffocation as the gases can displace oxygen (CDC 2010 and OSHA 2003)."[14]

Greenhouse Gases

"Gases that trap heat in the atmosphere are referred to as GHGs. The effect is analogous to the way a greenhouse retains heat. Common GHGs include water vapor, CO_2, methane, NOx, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. Natural processes and human activities emit GHGs. The presence of GHGs in the atmosphere affects the earth's temperature. It is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

[13] Op. Cit.. 42.
[14] Op. Cit. 43-44.

Climate change is driven by forcings and feedbacks. Radiative forcing is the difference between the incoming energy and outgoing energy in the climate system. Positive forcing tends to warm the surface while negative forcing tends to cool it. Radiative forcing values are typically expressed in watts per square meter. A feedback is a climate process that can strengthen or weaken a forcing. For example, when ice or snow melts, it reveals darker land underneath which absorbs more radiation and causes more warming. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere. The global warming potential of a gas is essentially a measurement of the radiative forcing of a GHG compared with the reference gas, CO_2.

Individual GHG compounds have varying global warming potential and atmospheric lifetimes. CO_2, the reference gas for global warming potential, has a global warming potential of one. The global warming potential of a GHG is a measure of how much a given mass of a GHG is estimated to contribute to global warming. To describe how much global warming a given type and amount of GHG may cause, the carbon dioxide equivalent is used. The calculation of the carbon dioxide equivalent is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent reference gas, CO_2. For example, CH_4's warming potential of 25 indicates that CH_4 has 25 times greater warming effect than CO_2 on a molecule-per-molecule basis. A carbon dioxide equivalent is the mass emissions of an individual GHG multiplied by its global warming potential. GHGs defined by Assembly Bill (AB) 32 (see the Climate Change Regulatory Environment section [of the AQ-GHG Report] for a description) include CO_2, CH_4, NOx, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. They are described in Table 6 [at page 45 in the AQ-GHG Report]. A seventh GHG, nitrogen trifluoride, was added to Health and Safety Code section 38505(g)(7) as a GHG of concern. The global warming potential amounts are from IPCC Fourth Assessment Report (AR4). The new amounts have been incorporated into the CalEEMod 2016.3.2 used in this analysis."[15]

"The State has begun addressing pollutants referred to as short-lived climate pollutants. Senate Bill (SB) 605, approved by the governor on September 14, 2014 required the ARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants by January 1, 2016. ARB was required to complete an emission inventory of these pollutants, identify research needs, identify existing and potential new control measures that offer co-benefits, and coordinated with other state agencies and districts to develop measures. The Short-Lived Climate Pollutant Strategy was approved by the ARB on March 24, 2017 thus fulfilling these requirements. The strategy calls for reductions of 50 percent from black carbon, 40 percent from methane, and 40 percent from HFCs from the 2030 Business as Usual (BAU) inventory for these pollutants (ARB 2017b).

The short-lived climate pollutants include three main components: black carbon, fluorinated gases, and methane. Fluorinated gases and methane are described in Table 6 [of the AQ-GHG Report] and are already included in the California GHG inventory. Black carbon has not been included in past GHG inventories; however, ARB has included it in its comprehensive strategy (ARB 2015c).

[15] Op. Cit. 44

Ozone is another short-lived climate pollutant that will be part of the strategy. Ozone affects evaporation rates, cloud formation, and precipitation levels. Ozone is not directly emitted, so its precursor emissions—VOC and oxides of nitrogen (NOx) on a regional scale and CH_4 on a hemispheric scale—will be subject of the strategy (ARB 2015c).

Black carbon is a component of fine particulate matter. Black carbon is formed by incomplete combustion of fossil fuels, biofuels, and biomass. Sources of black carbon within a jurisdiction may include exhaust from diesel trucks, vehicles, and equipment, as well as smoke from biogenic combustion. Biogenic combustion sources of black carbon include the burning of biofuels used for transportation, the burning of biomass for electricity generation and heating, prescribed burning of agricultural residue, and natural and unnatural wildfires. Black carbon is not a gas but an aerosol—particles or liquid droplets suspended in air. Black carbon only remains in the atmosphere for days to weeks, whereas other GHGs can remain in the atmosphere for years. Black carbon can be deposited on snow, where it absorbs sunlight, reduces sunlight reflectivity, and hastens snowmelt. Direct effects include absorbing incoming and outgoing radiation; indirectly, black carbon can also affect cloud reflectivity, precipitation, and surface dimming (cooling).

Global warming potentials for black carbon were not defined by the IPCC in its Fourth Assessment Report. The ARB has identified a global warming potential of 3,200 using a 20-year time horizon and 900 using a 100-year time horizon from the IPCC Fifth Assessment. Sources of black carbon are already regulated by ARB, and air district criteria pollutant and toxic regulations that control fine particulate emissions from diesel engines and other combustion sources (ARB 2015c). Additional controls on the sources of black carbon specifically for their GHG impacts beyond those required for toxic and fine particulates are not likely to be needed.

Water vapor is also considered a GHG. Water vapor is an important component of our climate system and is not regulated. Increasing water vapor leads to warmer temperatures, which causes more water vapor to be absorbed into the air. Warming and water absorption increase in a spiraling cycle. Water vapor feedback can also amplify the warming effect of other greenhouse gases, such that the warming brought about by increased CO_2 allows more water vapor to enter the atmosphere (NASA 2015b).”[16]

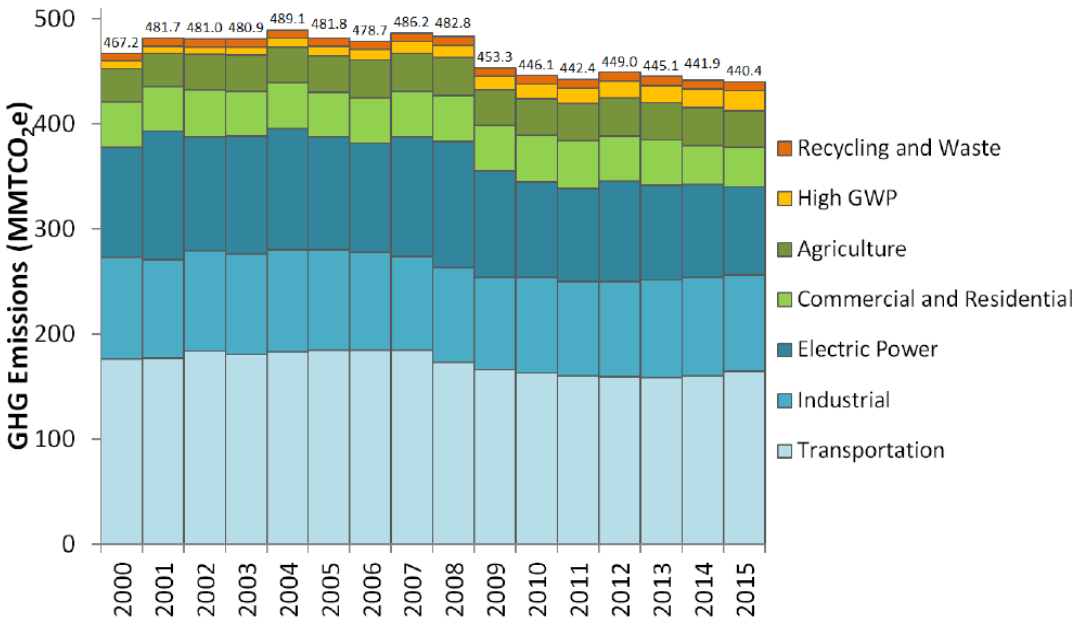
Emissions Inventories

“An emissions inventory is a database that lists, by source, the amount of air pollutants discharged into the atmosphere of a geographic area during a given time period. Emissions worldwide were approximately 43,286 million metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2012. As shown in Figure 7 [in the AQ-GHG Report], China was the largest GHG emitter with over 10 billion metric tons of CO_2e, and the United States was the second-largest GHG emitter with over 6 billion metric tons of CO_2e (WRI 2014).”[17]

[16] Op. Cit. 45-46.
[17] Op. Cit. 46-47.

"Figure 8 [in the AQ-GHG Report, **Figure 4.6-2** in this Draft SEIR] shows the contributors of GHG emissions in California between years 2000 and 2015 by Scoping Plan category. The main contributor was transportation. The second-highest sector was industrial, which includes sources from refineries, general fuel use, oil and gas extraction, cement plants, and cogeneration heat output. ARB reported that California's GHG emissions inventory was 440.4 $MMTCO_2e$ in 2015 (ARB 2016b)."[18]

Figure 4.6-2
Greenhouse Gas Emissions Trends by Scoping Plan Category in California



Source: ARB 2016b.

"In 2007, Tulare County generated approximately 5.2 million tonnes of Carbon Dioxide Equivalent (CO_2e). The largest portion of these emissions (63 percent) is attributed to dairies/feedlots, while the second largest portion (16 percent) is from mobile sources."[19] The *Tulare County Climate Action Plan 2018 Update* (summarized in **Table 4.6-1**, and presented in more detail in Table 7 of the AQ-GHG Report) indicates that Transportation (mobiles sources) makes up 5.9 percent; while Dairies make up 80 percent (overall, Agricultural-related sources make up 87.6 percent of all GHG emissions). As shown in **Table 4.6-1**, agricultural-related emissions will not decline when compared to other sources as emission reduction techniques for agricultural-related sources are costly, and in many instances technologically infeasible. As such, agricultural-related sources are anticipated to make up nearly 92 percent of GHG emissions in Year 2030; with dairies accounting for nearly 87 percent of all emissions.

[18] Op. Cit. 47.
[19] Tulare County. General Plan 2030 Update Background Report. Page 6-36.

Table 4.6-1
Tulare County Emissions Inventory 2015 to 2030[20]

Source	Emission ($MTCO_2e$ per year)		
	2015	**2020**	**2030**
Transportation[1]	573,821	455,946	363,490
Energy[2]	263,745	252,215	240,542
Solid Waste[3]	176,925	160,088	160,088
Water & Wastewater[4]	1,942	1,974	2,191
Industrial[5]	173,190	174,319	175,621
Agricultural[6]	8,437,327	9,122,753	10,469,155
Grand Total	**9,626,950**	**10,167,294**	**11,411,087**

Notes:
[1] *Includes On-road Vehicles, Off-Road Vehicles, Locomotives, and Aviation.*
[2] *Includes Electricity, Energy - Natural Gas, Energy – Propane, and Residential Woodburning.*
[3] *Includes Solid Waste – Landfill.*
[4] *Includes Water and Wastewater Treatment.*
[5] *Includes Industrial Natural Gas and Industrial Electricity.*
[6] *Includes Agricultural Electricity, Burning, Fertilizer, - Equipment, and Dairy.*

2023 dairy emissions are used as a placeholder for 2030 dairy emissions since 2030 emission projections are unavailable; see Section 4.2 of the AQ-GHG Report.

$MTCO_2e$ = metric tons of carbon dioxide equivalents

Source of emissions: Tulare County Climate Action Plan 2018 Update. Appendix A—GHG Emission Estimates. December 2018.

The Tulare County General Plan contains the following: "Enhancement of the greenhouse effect can occur when concentrations of GHGs exceed the natural concentrations in the atmosphere. Of these gases, CO_2 and methane are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas methane primarily results from off-gassing associated with agricultural practices and landfills. SF_6 is a GHG commonly used in the utility industry as an insulating gas in transformers and other electronic equipment. There is widespread international scientific agreement that human-caused increases in GHGs has and will continue to contribute to global warming, although there is much uncertainty concerning the magnitude and rate of the warming.

Some of the potential resulting effects in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought year. Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects:

- Higher maximum temperatures and more hot days over nearly all land areas;
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas;

[20] *Tulare County Climate Action Plan 2018 Update*, Pages 48-49. December 2018. Prepared by Mitchell Air Quality Consulting. http://generalplan.co.tulare.ca.us/documents/GP/001Adopted%20Tulare%20County%20General%20Plan%20Materials/220Climate%20Action%20Plan/CLIMATE%20ACTION%20PLAN%202018%20UPDATE.pdf. Accessed September 2019.

- Reduced diurnal temperature range over most land areas;
- Increase of heat index over land areas; and
- More intense precipitation events.

Also, there are many secondary effects that are projected to result from global warming, including global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood, and much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long term may be great."[21]

REGULATORY SETTING

International

International organizations, such as the ones discussed in the AQ-GHG Report, have made substantial efforts to reduce GHGs. Preventing human-induced climate change will require the participation of all nations in solutions to address the issue. A summary of the agreements include, the Intergovernmental Panel on Climate Change, United Nations Framework Convention on Climate Change (Convention), Kyoto Protocol, and Paris Agreement, and are summarized in the AQ-GHG Report (on pages 50-51). It is noted the AQ-GHG Report, "President Trump announced on June 1, 2017 that his administration will withdraw from the Paris Agreement. The administration indicated that it would follow the withdrawal process laid out in the Paris Agreement, which could take nearly 4 years to complete (White House 2017). California remains committed to combating climate change through programs designed to reduce GHGs."[22]

Federal Agencies & Regulations

U.S. EPA United States Environmental Protection Agency

"The primary sources of greenhouse gas emissions in the United States are:

- Transportation (28.9 percent of 2017 greenhouse gas emissions) – The transportation sector generates the largest share of greenhouse gas emissions. Greenhouse gas emissions from transportation primarily come from burning fossil fuel for our cars, trucks, ships, trains, and planes. Over 90 percent of the fuel used for transportation is petroleum based, which includes primarily gasoline and diesel.[2]
- Electricity production (27.5 percent of 2017 greenhouse gas emissions) – Electricity production generates the second largest share of greenhouse gas emissions. Approximately 62.9 percent of our electricity comes from burning fossil fuels, mostly coal and natural gas.[3]

[21] Tulare County. General Plan 2030 Update Background Report. Page 6-31.
[22] AQ-GHG Report. Page 51.

- Industry (22.2 percent of 2017 greenhouse gas emissions) – Greenhouse gas emissions from industry primarily come from burning fossil fuels for energy, as well as greenhouse gas emissions from certain chemical reactions necessary to produce goods from raw materials.
- Commercial and Residential (11.6 percent of 2017 greenhouse gas emissions) – Greenhouse gas emissions from businesses and homes arise primarily from fossil fuels burned for heat, the use of certain products that contain greenhouse gases, and the handling of waste.
- Agriculture (9.0 percent of 2017 greenhouse gas emissions) – Greenhouse gas emissions from agriculture come from livestock such as cows, agricultural soils, and rice production.
- Land Use and Forestry (offset of 11.1 percent of 2017 greenhouse gas emissions) – Land areas can act as a sink (absorbing CO_2 from the atmosphere) or a source of greenhouse gas emissions. In the United States, since 1990, managed forests and other lands have absorbed more CO_2 from the atmosphere than they emit."[23]

As noted in the AQ-GHG Report, "Prior to the last decade, there were no concrete federal regulations of GHGs or major planning for climate change adaptation. Since then, federal activity has increased. The following are actions regarding the federal government, GHGs, and fuel efficiency."[24]

Greenhouse Gas Endangerment Finding

"Massachusetts v. EPA (Supreme Court Case 05-1120) was argued before the United States Supreme Court on November 29, 2006, in which it was petitioned that the EPA regulate four GHGs, including CO2, under Section 202(a)(1) of the Clean Air Act. A decision was made on April 2, 2007, in which the Supreme Court found that GHGs are air pollutants covered by the Clean Air Act. The Court held that the Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations.

- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution, which threatens public health and welfare.

[23] United States Environmental Protection Agency. Sources of Greenhouse Gas Emissions – Overview. Accessed November 2019 at: https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions..
[24] AQ-GHG Report. Page 51.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section "Clean Vehicles" below. After a lengthy legal challenge, the United States Supreme Court declined to review an Appeals Court ruling upholding the EPA Administrator findings (EPA 2009c)."[25]

A summary of federal regulations pertaining to GHGs and fuel efficiency are summarized in the AQ-GHG Report (on pages 51-54). These regulations include requirements for fuel economy of passenger cars, light-duty trucks, medium-duty passenger vehicles; and heavy-duty trucks; mandatory reporting of GHG emissions for large emissions sources; thresholds for GHG emissions under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs; performance standards for CO2 emissions for new fossil fuel-fired electric utility generating units; and cap-and trade emissions limits.

State Agencies & Regulations

California Air Resources Board

"The Air Resources Board (ARB or Board) has established State ambient air quality standards (State standards) to identify outdoor pollutant levels considered safe for the public. After State standards are established, State law requires ARB to designate each area as attainment, nonattainment, or unclassified for each State standard. The area designations, which are based on the most recent available data, indicate the healthfulness of air quality throughout the State."[26]

"On April 26, 1996, the Board approved the "Carbon Monoxide Redesignation Request and Maintenance Plan for Ten Federal Planning Areas" as part of the State Implementation Plan (SIP) for Carbon Monoxide. U.S. EPA approved this revision on June 1, 1998 and redesignated the ten areas to attainment. On October 22, 1998, ARB revised the SIP to incorporate the effects of the recent Board action to remove the wintertime oxygen requirement for gasoline in certain areas. On July 22, 2004, ARB approved an update to the SIP that shows how the ten areas will maintain the standard through 2018, revises emission estimates, and establishes new on-road motor vehicle emission budgets for transportation conformity purposes."[27]

San Joaquin Valley Air Pollution Control District (Air District)

"The San Joaquin Valley Air Pollution Control District is made up of eight counties in California's Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and the San Joaquin Valley Air Basin portion of Kern."[28] "The San Joaquin Valley Air District is a

[25] Ibid. 51-52.
[26] California Air Resources Board. Air Quality Standards and Area Designations. http://www.arb.ca.gov/desig/desig.htm. Accessed November 201 9.
[27] California Air Resources Board. California State Implementation Plan (SIP) for Carbon Monoxide. https://ww3.arb.ca.gov/planning/sip/co/co.htm. Accessed November 2019.
[28] San Joaquin Valley Air Pollution Control District. About the District. http://www.valleyair.org/General_info/aboutdist.htm#Mission. Accessed November 2019.

public health agency whose mission is to improve the health and quality of life for all Valley residents through efficient, effective and entrepreneurial air quality-management strategies."[29]

The San Joaquin Valley Air Pollution Control District (Air District) maintains, "…quantification of GHG emissions would be expected for all projects for which the lead agency has determined that an Environmental Impact Report is required, regardless of whether the project incorporates Best Performance Standards."[30]

California Air Pollution Control Officers Association (CAPCOA)

The California Association of Air Pollution Control Officers (CAPCOA) represents all thirty-five local air quality agencies throughout California. CAPCOA, which has been in existence since 1975, is dedicated to protecting the public health and providing clean air for all our residents and visitors to breathe, and initiated the Greenhouse Gas Reduction Exchange.[31]

"The Greenhouse Gas Reduction Exchange (GHG Rx) is a registry and information exchange for greenhouse gas emissions reduction credits designed specifically to benefit the state of California. The GHG Rx is a trusted source of locally generated credits from projects within California, and facilitates communication between those who create the credits, potential buyers, and funding organizations."[32] The mission of the GHG Rx is "to provide a trusted source of high quality California-based greenhouse gas credits to keep investments, jobs, and benefits in-state, through an Exchange with integrity, transparency, low transaction costs and exceptional customer service."[33]

California Clean Air Act

"The California CAA of 1988 establishes an air quality management process that generally parallels the federal process. The California CAA, however, focuses on attainment of the State ambient air quality standards,… which, for certain pollutants and averaging periods, are more stringent than the comparable federal standards. Responsibility for meeting California's standards is addressed by the CARB and local air pollution control districts (such as the eight county AIR DISTRICT, which administers air quality regulations for Tulare County). Compliance strategies are presented in district-level air quality attainment plans."[34]

Executive Order S-3-05

[29] Ibid. The Air District's Mission.
[30] San Joaquin Valley Air Pollution Control District. Guidance for Valley Land Use Agencies in Addressing GHG Emission Impacts for New Projects Under CEQA. Page 4. Accessed September 2019 at: http://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf.
[31] California Air Pollution Control Officers Association. http://www.capcoa.org/. Accessed November 2019.
[32] California Air Pollution Control Officers Association. California-based Greenhouse Gas Credit Exchange. http://www.capcoa.org/ghg-rx/. Accessed November 2019.
[33] California Air Pollution Control Officers Association. "CAPCOA GHG Rx" An Introduction to the GHG RX. http://www.capcoa.org/wp-content/uploads/2016/09/GHG%20Rx%20Flyer%20-%208.31.2016%20-%20FINAL.pdf. Accessed November 2019.
[34] Tulare County. General Plan 2030 Update RDEIR. Pages 3.3-2 to 3.3-3.

"In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger issued Executive Order S-3-05, which sets forth a series of target dates by which statewide emission of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The Executive Order additionally ordered that the Secretary of the California Environmental Protection Agency (Cal EPA) would coordinate oversight of the efforts among state agencies made to meet the targets and report to the Governor and the State Legislature biannually on progress made toward meeting the GHG emission targets. Cal EPA was also directed to report biannually on the impacts to California of global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry, and prepare and report on mitigation and adaptation plans to combat these impacts.

In response to the Executive Order, the Secretary of Cal EPA created the Climate Action Team (CAT), composed of representatives from the Air Resources Board; Business, Transportation, & Housing; Department of Food and Agriculture; Energy Commission; California Integrated Waste Management Board (CIWMB); Resources Agency; and the Public Utilities Commission (PUC). The CAT prepared a recommended list of strategies for the state to pursue to reduce climate change emission in the state (Climate Action Team, 2006)."[35]

Assembly Bill 32: California Global Warming Solutions Act of 2006

"In 2006, California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500, et seq.), which requires the CARB to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020.
The bill also requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG emission reductions. The bill authorizes CARB to adopt market-based compliance mechanisms. The bill additionally requires the state board to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism adopted by the state board, pursuant to specified provisions of existing law. The bill also authorizes CARB to adopt a schedule of fees to be paid by regulated sources of GHG emissions. Because the bill requires CARB to establish emissions limits and other requirements, the violation of which would be a crime, this bill would create a state-mandated local program.

Under AB 32, by June 30, 2007, CARB was to identify a list of discrete early action GHG reductions that will be legally enforceable by 2010. By January 1, 2008, CARB was also to adopt regulations that will identify and require selected sectors to report their statewide GHG emissions. By January 1, 2011, CARB must adopt rules and regulations to achieve the maximum

[35] Tulare County. General Plan 2030 Update Background Report. Page 6-19.

technologically feasible and cost-effective reductions in GHG reductions. CARB is authorized to enforce compliance with the program that it develops."[36]

Senate Bill 97

"Governor Schwarzenegger signed Senate Bill (SB) 97 (Sutton), a CEQA and GHG emission bill, into law on August 24, 2007. SB 97 requires the Governor's Office of Planning and Research (OPR) to prepare CEQA guidelines for the mitigation of GHG emissions, including, but not limited to, effects associated with transportation or energy consumption. OPR must prepare these guidelines and transmit them to the Resources Agency by July 1, 2009. On April 13, 2009, OPR submitted to the Secretary for Natural Resources its proposed amendments to the state CEQA Guidelines for greenhouse gas emissions. The Resources Agency must then certify and adopt the guidelines by January 1, 2010. OPR and the Resources Agency are required to periodically review the guidelines to incorporate new information or criteria adopted by CARB pursuant to the Global Warming Solutions Act, scheduled for 2012.

The OPR published a Technical Advisory in June of 2008 that is an "informal guidance regarding the steps lead agencies should take to address climate change in their CEQA documents" to serve in the interim until guidelines are established pursuant to SB 97 (OPR, 2008). This Advisory recommends that CEQA documents include quantification of estimated GHG emissions associated with a proposed project and that a determination of significance be made. With regard to significance the Advisory states that "lead agencies must determine what constitutes a significant impact. In the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a "significant impact", individual lead agencies may undertake a project-by-project analysis, consistent with the available guidance and current CEQA practice".[37]

Climate Change Scoping Plan

"The CARB published a *Climate Change Scoping Plan* in December 2008 (CARB, 2008c) that outlines reduction measures to lower the state's GHG emissions to meet the 2020 limit. The *Scoping Plan* "proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health". Key elements for reducing California's GHG emissions to 1990 levels by 2020 include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets;

[36] Ibid. 6-20.
[37] Op. Cit. 6-23 to 6-24

- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation."[38]

Local Policy & Regulations

Tulare County General Plan Policies

The General Plan has a number of policies that apply to projects within Tulare County that support reduction efforts of GHG. General Plan policies that relate to the proposed Project are listed below.

AQ-1.5 California Environmental Quality Act (CEQA) Compliance - The County shall ensure that air quality impacts identified during the CEQA review process are consistently and reasonable mitigated when feasible.

AQ-1.7 Support Statewide Climate Change Solutions
The County shall monitor and support the efforts of Cal/EPA, CARB, and the SJVAPCD, under AB 32 (Health and Safety Code §38501 et seq.), to develop a recommended list of emission reduction strategies. As appropriate, the County will evaluate each new project under the updated General Plan to determine its consistency with the emission reduction strategies.

AQ-1.8 Greenhouse Gas Emissions Reduction Plan/Climate Action Plan
The County will develop a Greenhouse Gas Emissions Reduction Plan (Plan) that identifies greenhouse gas emissions within the County as well as ways to reduce those emissions. The Plan will incorporate the requirements adopted by the California Air Resources Board specific to this issue. In addition, the County will work with the Tulare County Association of Governments and other applicable agencies to include the following key items in the regional planning efforts.

1. Inventory all known, or reasonably discoverable, sources of greenhouse gases in the County,
2. Inventory the greenhouse gas emissions in the most current year available, and those projected for year 2020, and
3. Set a target for the reduction of emissions attributable to the County's discretionary land use decisions and its own internal government operations.

AQ-1.9 Support Off-Site Measures to Reduce Greenhouse Gas Emissions
The County will support and encourage the use of off-site measures or the purchase of carbon offsets to reduce greenhouse gas emissions.

[38] Op. Cit.. 6-24 to 6-25

Tulare County Climate Action Plan

"The Tulare County Climate Action Plan (CAP) serves as a guiding document for County of Tulare ("County") actions to reduce greenhouse gas emissions and adapt to the potential effects of climate change. The CAP is an implementation measure of the 2030 General Plan Update. The General Plan provides the supporting framework for development in the County to produce fewer greenhouse gas emissions during Plan buildout. The CAP builds on the General Plan's framework with more specific actions that will be applied to achieve emission reduction targets consistent with California legislation."[39]

"The County of Tulare (County) adopted the Tulare County Climate Action Plan (CAP) in August 2012. The CAP includes provisions for an update when the State of California Air Resources Board (CARB) adopts a Scoping Plan Update that provides post-2020 targets for the State and an updated strategy for achieving a 2030 target. Governor Brown signed Senate Bill (SB) 32 on September 8, 2016 which contains the new 2030 target. The CARB 2017 Scoping Plan Update for the Senate Bill (SB) 32 2030 targets was adopted by the CARB on December 14, 2017 which provided new emission inventories and a comprehensive strategy for achieving the 2030 target (CARB 2017a). With the adoption of the 2017 Scoping Plan, the County proceeded with the 2018 CAP Update that is provided in this document. The 2018 CAP Update incorporates new baseline and future year inventories to reflect the latest information and updates the County's strategy to address the SB 32 2030 target. The 2030 target requires the State to reduce emissions by 40 percent below 1990 levels from the 2017 Scoping Plan and County data. The CAP identifies the County's fair share of reductions required to maintain consistency with the State target."[40] The CAP Update identifies the " most important aspects of the CAP, including:

- The purpose of the CAP.
- The relationship to other State and regional regulatory and planning efforts.
- Using the CAP for CEQA compliance.
- Tulare County's greenhouse gas inventory.
- Emission reduction targets to demonstrate consistency with AB 32 and the CARB Scoping Plan.
- The Climate Action Plan strategy for achieving emission reduction targets.
- The plan for tracking and monitoring progress in implementing the CAP."[41]

[39] Tulare County Climate Action Plan. Page 1. http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/ClimateActionPlan.pdf. Accessed November 2019.
[40] Tulare County. Climate Action Plan 2018 Update. Page 1. http://generalplan.co.tulare.ca.us/documents/GP/001Adopted%20Tulare%20County%20General%20Plan%20Materials/220Climate%20Action%20Plan/CLIMATE%20ACTION%20PLAN%202018%20UPDATE.pdf. Accessed November 2019.
[41] Ibid.

IMPACT EVALUATION

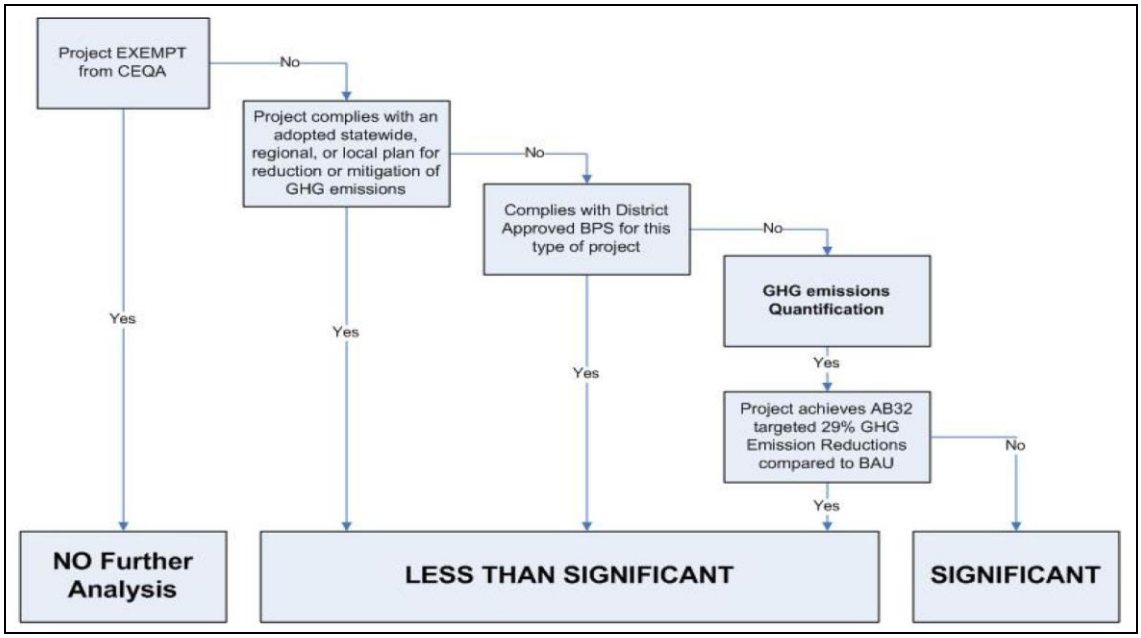
Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Project Impact Analysis: ***Less Than Significant Impact***

To assist permit applicants and project proponents in assessing the impacts of project specific GHG emissions from stationary source projects, the Air District adopted the policy: *District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*. This policy applies to projects for which the Air District has discretionary approval authority over the project and serves as the lead agency for CEQA purposes; however, land use agencies can refer to it as guidance for projects that include stationary sources of emissions.[42] The policy summarizes the Air District's evaluation process for determining the significance of GHG-related impacts for stationary source projects as presented in **Figure 4.6-3**.[43]

Figure 4.6-3
Air District GHG Evaluation Process



[42] Air District, Fact Sheet: Addressing Greenhouse Gas Emissions Impact under the California Environmental Quality Act (CEQA) – Stationary Source Projects. http://www.valleyair.org/Programs/CCAP/bps/Fact_Sheet_Stationary_Sources.pdf. Accessed November 2019.
[43] Air District, District Policy: Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency. Page10. http://www.valleyair.org/Programs/CCAP/12-17-09/2%20CCAP%20-%20FINAL%20District%20Policy%20CEQA%20GHG%20-%20Dec%2017%202009.pdf. Accessed November 2019.

The Air District has determined that, "[p]rojects 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."[44]

"Section 15064.4(b) of the CEQA Guidelines' 2018 amendments of the CEQA Guidelines' amendments for GHG emissions states that a lead agency may take into account the following three considerations in assessing the significance of impacts from GHG emissions.

- **Consideration #1:** The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration #2:** Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- **Consideration #3:** The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

Tulare County adopted its Climate Action Plan (CAP) in 2012 and last revised the plan in 2018 to address SB 32 2030 targets and the ARB 2017 Scoping Plan. The CAP fulfills the requirements of consideration #3 as a local plan for the reduction or mitigation of greenhouse gas emissions. The CAP includes strategies to reduce GHG emissions through compliance with relevant General Plan policies and statewide GHG regulations. The 2018 CAP indicates that the County is on track to achieve the AB 32 2020 targets with the existing CAP measures and includes new targets for 2030. The CAP target for 2030 is a per capita rate of 4.18 tons per person in 2030. This would require an 8.6 percent reduction from business as usual in 2030 accounting for regulations currently in place.

[44] Ibid. 8.

The CAP focuses on residential and commercial development. CAP targets are not intended for Industrial process emissions since they are subject to Cap-and-Trade. Industrial projects with large numbers of employees and air-conditioned buildings would be subject to the CAP targets related to building energy efficiency and employee commuting. The project includes no new buildings and adds only three new employees. No mining industry-specific local measures are included in the CAP; however, the project will comply State regulations that apply to fuels used by project trucks and equipment, vehicle emission standards, and electricity consumed by the project that will reduce project emissions. For industrial projects, where the SJVAPCD is a Responsible Agency, projects are expected to implement Best Performance Standards included in the SJVAPCD Guidelines for Addressing Greenhouse Gas Emissions on the processes and stationary equipment that emit greenhouse gases to levels that meet or exceed state targets. The project requires no new air quality permits so the SJVAPCD is not a Responsible Agency in this case. Therefore, the analysis provides a quantitative analysis of its GHG emissions and assesses compliance with plans and regulations adopted to reduce or mitigate GHG emissions.

The State is on track to achieve the 2020 target with adopted regulations and has adopted the 2017 Scoping Plan Update on December 14, 2017 that provides the State's strategy to achieve the SB 32 2030 target of a 40 percent reduction in emissions compared to 1990 levels. The plan includes existing and new measures that when implemented are expected to achieve the SB 32 2030 target. The 2017 Scoping Plan achieves substantial reductions beyond 2020 through continued implementation of existing regulations. Other regulations will be adopted to implement recently enacted legislation including SB 350, which requires an increase in renewable energy from 33 percent to 50 percent and doubling the efficiency of existing buildings by 2030. The Legislature extended the Cap-and-Trade Program through 2030. Cap-and-Trade provides a mechanism to make up shortfalls in other strategies if they occur (ARB 2017c). In addition, the strategy relies on reductions achieved in implementing the ARB Short-Lived Climate Pollutant (SLCP) Reduction Strategy to reduce pollutants not previously controlled for climate change such as black carbon, methane, and hydrofluorocarbons (HFCs) (ARB 2017b)."[45]

As discussed in the AQ-GHG Report, "an analysis was prepared for this project that assesses "consistency with AB 32's goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities." The analysis shows the extent to which the project complies with adopted regulations. At this point in time, no additional reductions are required from new development beyond regulations for the State to achieve its 2020 target. The recently adopted 2030 target will require a reduction from 431 MTCO2e to 260 MTCO2e or 40 percent from 1990 levels. After accounting for projected growth of approximately 0.8 percent per year an average decrease of 5.2 percent per year from the State GHG inventory will be required to achieve the target. The 2017 Scoping Plan Update includes a strategy for achieving the needed reductions, but does not identify an amount required specifically from new development.

[45] "*Air Quality and Greenhouse Gas Analysis Report Deer Creek Mine Expansion Project Tulare County, California.*" (AQ-GHG Report) October 2019. Pages 111-112. Prepared by consultant Mitchell Air Quality Consulting and included in Appendix "A" of this Draft SEIR.

However, all GHG emission sources within development projects are subject to GHG regulations at some level.

The quantitative analysis prepared for the project assesses the extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting under Consideration # 1. The emissions generated at the existing baseline activity (800,000 tons per year) are compared with project at the proposed new permit limit (1,500,000 tons per year) to determine the increase in emissions from the project. The analysis assumed that the project would reach the new limit in the year 2025. The emissions in 2025 reflect compliance with regulations that apply to the project. The percent reduction for each regulation applicable to the project is provided separately to show the extent to which the project complies.

The Tulare County CAP includes a threshold approach that complies with Consideration #2 for commercial and residential development based on a percent reduction from BAU in 2030, but it is not applicable to mining and extraction industries. The CAP found that additional reductions from industrial sources beyond regulations would not be required to reach the 2030 target since those emissions were subject to regulation by other entities such as Cap-and-Trade, which applies to 80 percent of the State's GHG emission inventory. No buildings or new facilities are included in the project so no analysis of construction emissions is required."[46]

"Operational or long-term emissions occur over the life of the project. Sources of emissions include motor vehicles and trucks, energy usage, waste generation, and area sources. …Operational emissions were modeled for baseline and for the increase in emissions at the new permitted throughput limit. The baseline emissions were modeled in 2020 and the increase in emissions from the project were modeled in 2025 using CalEEMod and spreadsheet calculations using the EMFAC mobile source emission model and EPA emission factors. CalEEMod assumes compliance with some, but not all, applicable rules and regulations regarding energy efficiency, vehicle fuel efficiency, renewable energy usage, and other GHG reduction policies, as described in the CalEEMod User's Guide (SCAQMD 2017)."[47]

"Full assumptions and model outputs are provided in Appendix A [of the AQ-GHG Report] and results of this analysis for the project operational emissions are presented in Table 33 [**Table 4.6-2** of this SEIR]."[48]

[46] Ibid. 114-115
[47] Op. Cit. 115
[48] Op. Cit. 116

Table 4.6-2
Project Operational Greenhouse Gases

Source	Emissions (MTCO2e per year)		
	Baseline	**Emissions With Project**	**Increase From Project**
Off-road Equipment	1,124.09	2062.26	938.17
On-site Work Vehicles	84.35	216.07	99.74
On-road Haul Trucks	2,637.32	4,732.88	2,050.22
Employee Commute Trips	40.82	43.33	2.16
Electricity Use	744.33	1,394.09	651.13
Total	**4,630.90**	**8,448.62**	**3,741.42**

Notes:
MTCO2e = metric tons of carbon dioxide equivalents
Increase from Project Haul Truck Emissions reflect compliance with ARB Truck and Bus Regulation
Mobile sources reflect compliance with LCFS
Source: Modeling Results (Appendix A [of the AQ-GHG Report]).

"As shown in Table 33 [**Table 4.6-2** of this SEIR], the project would result in an increase in GHG emissions of 3,741 MTCO2e per year and the facility emissions would increase to 8,449 tons per year with the project. The modeling includes the benefits of regulations that reduce project emissions. The analysis presented above does not include new strategies proposed in the 2030 Scoping Plan Update. The update was adopted in December 2017. The update provides alternatives in terms of their likelihood of implementation and ranges of reduction from the strategies. Measures already authorized by legislation are highly likely to be implemented, while measures requiring new legislation are less likely to go forward. A new round of motor vehicle fuel efficiency standards beyond 2025 when LEV III standards are at their maximum reduction level is highly likely. Changing heavy-duty trucks and off-road equipment to alternative fuels face greater technological hurdles and are less likely to provide dramatic reductions by 2030.

The 2030 emission limit is 260 MMTCO2e. The ARB estimates that the 2030 BAU (reference) Inventory will be 392 MMTCO2e—a reduction of 132 MMCO2e, including existing policies and programs but not including known commitments that are already underway. The 2030 Scoping Plan Update includes the estimated GHG emissions by sector compared with 1990 levels that is presented in Table 34 [**Table 4.6-3** of this SEIR]. The proposed plan would achieve the bulk of the reductions from Electric Power, Industrial fuel combustion, and Transportation. Cap-and-Trade would provide between 10 to 20 percent of the required reductions depending on the amounts achieved by the other reduction measures."[49]

[49] Op. Cit. 117

Table 4.6-3
2030 Scoping Plan Update Estimated Change in GHG Emissions by Sector

Scoping Plan Sector	Emissions ($MMTCO_2e$ per year)		
	1990	**2030 Proposed Plan Ranges**	**Percent Change from 1990**
Agriculture	26	24-25	-4 to -8
Residential and Commercial	44	38-40	-9 to -14
Electric Power	108	42-62	-43 to -61
High GWP	3	8-11	167 to 267
Industrial	98	77-87	-11 to -21
Recycling and Waste	7	8-9	14 to 29
Transportation (including TCU)	152	103-111	-27 to -32
Net Sink	-7	TBD	TBD
Subtotal	**431**	**300-345**	**-20 to -30**
Cap-and-Trade Program	N/A	40-85	N/A
Total	**431**	**260**	**-40**

Notes:
GWP = Global Warming Potential; TCU = Transportation Communications and Utilities
Source: ARB 2030 Scoping Plan Update (ARB 2017).

"Although 2030 Scoping Plan Update focuses on state agency actions necessary to achieve the 2030 GHG limit, the ARB considers local governments essential partners in achieving California's goals to reduce GHG emissions. The 2030 target will require an increase in the rate of emission reductions compared to what was needed to achieve the 2020 limit, and this will require action and collaboration at all levels, including local government action to complement and support State-level actions. For individual projects, the 2030 Scoping Plan Update suggests that all new land use development implement all feasible measures to reduce GHG emissions. The Scoping Plan does not define all feasible measures or attribute an amount of reductions required from new development beyond compliance with regulations; however, the CAP provides measures and reduction amounts that are feasible for commercial and residential development. No reduction amount or threshold was developed for industrial projects. Requiring the project operator to fully mitigate emissions without accounting for compliance with regulations would result in double mitigation, first by the regulated entity and then by the project operator purchasing electricity, fuel, and vehicles compliant with regulations in effect at the time of purchase and beyond that would violate constitutional nexus requirements.

In conclusion, based on progress achieved to date and the strong likelihood that the measures included in the 2017 Scoping Plan Update will be implemented, it is reasonable to conclude that the project is consistent with the 2017 Scoping Plan and will contribute a reasonable fair-share contribution to achieving the 2030 target. The fair share may very well be achieved through compliance with increasingly stringent State regulations that apply to energy production, fuels, and motor vehicles. As shown in Table 34 [**Table 4.6-3** of this SEIR], the state strategy relies on the Cap-and-Trade Program to make up any shortfalls that may occur from the other regulatory strategies. The costs of Cap-and-Trade emission reductions will ultimately be passed on to the consumers of fuels, electricity and products produced by

regulated industries, which includes the project and other purchasers of products and services. Therefore, the impact in terms of Considerations #1 and #2 would be less than significant."[50]

As discussed above, Project-related GHG emissions, generated either directly or indirectly, will not have a significant impact on the environment. As such, the proposed Project will result in ***Less Than Significant Project-specific Impacts*** related to this Checklist Item.

Cumulative Impact Analysis: ***Less Than Significant Impact***

The geographic area of this cumulative analysis is the San Joaquin Valley Air Basin. As the proposed Project will result in Less Than Significant Project-specific Impacts, ***Less Than Significant Cumulative Impacts*** will also occur.

Mitigation Measure(s): ***None Required.***

Conclusion: ***Less Than Significant Impact***

The proposed Project will result in a ***Less Than Significant Project-specific and Cumulative Impact*** related to this Checklist Item.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Project Impact Analysis: ***Less Than Significant Impact***

As discussed in the assessment below, the Project does not conflict with the Tulare Climate Action Plan, the Tulare County General Plan, or any Air District regulations, for the purpose of reducing greenhouse gas emissions.

"The Tulare County CAP adopted in 2012 and last amended in December 2018 is the applicable plan to reduce GHG emissions in Tulare County. The CAP fulfills the streamlining provisions contained in the CEQA Guidelines amendments adopted for SB 97 and clarifications provided in the CEQA Guidelines amendments adopted on December 28, 2018. However, the streamlining provisions are not structured to address mining and resource projects. The CAP relies on state regulations on fuels, motor vehicles, and electric utilities for industrial sources of GHG emissions.

The SJVAPCD has adopted a Climate Action Plan that requires best performance standards (BPS) for new industrial sources requiring air quality permits that would reduce emissions by at least 29 percent from BAU by 2020. The project does not propose any changes to its SJVAPCD permits; therefore, it is not subject to the SJVAPCD CAP.

[50] Op. Cit. 118-119

The project reduces its GHG emissions through compliance with State regulations to contribute its fair share of GHG reductions toward meeting State GHG targets. Therefore, the project is assessed for its consistency with ARB's adopted Scoping Plans. This would be achieved with an assessment of the project's compliance with Scoping Plan measures contained in the 2008 Scoping Plan and the 2017 Scoping Plan Update."[51]

AB 32 and the 2008 Scoping Plan

Executive Order S-3-05 sets the State's goals to reduce GHG emissions to 1990 levels by 2020 and 80 percent below 1990 levels by 2050. The State's goal for 2020 was codified under AB 32 and is addressed in the 2008 Scoping Plan.

"The Scoping Plan contains a variety of strategies to reduce the State's emissions. As shown in Table 35 [of the AQ-GHG Report], the project is consistent with most of the strategies, while others are not applicable to the project. As discussed earlier, the 2017 Scoping Plan Update strategies primarily rely on increasing the stringency of existing regulations for which the project would continue to comply with and support through the project's design and implementation of the General Plan goals and policies."[52] **Table 4.6-4** summarizes the Project's consistency with the Scoping Plan.

Table 4.6-4
Project Consistency with Scoping Plan

Scoping Plan Measure	Project Consistency
California Cap-and-Trade Program Linked to Western Climate Initiative	**Consistent.** The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers. However, the regulation indirectly affects people who use the products and services produced by these industrial sources when increased costs of products or services (such as electricity and fuel) are transferred to the consumers. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period.
California Light-Duty Vehicle Greenhouse Gas Standards	**Consistent.** This measure applies to all new vehicles starting with model year 2012. The project would not conflict with its implementation as it would apply to all new passenger vehicles purchased in California. Passenger vehicles model year 2012 and later associated with construction and operation of the project would be required to comply with the Pavley emissions standards.
Low Carbon Fuel Standard	**Consistent.** This measure applies to transportation fuels utilized by vehicles in California. The project would not conflict with

[51] Op. Cit. 119
[52] Op. Cit. 120

Table 4.6-4
Project Consistency with Scoping Plan

Scoping Plan Measure	Project Consistency
	implementation of this measure. Motor vehicles associated with construction and operation of the project would utilize low-carbon transportation fuels as required under this measure.
Regional Transportation-Related Greenhouse Gas Targets	**Consistent.** The project will provide a small increase in employment in the region that is consistent with the growth projections in the 2014 RTC/SCS. The project is not within an SCS priority area and so is not subject to requirements applicable to those areas.
Goods Movement	**Not applicable.** The project does not propose any changes to maritime, rail, or intermodal facilities or forms of transportation.
Medium/Heavy-Duty Vehicles	**Consistent.** This measure applies to medium- and heavy-duty vehicles that operate in the State. The project would not conflict with implementation of this measure. Medium- and heavy-duty vehicles associated with operation of the project would be required to comply with the requirements of this regulation.
High Speed Rail	**Not applicable.** This is a statewide measure that cannot be implemented by a project applicant or lead agency.
Energy Efficiency	**Not applicable.** The Project would not construct buildings subject to energy efficiency regulation.
Renewable Portfolio Standard / Renewable Electricity Standard	**Consistent.** The project would purchase power from SCE that is required to comply with RPS and future mandates of SB 350.
Million Solar Roofs Program.	**Not applicable.** This project is a mining operation and has no roof space suitable for solar panels.
Water	**Not Applicable.** No new structures will be constructed and the mining operation is not subject to the California Green Building Standards Code standards or MWELO requirements.
Green Building Strategy	**Not applicable.** The project will not construct buildings subject to the CalGreen Code.
Industrial Emissions	**Consistent.** The project is an industrial land use and would be required to report if it exceeds the threshold for reporting.
Recycling and Waste.	**Consistent.** No structures subject to CalGreen Code will be constructed. An existing office trailer space will accommodate the increase of 3 new employees. The project would utilize County of Tulare waste hauling services that are required to provide recycling services. The County has consistently exceeded its state recycling mandates.
Sustainable Forests	**Not applicable.** No forested lands exist on-site.
High Global Warming Potential Gases	**Not applicable.** The regulations are applicable to refrigerants used by large air conditioning systems and large commercial and industrial refrigerators and cold storage system. The project includes no large systems subject to the refrigerant management regulations adopted by ARB.
Agriculture	**Not Applicable.** The project site is a mining operation. No grazing, feedlot, or other agricultural activities that generate manure occur currently exist on-site or are proposed to be implemented by the project.

Note: This table is a summary of the Project's consistency analysis for the 2008 Scoping Plan presented in Table 35 (pages 121-123) of the AQ-GHG Report, which is included in Appendix "A" of this SEIR.

"In summary, the project is consistent with the applicable strategies of the 2008 Scoping Plan and contributes to their implementation in terms of compliance with regulations related to motor vehicles, fuels, and electricity used by the project. The impact would be less than significant."[53]

SB 32 and the 2017 Scoping Plan Update

Executive Order B-30-15 established an interim goal to reduce GHG emissions to 40 percent below 1990 levels by 2030. The State's goal for 2030 was codified under SB 32 and is addressed in the 2017 Scoping Plan Update.

"The new plan provides a strategy that is capable of reaching the SB 32 target if the measures included in the plan are implemented and achieve reductions within the ranges expected. Under the Scoping Plan Update, local government plays a supporting role through its land use authority and control over local transportation infrastructure.

The Tulare CAP includes a strategy for achieving its fair share of development related emissions from commercial and residential projects for the 2030 target, but does not include a threshold approach for mining projects and other industrial projects whose emissions are caused by processes that produce materials and products. Therefore, the discussion under "Consistency with SB 32" below addresses the consistency of the proposed project with SB 32, which provides the statutory underpinning of the 2017 Scoping Plan."[54]

"Table 36 [**Table 4.6-5** of this SEIR] provides an analysis of the project's consistency with the 2017 Scoping Plan Update measures."[55]

Table 4.6-5
Consistency with SB 32 2017 Scoping Plan Update

Scoping Plan Measure	Project Consistency
SB 350 50% Renewable Mandate. Utilities subject to the legislation will be required to increase their renewable energy mix from 33% in 2020 to 50% in 2030.	**Consistent:** The project will purchase electricity from a utility subject to the SB 350 Renewable Mandate.
SB 350 Double Building Energy Efficiency by 2030. This is equivalent to a 20 percent reduction from 2014 building energy usage compared to current projected 2030 levels	**Not Applicable.** This measure applies to existing buildings. The project does not include new structures.
Low Carbon Fuel Standard. This measure requires fuel providers to meet an 18 percent reduction in carbon content by 2030.	**Consistent.** Vehicles accessing the project site will use fuel containing lower carbon content as the fuel standard is implemented.
Mobile Source Strategy (Cleaner Technology and Fuels Scenario) Vehicle manufacturers will be required to meet existing regulations mandated by the	**Consistent.** The project will purchase new work trucks when replacement is required and employees can be expected to purchase increasing numbers of more

[53] Op Cit. 124
[54] Op. Cit.
[55] Op. Cit. 127

Table 4.6-5 Consistency with SB 32 2017 Scoping Plan Update	
LEV III and Heavy-Duty Vehicle programs. The strategy includes a goal of having 4.2 million ZEVs on the road by 2030 and increasing numbers of ZEV trucks and buses.	fuel-efficient and zero emission cars and trucks each year.
Sustainable Freight Action Plan The plan's target is to improve freight system efficiency 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030. This would be achieved by deploying over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030.	**Not Applicable.** The measure applies to owners and operators of trucks and freight operations. The project does operate a haul truck fleet to transport the aggregate. The haul trucks that access the site must be capable of handling heavy loads that are currently not feasible with zero emission technology. However, during the 50-year life of the mine, ZEV haul trucks are possible.
Short-Lived Climate Pollutant (SLCP) Reduction Strategy. The strategy requires the reduction of SLCPs by 40 percent from 2013 levels by 2030 and the reduction of black carbon by 50 percent from 2013 levels by 2030.	**Not Applicable.** The project does not include sources that produce significant quantities of methane or black carbon. Diesel haul trucks accessing the site will achieve significant reductions in PM2.5 with adopted regulations that will reduce this source of black carbon.
SB 375 Sustainable Communities Strategies. Requires Regional Transportation Plans to include a sustainable communities strategy for reduction of per capita vehicle miles traveled.	**Not Applicable.** The project is not within an SCS priority area and so is not subject to requirements applicable to those areas. Only three employees will added with the expansion. .
Post-2020 Cap-and-Trade Program. The Post 2020 Cap-and-Trade Program continues the existing program for another 10 years. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers.	**Consistent.** The post-2020 Cap-and-Trade Program indirectly affects people who use the products and services produced by the regulated industrial sources when increased costs of products or services (such as electricity and fuel) are transferred to the consumers. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the program's first compliance period.
Natural and Working Lands Action Plan. The ARB is working in coordination with several other agencies at the federal, state, and local levels, stakeholders, and with the public, to develop measures as outlined in the Scoping Plan Update and the governor's Executive Order B-30-15 to reduce GHG emissions and to cultivate net carbon sequestration potential for California's natural and working land.	**Not Applicable.** The project is a mining operation that is not suitable site for sequestration.
Source: ARB 2017c—2017 Scoping Plan Update.	

In summary, the Project is consistent with the applicable strategies of the 2017 Scoping Plan Update and contributes to their implementation in terms of compliance with regulations

related to motor vehicles, fuels, and electricity used by the project. The impact would be less than significant.

2050 Reduction Targets

Executive Order S-3-05 sets the State's goals to reduce GHG emissions to 1990 levels by 2020 and 80 percent below 1990 levels by 2050. As previously discussed, the State's goal for 2020 was codified under AB 32 and is addressed in the 2008 Scoping Plan. "The Executive Order S-3-05 2050 target has not been codified by legislation. Studies have shown that, in order to meet the 2050 target, aggressive pursuit of technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, will be required. Because of the technological shifts required and the unknown parameters of the regulatory framework in 2050, quantitatively analyzing the project's impacts further relative to the 2050 goal is speculative for purposes of CEQA (ARB 2014b)."[56]

"Regarding goals for 2050 under Executive Order S-3-05, it is not possible at this time to quantify the emissions savings from future regulatory measures, as they have not yet been developed; nevertheless, it can be anticipated that operation of the project would comply with applicable measures enacted by state lawmakers to achieve an 80 percent reduction below 1990 levels by 2050."[57]

"In its 2008 Scoping Plan, ARB acknowledged that the "measures needed to meet the 2050 are too far in the future to define in detail." In the First Scoping Plan Update; however, ARB generally described the type of activities required to achieve the 2050 target: "energy demand reduction through efficiency and activity changes; large scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately." The 2017 Scoping Plan provides an intermediate target that is intended to achieve reasonable progress toward the 2050 target.

Accordingly, taking into account the proposed project's emissions, consistency with Scoping Plan measures, and the progress being made by the State towards reducing emissions in key sectors such as transportation, industry, and electricity, the project would further the State's goals of reducing GHG emissions to 1990 levels by 2020, a 40 percent reduction from 1990 levels by 2030, and an 80 percent reduction below 1990 levels by 2050, and would not obstruct their attainment."[58]

In summary, the Project does not conflict with the Tulare CAP and is therefore consistent with the 2008 Scoping Plan and the 2017 Scoping Plan Update. The proposed Project is consistent with existing Air District permit throughput limits and no modifications are needed to accommodate the proposed increase in activities. Therefore, the Project does not

[56] Op. Cit. 124
[57] Op. Cit. 126
[58] Op. Cit. 128-129

conflict with any plans, policies, or regulations adopted for the purpose of reducing greenhouse gas emissions. As such, ***Less Than Significant Project-specific Impacts*** related to this Checklist Item will occur.

Cumulative Impact Analysis: ***Less Than Significant Impact***

The geographic area of this cumulative analysis is the San Joaquin Valley Air Basin. As the proposed Project is consistent with aforementioned plans, policies, and regulations, ***Less Than Significant Cumulative Impacts*** related to this Checklist Item will occur.

Mitigation Measure(s): ***None Required.***

Conclusion: ***Less Than Significant Impact***

As the proposed Project is consistent with aforementioned plans, policies, and regulations, ***Less Than Significant Project-specific and Cumulative Impacts*** related to this Checklist Item will occur.

DEFINITIONS/ACRONYMS

Definitions

Achieved-in-Practice - "Any equipment, technology, practice or operation available in the United States that has been installed and operated or used at stationary source site for a reasonable period of time sufficient to demonstrate that the equipment, technology, practice or operation is reliable when operated in a manner that is typical for the process. In determining whether equipment, technology, practice or operation is Achieved-in-Practice, the District will consider the extent to which grants, incentives or other financial subsidies influence the economic feasibility of its use."[59]

Approved Alternate Technology - "Any District approved, Non-Achieved-in- Practice GHG emissions reduction measure equal to or exceeding the GHG emission reduction percentage for a specific BPS."[60]

Baseline - "The three year average (2002-2004) of GHG emissions for a type of equipment or operation within an identified class and category, expressed as annual GHG emissions per unit."[61]

Best Performance Standard - "For a specific Class and Category, the most effective, District approved, Achieved-In-Practice means of reducing or limiting GHG emissions from a GHG emissions source, which is also economically feasible per the definition of Achieved-in-Practice. BPS includes equipment type, equipment design, and operational and maintenance practices for the identified service, operation, or emissions unit class and category."[62]

Business-as-Usual - "The emissions for a type of equipment or operation within an identified class and category projected for the year 2020, assuming no change in GHG emissions per unit of activity as established for the baseline period."[63]

Category - "A District approved subdivision within a "class" as identified by unique operational or technical aspects."[64]

Class - "The broadest District approved division of stationary GHG sources based on fundamental type of equipment or industrial classification of the source operation."[65]

Global Warming - "Global warming is an increase in the temperature of the Earth's troposphere. Global warming has occurred in the past as a result of natural influences, but the term is most

[59] San Joaquin Valley Air Pollution Control District Policy, Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as Lead Agency, page 6
[60] Ibid. 6
[61] Op. Cit. 7
[62] Op. Cit.
[63] Op. Cit.
[64] Op. Cit.
[65] Op. Cit.

often used to refer to the warming predicted by computer models to occur as a result of increased emissions of greenhouse gases."[66]

Greenhouse Gas - "Greenhouse gas (GHG) emissions are the release of any gas that absorbs infrared radiation in the atmosphere. Generally when referenced in terms of global climate they are considered to be harmful. Greenhouse gases include, but are not limited to, water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrochlorofluorocarbons (HCFCs), ozone (O_3), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)."[67]

Operational Boundaries - "Operational boundaries are defined as "[t]he boundaries that determine the direct and indirect emissions associated with operations owned or controlled by the reporting company. This assessment allows a company to establish which operations and sources cause direct and indirect emissions, and to decide which indirect emissions to include that are a consequence of its operations" (GHG Protocol, 2008)."[68]

Acronyms

AB	Assembly Bill
AIR DISTRICT	San Joaquin Valley Air Pollution Control District
ARB	Air Resources Board (Short for CARB)
BAU	Business As Usual
BPS	Best Performance Standards
CAA	Clean Air Act
Cal EPA	California Environmental Protection Agency
CARB	California Air Resources Board
CH_4	Methane
CO_2	Carbon Dioxide
GHG	Greenhouse Gases
HFCs	Hydrofluorocarbons
MRF/TS	Material Recovery Facility/Transfer Station
MSW	Municipal Solid Waste
N_2O	Nitrous Oxide
OPR	Governor's Office of Planning and Research
PFCs	Perfluorocarbons
SF_6	Sulfur Hexafluoride

[66] Tulare County General Plan 2030 Update Background Report, page 6-3
[67] Ibid. Page 6-3
[68] Op. Cit. 6-29

REFERENCES

"Air Quality and Greenhouse Gas Analysis Report Deer Creek Mine Expansion Project Tulare County, California." (AQ-GHG Report) October 2019. Prepared by Mitchell Air Quality Consulting and included in Appendix "A" of this SEIR.

California Air Resources Board. Air Quality Standards and Area Designations. Accessed November 2019 at: http://www.arb.ca.gov/desig/desig.htm.

California Air Resources Board. Assembly Bill 32 Overview – What Gases or Compounds are Covered Under AB 32? Accessed November 2019 at: http://www.arb.ca.gov/cc/ab32/ab32.htm.

California Air Resources Board. California State Implementation Plan (SIP) for Carbon Monoxide. Accessed November 2019 at: https://ww3.arb.ca.gov/planning/sip/co/co.htm.

California Environmental Protection Agency Air Resources Board. http://www.arb.ca.gov/desig/desig.htm. Accessed November 2019.

CEQA Guidelines, Sections 15064.4

San Joaquin Valley Air Pollution Control District, About the District. Accessed November 2019 at: http://www.valleyair.org/General_info/aboutdist.htm#Mission.

San Joaquin Valley Air Pollution Control District. December 17, 2009. *District Policy: Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*. Accessed November 2019 at: http://www.valleyair.org/Programs/CCAP/12-17-09/2%20CCAP%20-%20FINAL%20District%20Policy%20CEQA%20GHG%20-%20Dec%2017%202009.pdf.

San Joaquin Valley Air Pollution Control District. *Fact Sheet: Addressing Greenhouse Gas Emissions Impact under the California Environmental Quality Act (CEQA) – Stationary Source Projects*. http://www.valleyair.org/Programs/CCAP/bps/Fact_Sheet_Stationary_Sources.pdf.

San Joaquin Valley Air Pollution Control District. December 17, 2019. *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA*. Accessed November 2019 at: http://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf..

Tulare County Climate Action Plan. February 2010. Accessed November 2019 at: http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/ClimateActionPlan.pdf.

Tulare County Climate Action Plan 2018 Update. December 2018. Prepared by Mitchell Air Quality Consulting. Accessed November 2019 at: http://generalplan.co.tulare.ca.us/documents/GP/001Adopted%20Tulare%20County%20General

%20Plan%20Materials/220Climate%20Action%20Plan/CLIMATE%20ACTION%20PLAN%202018%20UPDATE.pdf.

Tulare County General Plan 2030 Update. August 2012. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/documents.html.

Tulare County General Plan 2030 Update Background Report. February 2010. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/BackgroundReport.pdf.

Tulare County General Plan 2030 Update, Recirculated Draft Environmental Impact Report (RDEIR). February 2010. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/documents.html, then access by clicking "Recirculated DEIR".

United States Environmental Protection Agency. Sources of Greenhouse Gas Emissions – Overview. Accessed November 2019 at: https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions.

Hydrology and Water Quality
Chapter 4.7

SUMMARY OF FINDINGS

The proposed Project will result in a ***Less Than Significant Impact*** related to Hydrology and Water Quality. *"The Hydrology and Water Quality Report for Deer Creek Mine Expansion (PMR 19-001) Project"* (Hydrology Report) prepared by consultant Mason GeoScience, is included in Appendix "E" of this document which is used as the basis for determining this Project will result in less than significant impact. A detailed review of potential impacts is provided in the following analysis.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

This section of the draft Supplemental Environmental Impact Report (draft Supplemental EIR, draft SEIR, or SEIR) addresses potential impacts to Hydrology and Water Quality. As required in Section 15126, all phases of the proposed Project will be considered as part of the potential environmental impact.

As noted in 15126.2 (a), "[a]n EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area, as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the project might cause by bringing development and people into the area affected. For example, an EIR on a subdivision astride an active fault line should identify as a significant effect the seismic hazard to future occupants of the subdivision. The subdivision would have the effect of attracting people to the location and exposing them to the hazards found there. Similarly, the EIR should evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions

(e.g., floodplains, coastlines, wildfire risk areas) as identified in authoritative hazard maps, risk assessments or in land use plans addressing such hazards areas."[1]

The environmental setting provides a description of the Hydrology and Water Quality in the County. The regulatory setting provides a description of applicable Federal, State and Local regulatory policies that were developed in part from information contained in the Tulare County 2030 General Plan, Tulare County General Plan Background Report and/or Tulare County General Plan Revised DEIR incorporated by reference and summarized below. Additional documents utilized are noted as appropriate. A description of the potential impacts of the proposed Project is provided and includes the identification of feasible mitigation measures (if necessary and feasible) to avoid or lessen the impacts.

Thresholds of Significance

The thresholds of significance for this section are established by the CEQA checklist item questions. The following are potential thresholds for significance:

- Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
- Project will substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- Project will 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, substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, in a manner which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Project in flood hazard, tsunami, seiche zones, risk release of pollutants due to project inundation.

ENVIRONMENTAL SETTING

"The Tulare Lake Hydrologic Region covers approximately 10.9 million acres (17,050 square miles) and includes all of Kings and Tulare counties and most of Fresno and Kern counties... The southern portion of the San Joaquin Valley is subdivided into two separate basins, the San Joaquin and the Tulare, by a rise in the valley floor resulting from an accumulation of alluvium between the San Joaquin River and the Kings River fan. The valley floor in this region had been a complex series of interconnecting natural sloughs, canals, and marshes.

The economic development of the region is closely linked to the surface water and groundwater resources of the Tulare Lake region. Major rivers draining into the Tulare Lake region include

[1] CEQA Guidelines, Section 15126.2 (a).

the Kings, Kaweah, Tule, and Kern rivers. The original ecological character of the area has been changed dramatically, largely from the taming of local rivers for farming. In the southern portion of the region, significant geographic features include the lakebeds of the former Buena Vista/ Kern and Tulare lakes, comprising the southern half of the region; the Coast Ranges to the west; the Tehachapi Mountains to the south; and the southern Sierra Nevada to the east. The Tulare Lake region is one of the nation's leading agricultural production areas, growing a wide variety of crops on about 3 million irrigated acres. Agricultural production has been a mainstay of the region since the late 1800s. However, since the mid-1980s, other economic sectors, particularly the service sector, have been growing."[2]

The Tulare Lake Hydrologic Region has watershed areas (surface water) and groundwater sub-basin areas are shown in **Figure 4.7-1; Figure 4.7-2** shows the Tulare Lake Hydrologic Region.

Watershed (Surface Water)

"The Tulare Lake region is divided into several main hydrologic subareas: the alluvial fans from the Sierra foothills and the basin subarea (in the vicinity of the Kings, Kaweah, and Tule rivers and their distributaries); the Tulare Lake bed; and the southwestern uplands. The alluvial fan/basin subarea is characterized by southwest to south flowing rivers, creeks, and irrigation canal systems that convey surface water originating from the Sierra Nevada. The dominant hydrologic features in the alluvial fan/basin subarea are the Kings, Kaweah, Tule, and Kern rivers and their major distributaries from the western flanks of the Sierra."[4] "The Kaweah River begins in Sequoia National Park, flows west and southwest, and is impounded by Terminus Dam. It subsequently spreads into many distributaries around Visalia and Tulare trending toward Tulare Lake."[3]

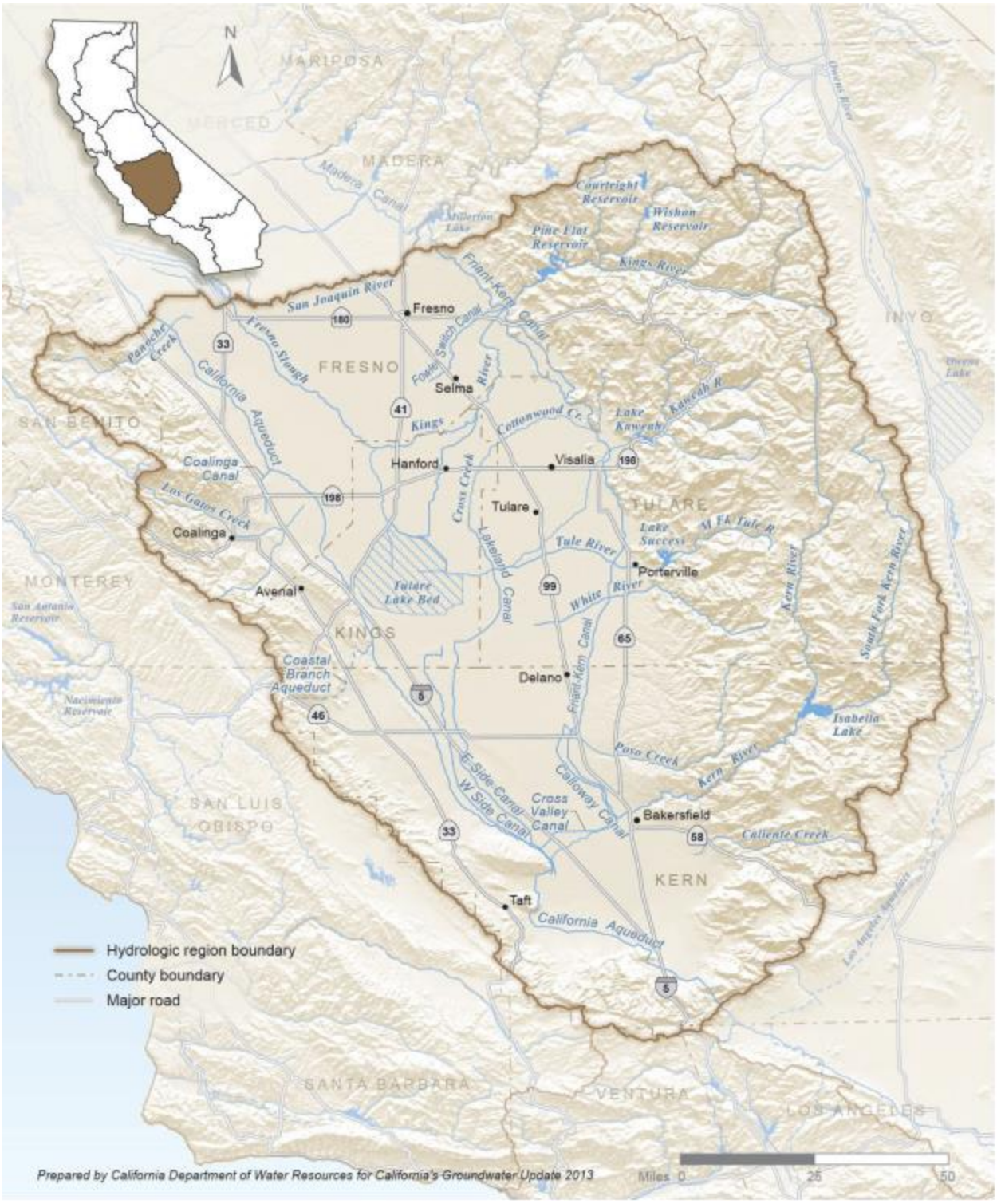
<u>"Groundwater Aquifers and Wells</u>

Groundwater resources in the Tulare Lake region are supplied by both alluvial and fractured rock aquifers. Alluvial aquifers are composed of sand and gravel or finer grained sediments, with groundwater stored within the voids, or pore space, between the alluvial sediments. Fractured-rock aquifers consist of impermeable granitic, metamorphic, volcanic, and hard sedimentary rocks, with groundwater being stored within cracks, fractures, or other void spaces. The distribution and extent of alluvial and fractured-rock aquifers and water wells vary significantly within the region. A brief description of the aquifers for the region is provided below.

[2] State of California Department of Water Resources. "*California Water Plan Update 2013, Tulare Lake Hydrologic Region".* Page TL-11.
[3] Ibid.

Figure 4.7-1 – Groundwater Basins and Sub-basins Within the Tulare Lake Hydrologic Region

Figure 4.7-2
Tulare Lake Hydrologic Region



Alluvial Aquifers

The Tulare Lake Hydrologic Region contains 12 groundwater basins and 7 subbasins recognized in California Department of Water Resources (DWR) *Bulletin 18-2003* (California Department of Water Resources 2003) and underlie approximately 8,400 square miles, or about 50 percent of the region. The majority of the groundwater in the region is stored in alluvial aquifers. Figure TL-3 [of the California Water Plan Update 2013] shows the location of the alluvial groundwater basins and subbasins and Table TL-1 [of the California Water Plan Update 2013] lists the associated names and numbers. Pumping from the alluvial aquifers in the region accounts for about 38 percent of California's total average annual groundwater extraction. The most heavily used groundwater basins in the region include Kings, Westside, Kaweah, Tulare Lake, Tule, and Kern County. These basins account for approximately 98 percent of the average 6.3 million acre-feet (maf) of groundwater pumped annually during the 2005-2010 period. Groundwater wells in the San Joaquin Valley extend to depths of more than 1,000 feet (Page 1986). Based on a series of irrigation pump tests, groundwater pumping rates in the various subbasins were determined to range from about 650 gallons per minute (gpm) to about 1,650 gpm (Burt 2011)."[4]

Fractured-Rock Aquifers

Fractured-rock aquifers are generally found in the mountain and foothill areas adjacent to alluvial groundwater basins; as such, fractured-rock aquifers would not be found on the Valley floor nor within the Project site/location.

Surface Water Quality

"Surface water quality in the Basin is generally good, with excellent quality exhibited by most eastside streams. The Regional Water Board intends to maintain this quality."[5] Specific objectives outlined in the Water Quality Control Plan are listed below: [6]

- **Ammonia:** Waters shall not contain un-ionized ammonia in amounts which adversely affect beneficial uses. In no case shall the discharge of wastes cause concentrations of un-ionized ammonia (NH3) to exceed 0.025 mg/l (as N) in receiving waters.
- **Bacteria:** In waters designated REC-1, the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.
- **Biostimulatory Substances:** Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

[4] Op. Cit. 13.
[5] State of California Department of Water Resources. *"Water Quality Control Plan for the Tulare Lake Basin"*. Third Edition. May 2018. Page 3-9. Accessed at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/California-Water-Plan/Docs/Update2013/Regional-Reports/Water-Plan-Update-2013-Tulare-Lake-Regional-Report.pdf
[6] Ibid. 3-2 to 3-7.

- **Chemical Constituents:** Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.
- **Color:** Waters shall be free of discoloration that causes nuisance or adversely affects beneficial uses.
- **Dissolved Oxygen:** Waste discharges shall not cause the monthly median dissolved oxygen concentrations (DO) in the main water mass (at centroid of flow) of streams and above the thermocline in lakes to fall below 85 percent of saturation concentration, and the 95 percentile concentration to fall below 75 percent of saturation concentration.
- **Floating Material:** Waters shall not contain floating material, including but not limited to solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.
- **Oil and Grease:** Waters shall not contain oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
- **pH:** The pH of water shall not be depressed below 6.5, raised above 8.3, or changed at any time more than 0.3 units from normal ambient pH.
- **Pesticides:** Waters shall not contain pesticides in concentrations that adversely affect beneficial uses.
- **Radioactivity:** Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life nor which result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life
- **Salinity:** Waters shall be maintained as close to natural concentrations of dissolved matter as is reasonable considering careful use of the water resources.
- **Sediment:** The suspended sediment load and suspended sediment discharge rate of waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
- **Settleable Material:** Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
- **Tastes and Odors:** Waters shall not contain taste- or odor-producing substances in concentrations that cause nuisance, adversely affect beneficial uses, or impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to domestic or municipal water supplies.
- **Temperature:** Natural temperatures of waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.
- **Toxicity:** All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
- **Turbidity:** Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

Specific water quality objectives for ground waters outlined in the Water Quality Control Plan

are summarized as follows: [7]

- **Bacteria:** In ground waters designated MUN, the concentration of total coliform organisms over any 7-day period shall be less than 2.2/100 ml.
- **Chemical Constituents:** Ground waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.
- **Pesticides:** No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
- **Radioactivity:** Radionuclides shall not be present in ground waters in concentrations that are deleterious to human, plant, animal, or aquatic life, or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal or aquatic life.
- **Salinity:** All ground waters shall be maintained as close to natural concentrations of dissolved matter as is reasonable considering careful use and management of water resources.
- **Tastes and Odors:** Ground waters shall not contain taste- or odor producing substances in concentrations that cause nuisance or adversely affect beneficial uses.
- **Toxicity:** Ground waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial use(s)."[8]

According to the "*California Water Plan Update 2013, Tulare Lake Hydrologic Region*", "Generally, the quality and the beneficial uses of the deep groundwaters remain the same as before humans entered the valley. A few areas within the Tulare Lake Basin have groundwaters that are naturally unusable or of marginal quality for certain beneficial uses. (Central Valley Regional Water Quality Control Board 2004) However, anthropogenic sources have impacted many of the shallower zones. Groundwater in the shallower part of the aquifer generally contains higher concentrations of anthropogenic contaminants, such as nitrates and pesticides, than the deeper part of the aquifer. The shallower part of the aquifer is generally younger water that indicates more recently recharged water. So, shallower wells, such as domestic supply wells, may provide better indication of pollutants from current land use activities. Pollutants from current land use activities may eventually impact deeper wells such as public supply wells (Burow et al. 2008). The following are the contaminants of concern in groundwater for this region:

- Salinity (Central Valley Regional Water Quality Control Board 2004).
- Nitrate (Dubrovsky et al. 1998, Burow et al. 2008, Center for Watershed Sciences 2012).
- DBCP (1,2-dibromo-3-chloropropane) (Dubrovsky et al. 1998, Burow et al. 2008, State Water Resources Control Board 2013).

[7] Ibid. 3-10 through 3-12.

[8] California Regional Water Quality Control Board Central Valley Region. *"Water Quality Control Plan for the Tulare Lake Basin Second Edition"*. Revised January 2015 (with Approved Amendments). Pages III-7 through III-9. Accessed July 2019 at: *https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/tlbp_201501.pdf*.

- Arsenic (State Water Resources Control Board 2013).
- Gross Alpha Particle Activity and Uranium (State Water Resources Control Board 2013).
- Chromium 6 (State Water Resources Control Board 2011b).
- Localized contamination by (State Water Resources Control Board 2013):
  - Organic Compounds (Benzene, tetrachloroethylene (PCE), trichloroethylene (TCE), and perchlorate).
  - Fluoride"[9]

As discussed in the "*California Water Plan Update 2013, Tulare Lake Hydrologic Region"(2013 CA Water Plan)* , the key ground water quality issues include the following.

Salinity: "Degradation of groundwater in the Tulare Lake Basin by salts is unavoidable without a plan for removing salts from the basin. Some of the salt load to the groundwater resource is primarily the result of natural processes within the basin, but some also occurs due to water imported from other basins to supply agricultural irrigation water. Natural processes include salt loads leached from the soils by precipitation, valley floor runoff, and native surface waters. Salts that are not indigenous to the basin water resources results from human activity. Salts come from imported water, soil leached by irrigation, animal wastes, fertilizers, and other soil amendments, municipal use, industrial wastewaters, and oil field wastewaters. These salt sources, all contributors to salinity increases, should be managed to the extent practicable to reduce the rate of ground water degradation. (Central Valley Regional Water Quality Control Board 2004)."[10]

Nitrates: "In a 1998 USGS study, nitrate concentrations in 24 percent (21 of 88) of the domestic wells sampled during 1993-1995 in the regional aquifer survey and land-use studies of the eastern San Joaquin Valley exceeded the drinking-water standard of 10 mg/L established by the EPA. A subsequent USGS study found that concentrations of nitrate and pesticides in the shallow part of the aquifer system at depths of domestic wells in the study area have increased over time due to continued contributions of nitrates and current use pesticides in the recharge water. Also, concentrations of nitrates and pesticides in the shallow part of the aquifer are likely to move to deeper parts of the groundwater flow system (Burow et al. 2008). The recent University of California, Davis report also found that travel times of nitrates from source to wells range from a few years to decades in domestic wells, and from years to many decades and even centuries in deeper production wells. While the quality of the shallower part of the aquifer is the result of past land use activities, the soil profile contains a stockpile of these contaminants that will continue to recharge the shallow aquifer and cause migration of contaminants to the deeper aquifer. Human generated nitrate sources to groundwater include nitrogen applied to croplands, percolation of wastewater treatment plant and food processing wastes, leachate from septic system drain fields, urban parks,

[9] State of California Department of Water Resources. "*California Water Plan Update 2009, Tulare Lake Hydrologic Region"*. Page TL-60 and TL-61. Accessed July 2019 at https://water.ca.gov/Programs/California-Water-Plan/Water-Plan-Updates, then access zip file "v3_tularelake_cwp2009.pdf".
[10] Ibid. 61.

lawns, golf courses, leaky sewer systems, recharge from animal corrals and manure storage lagoons, and downward migration of nitrate-contaminated water via wells. Agricultural fertilizers and animal wastes applied to cropland are by far the largest regional sources of nitrate in groundwater; although, other sources can be locally relevant (Center for Watershed Sciences 2012)."[11]

DBCP: "Concentrations of DBCP, a soil fumigant banned since 1977, exceeded the EPA drinking-water standard of 0.2 mg/L in 18 of the 88 (or 20 percent) domestic wells sampled during 1993-1995 (Dubrovsky et al. 1998). DBCP concentrations were above the drinking-water standard in 16 of 50 (or 32 percent) of domestic wells samples in orchards and vineyards from 2001-2002 (Burow et al. 2008)."[12]

Arsenic: "Public supply wells with levels of arsenic in the raw and untreated water that exceed the maximum contaminant level (MCL) were found in the south and western part of the Tulare Lake. Arsenic is generally considered to be naturally occurring (State Water Resources Control Board 2013). Arsenic has been linked to cancer of the bladder, lungs, skin, kidney, nasal passages, liver, and prostate (U.S. Environmental Protection Agency 2012a)."[13]

Gross Alpha Particle Activity and Uranium: "Gross alpha particle activity and uranium were found in raw and untreated water for many of the public water systems in the Tulare Lake Basin. These radionuclides are typically naturally occurring but are a concern because of the potential for health effects (State Water Resources Control Board 2013)."[14]

Chromium 6: "Chromium is a metal found in natural deposits of ores containing other elements, mostly as chrome-iron ore. It is also widely present in soil and plants. Recent sampling of drinking water throughout California suggests that hexavalent chromium may occur naturally in groundwater at many locations. Chromium may also enter the environment from human uses. Chromium is used in metal alloys such as stainless steel, protective coatings on metal, magnetic tapes, pigments for paints, cement, paper, rubber, composition floor covering, etc. Elevated levels (above the detection limit of 1 µg/L) of hexavalent chromium have been detected in many active and standby public supply wells along the west or valley floor portion of the Central Valley (State Water Resources Control Board 2011b)."[15]

Localized Contamination: Organic Compounds (Benzene, tetrachloroethylene (PCE), trichloroethylene (TCE), and perchlorate) **and Flouride:** "Benzene, perchlorate, PCE, and TCE have been detected at levels exceeding MCLs in the source water of a few water systems in the Tulare Lake region. Benzene was found in public supply wells in Arvin and

[11] Op. Cit. 61.
[12] Op. Cit. 62.
[13] Op. Cit.
[14] Op. Cit.
[15] Op. Cit.

Kettleman City. Perchlorate was found in wells in Tehachapi, Stallion Springs, East Tulare, and Exeter. PCE was found in public supply wells in the Fresno metropolitan area, Sanger, Arvin, Golden Hills, Oildale, Bakersfield, and Goshen areas. TCE was found in the Fresno and Bakersfield metropolitan areas (State Water Resources Control Board 2013). Benzene and perchlorate occur in the environment both naturally and due to human-made sources. PCE was the main solvent used for dry cleaning. Its occurrence in the environment is also associated with textile operations and metal degreasing operations. TCE is most associated with metal degreasing operations.

Fluoride was found at levels exceeding MCLs in raw and untreated water in the Sierra and San Emigdio Mountains areas of Kern County (State Water Resources Control Board 2013). While fluoride is added to public drinking water supplies as a public health measure for reducing cavities among the treated population, it can also occur naturally as a result of the geological composition of soils and bedrock (U.S. Environmental Protection Agency 2011)."[16]

Surface Water Supply

"Surface water supplies for the Tulare Lake Basin include developed supplies from the Central Valley Project (CVP), the State Water Project (SWP), rivers, and local projects. Surface water also includes the supplies for required environmental flows. Required environmental flows are comprised of undeveloped supplies designated for wild and scenic rivers, supplies used for instream flow requirements, and supplies used for Bay-Delta water quality and outflow requirements. Finally, surface water includes supplies available for reapplication downstream. Urban wastewater discharges and agricultural return flows, if beneficially used downstream, are examples of reapplied surface water."[17]

"Along the eastern edge of the valley, the Friant-Kern Canal is used to divert San Joaquin River water from Millerton Lake for delivery to agencies extending into Kern County. All of the Tulare Lake region's streams are diverted for irrigation or other purposes, except in the wettest years. Historically, they drained into Tulare Lake, Kern Lake, or adjacent Buena Vista Lake. The latter ultimately drained to Tulare Lake, which is about 30 feet lower in elevation."[18]

"The Kings, Kaweah, Tule, and Kern Rivers, which drain the west face of the Sierra Nevada Mountains, are of excellent quality and provide the bulk of the surface water supply native to the Basin. Imported surface supplies, which are also of good quality, enter the Basin through the San Luis Canal/California Aqueduct System, Friant-Kern Canal, and the Delta- Mendota Canal. Adequate control to protect the quality of these resources is essential, as imported surface water supplies contribute nearly half the increase of salts occurring within the Basin."[19]

[16] Op. Cit.
[17] Tulare County General Plan 2030 Update, Background Report. Page 10-7.
[18] State of California Department of Water Resources. *"California Water Plan Update 2009, Tulare Lake Hydrologic Region"*. Page TL-5.
[19] California Regional Water Quality Control Board Central Valley Region. *"Water Quality Control Plan for the Tulare Lake Basin"*. May 2018. Page 1-2.

Groundwater Supply

"Surface water supplies tributary to or imported for use within the Basin are inadequate to support the present level of agricultural and other development. Therefore, ground water resources within the valley are being mined to provide additional water to supply demands."[20]

"Groundwater in Tulare County occurs in an unconfined state throughout, and in a confined state beneath its western portion. Extensive alluvial fans associated with the Kings, Kaweah, and Tule Rivers provide highly permeable areas in which groundwater in the unconfined aquifer system is readily replenished. Interfan areas between the streams contain less permeable surface soils and subsurface deposits, impeding groundwater recharge and causing well yields to be relatively low. The mineral quality of groundwater in Tulare County is generally satisfactory for all uses."[21] "Groundwater recharge is primarily from natural streams, other water added to streambeds, from deep percolation of applied irrigation water, and from impoundment of surface water in developed water bank/percolation ponds."[22]

"The Tulare Lake region has experienced water-short conditions for more than 100 years, which has resulted in a water industry that has consciously developed—through careful planning, management and facility design—the possibility of a shortage occurring in any year. Water demand is more or less controlled by available, reliable long-term water supplies. Over the years, agricultural acreage has risen and dropped largely based on water supplies. The region initially developed with surface water supplies; but local water users learned these supplies could widely vary in volume from year to year and drought conditions could quickly develop. The introduction of deep well turbines resulted in a dramatic rise in groundwater use in the early 1900s, subsequently resulting in dropping groundwater levels and land subsidence. Surface water storage and conveyance systems built to alleviate the overuse of groundwater provided an impounded supply of water that could be used during years with deficient surface water. This resulted in a regional reliance on conjunctive water use in the development of the local water economy. Efforts to address Delta environmental issues and the subsequent loss of surface water to the region is increasing groundwater use and creating concern that additional pumping will increase subsidence."[23]

According to the *2009 California Water Plan*, water storage has fluctuated between 2003 and 2010. The data suggests that variations occur as a result of changing precipitation levels; see **Table 4.7-1** and **Figure 4.7-3**.

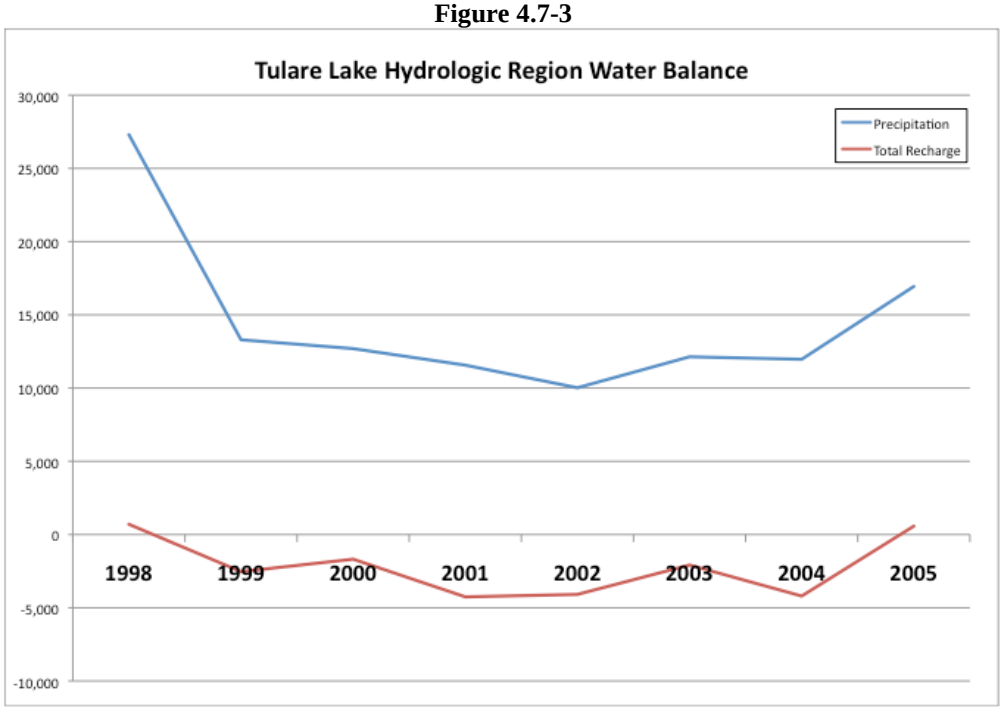
[20] Ibid.
[21] Tulare County General Plan 2030 Update Background Report. Page 10-11.
[22] State of California Department of Water Resources. *"California Water Plan Update 2009, Tulare Lake Hydrologic Region".* Page TL-17.
[23] Ibid. TL-19.

Table 4.7-1
Tulare Lake Hydrologic Water Balance for 2003-2010 (thousand acre-feet)[24]

Tulare Lake Region	Water Year							
	2003	2004	2005	2006	2007	2008	2009	2010
Water Entering the Region								
Precipitation	12,137	11,964	19,939	17,135	7,031	10,724	9,945	16,185
Inflow from Oregon/Mexico	0	0	0	0	0	0	0	0
Inflow from Colorado River	0	0	0	0	0	0	0	0
Imports from Other Regions	3,696	4,239	5,174	5,944	4,434	2,797	2,704	4,456
Total	**17,311**	**16,780**	**22,848**	**23,079**	**11,465**	**13,521**	**12,649**	**20,641**
Water Leaving the Region								
Consumptive Use of Applied Water	7,667	8,221	6,953	7,376	8,214	8,592	8,684	7,668
Outflow to Oregon/Nevada/Mexico	0	0	0	0	0	0	0	0
Exports to Other Regions	1,898	1,961	1,724	2,269	2,053	1,215	1,204	1,502
Statutory Required Outflow to Salt Sink	0	0	0	0	0	0	0	0
Additional Outflow to Salt Sink	458	457	300	468	456	514	456	456
Evaporation, Evapotranspiration of Native Vegetation, Groundwater Subsurface Outflows, Natural and Incidental Runoff, Ag Effective Precipitation & Other Outflows	10,090	10,342	13,297	13,241	5,303	8,528	7,667	13,095
Total	**20,113**	**20,981**	**22,274**	**23,350**	**16,026**	**18,849**	**18,011**	**22,721**
Storage Changes in Region: [+] Water added to storage, [-] Water removed from storage								
Change in Surface Reservoir Storage	173	-199	680	-108	-473	-59	101	259
Change in Groundwater Storage	-2975	-4,002	-106	163	-4,088	5,269	5,463	2,339
Total	**-2,802**	**-4,201**	**574**	**-4,256**	**-4,088**	**-5,329**	**-5,362**	**-2,080**

[24] State of California Department of Water Resources. "*California Water Plan Update 2013, Tulare Lake Hydrologic Region*". TL-54.

Figure 4.7-3



Groundwater overdraft is expected to decline statewide by 2020. The reduction in irrigated acreage in drainage problem areas on the west side of the San Joaquin Valley is expected to reduce groundwater demands in the Tulare Lake region by 2020."[25] According to the 2009 California Water Plan Update, it is anticipated that there will be a 550,000 acre-feet reduction in the water demand in the Tulare Lake Hydrologic Area under Current Growth trends. Slow & Strategic Growth trends may further decrease water demand, while Expansive Growth trends may increase water demand.

"There are 19 entities in Tulare County with active programs of groundwater management. These management programs include nearly all types of direct recharge of surface water. Groundwater recovery is accomplished primarily through privately owned wells. Among the larger programs of groundwater management are those administered by the Kaweah Delta Water Conservation District, the Kings River Water Conservation District, the Tulare Irrigation District, the Lower Tule Water Users Association, and the Alta Irrigation District, utilizing water from the Friant-Kern Canal and local streams. The Kings River Water Conservation District covers the western county."[26] **Table 4.7-2** lists irrigation districts in Tulare County water supply sources.

[25] State of California Department of Water Resources. "*California Water Plan Update 2009, Tulare Lake Hydrologic Region*". Page TL-54.
[26] Ibid. 10-12.

Table 4.7-2
Irrigation Districts in Tulare County[27]

Entity	Surface Water	Imported Water Source	Groundwater Extraction
Alpaugh Irrigation District	NA	Friant-Kern Canal (1,000af average)	19,000 af
Alta Irrigation District	Kings River	Friant-Kern Canal (surplus)	230,000 af
Delano-Earlimart Irrigation District	NA	Friant-Kern Canal (146,050 af average)	8,000 af
Exeter Irrigation District	NA	Friant-Kern Canal (1,000 af average)	14,000 af
Hills Valley Irrigation District	NA	Cross Valley Canal (2,000 af average)	1,000 af
Ivanhoe Irrigation District	Kaweah River	Friant-Kern Canal (11,650 af average)	15,000 af
Kaweah Delta Water Cons. District	Kaweah River	Friant-Kern Canal (24,000 af average)	130,000 af
Kern-Tulare Water District	Kern River	Cross Valley Canal (41,000 af average)	33,000 af
Lindmore Irrigation District	NA	Friant-Kern Canal (44,000 af average)	28,000 af
Lower Tule River Irrigation Dist.	Tule River	Friant-Kern Canal (180,200 af average) Cross Valley Canal (31,000 af average)	NA
Lindsay-Strathmore Irrigation Dist.	NA	Friant-Kern Canal (24,150 af average)	NA
Orange Cove Irrigation District	NA	Friant-Kern Canal (39,200 af average)	30,000 af
Pioneer Water Irrigation District	Tule River		3,000 af
Pixley Irrigation District	NA	Friant-Kern Canal (1,700 af average) Cross Valley Canal (31,000 af average)	130,000 af
Porterville Irrigation District	Tule River	Friant-Kern Canal (31,000 af average)	15,000 af
Rag Gulch Water District	Kern River	Friant-Kern Canal (3,700 af average) Cross Valley Canal (13,300 af average)	
Saucelito Irrigation District	Tule River	Friant-Kern Canal (37,600 af average)	15,000 af
Stone Corral Irrigation District	NA	Friant-Kern Canal (10,000 af average)	5,000 af
Teapot Dome Irrigation District	NA	Friant-Kern Canal (5,600 af average)	
Terra Bella Irrigation District	NA	Friant-Kern Canal (29,000 af average)	2,000 af
Tulare Irrigation District	Kaweah River	Friant-Kern Canal (100,500 af average)	65,000 af

Irrigation Districts in Tulare County

The Tulare County Resource Management Agency maintains a list of special districts that provide sewer and/or water service that cannot currently meet the demand of new development projects. **Table 4.7-3** indicates that following water and/or sewer districts are either under a temporary cease and desist order by the Regional Water Control Board prohibiting any new connections, or have other limitations for water and sewer connections.

Table 4.7-3
Water and/or Sewer Districts With Limitations in Tulare County[28]

Alpaugh Joint Powers Authority Water District	Richgrove Public Utility District
Cutler Public Utility District	Seville Zone of Benefit (County RMA)
Delft Colony Zone of Benefit (County RMA)	Seville Water Company
Earlimart Public Utility District	Springville Public Utility District
El Rancho Zone of Benefit (County RMA)	Tooleville Zone of Benefit (County RMA)

[27] Bookman-Edmonston Engineering Inc. Water Resources Management in the Southern San Joaquin Valley, Table A-1.
[28] State of California Department of Water Resources. "*California Water Plan Update 2009, Tulare Lake*". Page TL-17.

Table 4.7-3 **Water and/or Sewer Districts With Limitations in Tulare County**[28]	
Orosi Public Utility District	Traver Zone of Benefit (County RMA)
Pixley Public Utility District	Wells Tract Zone of Benefit (County RMA)
Pratt Mutual Water Company	
Source: Tulare County RMA.	

Flooding

"Flooding is a natural occurrence in the Central Valley because it is a natural drainage basin for thousands of watershed acres of Sierra Nevada and Coast Range foothills and mountains. Two kinds of flooding can occur in the Central Valley: general rainfall floods occurring in the late fall and winter in the foothills and on the valley floor; and snowmelt floods occurring in the late spring and early summer. Most floods are produced by extended periods of precipitation during the winter months. Floods can also occur when large amounts of water (due to snowmelt) enter storage reservoirs, causing an increase in the amount of water that is released."[29]

"Floods in the Tulare Lake Hydrologic Region can be caused by heavy rainfall; by dams, levees, or other engineered structures failing; or by extreme wet-weather patterns. Historically, in the Tulare Lake region flooding originates principally from melting of the Sierra snowpack and from rainfall. Flooding from snowmelt typically occurs in the spring and has a lengthy runoff period. Flooding in the region was intermittent, with severe flooding some years and drought in other years. Flash and slow-rise flooding are the most commonly experienced types of flooding in this hydrologic region. Floods that occur in the Tulare Lake region take a variety of forms and can be classified into flash, alluvial fan, debris flow, stormwater, slow-rise, and engineered structure failure flooding. For a complete record of floods, refer *California Flood Future Report, Attachment C: Flood history of California* technical memorandum (California Department of Water Resources and the U.S. Army Corps of Engineers 2013a)."[30]

"Official floodplain maps are maintained by the Federal Emergency Management Agency (FEMA). FEMA determines areas subject to flood hazards and designates these areas by relative risk of flooding on a map for each community, known as the Flood Insurance Rate Map (FIRM). A 100-year flood is considered for purposes of land use planning and protection of property and human safety. The boundaries of the 100-year floodplain are delineated by FEMA on the basis of hydrology, topography, and modeling of flow during predicted rainstorms."[31]

"The flood carrying capacity in rivers and streams has decreased as trees, vegetation, and structures (e.g., bridges, trestles, buildings) have increased along the Kaweah, Kings, and Tule Rivers. Unsecured and uprooted material can be carried down a river, clogging channels and piling up against trestles and bridge abutments that can, in turn, give way or collapse, increasing blockage and flooding potential. Flooding can force waters out of the river channel and above its

[29] Tulare County General Plan 2030 Update Background Report. Page 8-13.
[30] State of California Department of Water Resources. "*California Water Plan Update 2009, Tulare Lake Hydrologic Region*". Page TL-30.
[31] Tulare County General Plan 2030 Update Background Report. Page 8-14.

ordinary floodplain. Confined floodplains can result in significantly higher water elevations and higher flow rates during high runoff and flood events."[32]

"Dam failure can result from numerous natural or human activities, such as earthquakes, erosion, improper siting, rapidly rising flood waters, and structural and design flaws. Flooding due to dam failure can cause loss of life, damage to property, and other ensuing hazards. Damage to electric-generating facilities and transmission lines associated with hydro-electric dams could also affect life support systems in communities outside the immediate hazard area."[33]

REGULATORY SETTING

Federal Agencies & Regulations

Clean Water Act/NPDES

"The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. "Clean Water Act" became the Act's common name with amendments in 1972… Under the CWA, EPA has implemented pollution control programs such as setting wastewater standards for industry. We have also set water quality standards for all contaminants in surface waters… The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. EPA's National Pollutant Discharge Elimination System (NPDES) permit program controls discharges. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters."[34]

Safe Drinking Water Act

"The Safe Drinking Water Act (SDWA) is the main federal law that ensures the quality of Americans' drinking water. Under SDWA, EPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards… SDWA was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and ground water wells. (SDWA does not regulate private wells which serve fewer than 25 individuals.)"[35]

[32] Ibid.
[33] Op. Cit. 8-17.
[34] U.S. Environmental Protection Agency. Summary of the Clean Water Act – http://www.epa.gov/lawsregs/laws/cwa.html. Accessed July 2019.
[35] U.S. Environmental Protection Agency. Summary of the Safe Drinking Water Act. Accessed July 2019 at: http://water.epa.gov/lawsregs/rulesregs/sdwa/index.cfm. Accessed July 2019.

United States Environmental Protection Agency (EPA)

The mission of EPA is to protect human health and the environment.
"EPA's purpose is to ensure that:

- all Americans are protected from significant risks to human health and the environment where they live, learn and work;
- national efforts to reduce environmental risk are based on the best available scientific information;
- federal laws protecting human health and the environment are enforced fairly and effectively;
- environmental protection is an integral consideration in U.S. policies concerning natural resources, human health, economic growth, energy, transportation, agriculture, industry, and international trade, and these factors are similarly considered in establishing environmental policy;
- all parts of society -- communities, individuals, businesses, and state, local and tribal governments -- have access to accurate information sufficient to effectively participate in managing human health and environmental risks;
- environmental protection contributes to making our communities and ecosystems diverse, sustainable and economically productive; and
- the United States plays a leadership role in working with other nations to protect the global environment."[36]

United States Army Corps of Engineers (USACE or Corps)

"The Department of the Army Regulatory Program is one of the oldest in the Federal Government. Initially it served a fairly simple, straightforward purpose: to protect and maintain the navigable capacity of the nation's waters. Time, changing public needs, evolving policy, case law, and new statutory mandates have changed the complexion of the program, adding to its breadth, complexity, and authority.

The Regulatory Program is committed to protecting the Nation's aquatic resources, while allowing reasonable development through fair, flexible and balanced permit decisions. The Corps evaluates permit applications for essentially all construction activities that occur in the Nation's waters, including wetlands."[37]

National Flood Insurance Program

In 1968, Congress created the National Flood Insurance Program (NFIP). "The Act was

[36] U.S. Environmental Protection Agency. Accessed July 2019 at: What we do. http://www.epa.gov/aboutepa/whatwedo.html
[37] Army Corps of Engineers http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx. Accessed July 2019.

motivated by the devastating loss of life and property by Hurricane Betsy in 1965 and created the National Flood Insurance Program (NFIP). Since then, the program has aimed to reduce the impact of flooding on private and public structures by providing affordable insurance to property owners, renters and businesses, as well as by encouraging communities to adopt and enforce floodplain management regulations."[38] "These efforts help mitigate the effects of flooding on new and improved structures. Overall, the program reduces the socio-economic impact of disasters by promoting the purchase and retention of general risk insurance, but also of flood insurance, specifically."[39]

State Agencies & Regulations

Surface Mining and Reclamation Act (SMARA)

"The Surface Mining and Reclamation Act of 1975 (SMARA, Public Resources Code, Sections 2710-2796) provides a comprehensive surface mining and reclamation policy with the regulation of surface mining operations to assure that adverse environmental impacts are minimized and mined lands are reclaimed to a usable condition.

SMARA also encourages the production, conservation, and protection of the state's mineral resources. Public Resources Code Section 2207 provides annual reporting requirements for all mines in the state, under which the State Mining and Geology Board is also granted authority and obligations.

SMARA Chapter 9, Division 2 of the Public Resources Code, requires the State Mining and Geology Board to adopt State policy for the reclamation of mined lands and the conservation of mineral resources. These policies are prepared in accordance with the Administrative Procedures Act, (Government Code) and are found in California Code of Regulations, Title 14, Division 2, Chapter 8, Subchapter 1."[40]

The current version of SMARA is available at: California Statutes and Regulations for the Division of Mine Reclamation

Porter-Cologne Water Quality Contract Act

"Under the Porter-Cologne Water Quality Control Act (Porter-Cologne), the State Water Resources Control Board (State Board) has the ultimate authority over State water rights and water quality policy. However, Porter-Cologne also establishes nine Regional Water Quality Control Boards (Regional Boards) to oversee water quality on a day-to-day basis at the

[38] National Flood Insurance Program Summary. Accessed July 2019 at: https://www.fema.gov/nfip50.
[39] National Flood Insurance Program. Accessed July 2019 at: https://www.fema.gov/national-flood-insurance-program.
[40] State of California Department of Conservation SMARA Statutes and Regulations. Accessed August 2019 at: https://www.conservation.ca.gov/dmr/lawsandregulations.

local/regional level."[41]

State Water Quality Control Board

"The State Water Resources Control Board (State Water Board) was created by the Legislature in 1967. The joint authority of water allocation and water quality protection enables the State Water Board to provide comprehensive protection for California's waters.

The State Water Board consists of five full-time salaried members, each filling a different specialty position. Board members are appointed to four-year terms by the Governor and confirmed by the Senate."[42]

Regional Water Quality Control Board

"There are nine Regional Water Quality Control Boards (Regional Boards). The mission of the Regional Boards is to develop and enforce water quality objectives and implementation plans that will best protect the State's waters, recognizing local differences in climate, topography, geology and hydrology. Each Regional Board has seven part-time members appointed by the Governor and confirmed by the Senate. Regional Boards develop "basin plans" for their hydrologic areas, issue waste discharge requirements, take enforcement action against violators, and monitor water quality."[43]

"The primary duty of the Regional Board is to protect the quality of the waters within the Region for all beneficial uses. This duty is implemented by formulating and adopting water quality plans for specific ground or surface water basins and by prescribing and enforcing requirements on all agricultural, domestic and industrial waste discharges. Specific responsibilities and procedures of the Regional Boards and the State Water Resources Control Board are contained in the Porter-Cologne Water Quality Control Act."[44]

California Department of Water Resources

"DWR's mission is "To manage the water resources of California, in cooperation with other agencies, to benefit the state's people and to protect, restore, and enhance the natural and human environments."[45] DWR provides a summary of their responsibilities as follows; "Our responsibilities and duties include:

- Preventing and responding to floods, droughts, and catastrophic events
- Informing and educating the public on water issues

[41] California Department of Water Resources. Porter-Cologne Water Quality Control Act Summary. Accessed July 2019 at: http://ceres.ca.gov/wetlands/permitting/Porter_summary.html.
[42] California Water Boards. Mission Statement. Accessed July 2019 at: http://www.waterboards.ca.gov/about_us/water_boards_structure/mission.shtml.
[43] Ibid.
[44] Central Valley Water Quality Control Board, http://www.swrcb.ca.gov/centralvalley/about_us/. Accessed July, 2019.
[45] Department of Water Resources. "The DWR Mission" accessed March 2019 at: https://water.ca.gov/

- Developing scientific solutions
- Restoring habitats
- Planning for future water needs, climate change impacts, and flood protection
- Constructing and maintaining facilities
- Generating power
- Ensuring public safety
- Providing recreational opportunities"[46]

In addition, DWR also conducts the follow:

"Dam Safety - Engineers and engineering geologists review and approve plans and specifications for the design of dams throughout California and oversee their construction to ensure compliance.

Education - We educate students and communities throughout California on water issues and water safety.

Flood Preparedness - We work with communities and emergency responders to prepare for flood season.

Science - Science is integral to our policy and management decisions – our scientists work in a wide range of specialties and develop solutions for the complexities of sustainable water management in California.

Water Supply & Storage – We operate and maintain a complex water storage and supply system, transporting water more than 600 miles from north to south. We also regulate the use of groundwater, which accounts for at least 1/3 of all water use in California.

Drought Mitigation - Because drought is a recurring feature of California's climate, drought preparedness is an ongoing activity that includes managing water supply reliability.

Emergency Management - We protect life and property from catastrophic events such as flood, drought, and dam or levee failure.

Infrastructure - We're responsible for the construction, maintenance, evaluation, and safety of a number of water infrastructure facilities, including 34 storage facilities, 21 dams, and 705 miles of canals and aqueducts.

Recreation - The SWP provides extensive recreational activities, including camping, boating, swimming, hiking, and fishing. We invite the public to explore our 3 visitors centers.

Sustainability - Sustainability is one of our core values; the goal of our work is to ensure the

[46] California Department of Water Resources. Accessed March 2019 at: https://water.ca.gov/What-We-Do

ability of natural ecosystems to meet the needs of future generations."[47]

California Water Boards Central Valley - R5

The California Water Boards Central Valley – R5 (Region 5) defines their missions as, "To preserve, enhance, and restore the quality of California's water resources and drinking water for the protection of the environment, public health, and all beneficial uses, and to ensure proper water resource allocation and efficient use, for the benefit of present and future generations."[48] In addition, the CA Water Boards Central Valley – R5 indicates their Duty as, "The primary duty of the Regional Board is to protect the quality of the waters within the Region for all beneficial uses. This duty is implemented by formulating and adopting water quality plans for specific ground or surface water basins and by prescribing and enforcing requirements on all agricultural, domestic and industrial waste discharges. Specific responsibilities and procedures of the Regional Boards and the State Water Resources Control Board are contained in the Porter-Cologne Water Quality Control Act."[49]

Sustainable Groundwater Management Act (SGMA)

"On September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package, composed of AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley), collectively known as the Sustainable Groundwater Management Act (SGMA). For the first time in its history, California has a framework for sustainable, groundwater management - "management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results."

SGMA requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically over-drafted basins, that will be 2040. For the remaining high and medium priority basins, 2042 is the deadline."[50]

SB 610 (Costa, 2001)

This Bill requires additional information to be included as part of an urban water management plan if groundwater is identified as a source of water available to the supplier. This law also requires an urban water supplier to include in the plan a description of all water supply projects and programs that may be undertaken to meet total projected water use.

SB 221 (Kuehl, 2001)

[47] California Department of Water Resources. Accessed March 2019 at: http://www.water.ca.gov/about/mission.cfm.
[48] The California Water Boards Central Valley – R5. Accessed March 2019 at: https://www.waterboards.ca.gov/centralvalley/about_us/
[49] Ibid.
[50] State of California Department of Water Resources. SGMA Groundwater Management. Accessed August 2019 at: https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management

This Bill prohibits approval of a tentative subdivision map, or a parcel map for which a tentative subdivision map is not required, or a development agreement for a subdivision of property of more than 500 dwelling units unless the city or county provides written verification from the applicable public water system that a sufficient water supply is available. In addition, the law requires the city or county make a finding that sufficient water supplies are, or will be, available prior to completion of the project.

Local Policy & Regulations

Tulare County Environmental Health Services

"The mission of the Division of Environmental Health is to enhance the quality of life in Tulare County through implementation of environmental health programs that protect public health and safety as well as the environment. We accomplish this goal by overseeing and enforcing numerous different programs, from food facility inspections to hazardous waste. All of our inspectors are licensed and/or certified in the field that they practice in and participate in continuing education to maintain licensure."[51] This division requires water quality testing of public water systems. Any project that involves septic tanks and water wells within Tulare County is subject to approval by this agency. All recommendations provided by this division will be added as mitigation measures to ensure reduction of environmental impacts.

Tulare County General Plan Policies

The Tulare County General Plan has a number of policies that apply to projects within County of Tulare. General Plan policies that relate to the proposed Project are listed below.

AG-1.17 Agricultural Water Resources - The County shall seek to protect and enhance surface water and groundwater resources critical to agriculture. The County shall seek to protect and enhance surface water and groundwater resources critical to agriculture.

HS-4.4 Contamination Prevention - The County shall review new development proposals to protect soils, air quality, surface water, and groundwater from hazardous materials contamination.

HS-5.2 Development in Floodplain Zones - The County shall regulate development in the 100-year floodplain zones as designated on maps prepared by FEMA in accordance with the following:

1. Critical facilities (those facilities which should be open and accessible during emergencies) shall not be permitted.
2. Passive recreational activities (those requiring non-intensive development, such as

[51] Tulare County Environmental Health Division. Who Are We. Accessed July 2019 at: https://tularecountyeh.org/eh/index.cfm/about-us/who-are-we/

hiking, horseback riding, picnicking) are permissible.

3. New development and divisions of land, especially residential subdivisions, shall be developed to minimize flood risk to structures, infrastructure, and ensure safe access and evacuation during flood conditions.

HS-5.4 Multi-Purpose Flood Control Measures - The County shall encourage multipurpose flood control projects that incorporate recreation, resource conservation, preservation of natural riparian habitat, and scenic values of the County's streams, creeks, and lakes. Where appropriate, the County shall also encourage the use of flood and/or stormwater retention facilities for use as groundwater recharge facilities.

HS-5.9 Floodplain Development Restrictions - The County shall ensure that riparian areas and drainage areas within 100-year floodplains are free from development that may adversely impact floodway capacity or characteristics of natural/riparian areas or natural groundwater recharge areas.

HS-5.11 Natural Design - The County shall encourage flood control designs that respect natural curves and vegetation of natural waterways while retaining dynamic flow and functional integrity.

WR-2.1 Protect Water Quality - All major land use and development plans shall be evaluated as to their potential to create surface and groundwater contamination hazards from point and non-point sources. The County shall confer with other appropriate agencies, as necessary, to assure adequate water quality review to prevent soil erosion; direct discharge of potentially harmful substances; ground leaching from storage of raw materials, petroleum products, or wastes; floating debris; and runoff from the site.

WR-2.2 National Pollutant Discharge Elimination System (NPDES) Enforcement - The County shall continue to support the State in monitoring and enforcing provisions to control non-point source water pollution contained in the U.S. EPA NPDES program as implemented by the Water Quality Control Board.

WR-2.3 Best Management Practices (BMPs) - The County shall continue to require the use of feasible BMPs and other mitigation measures designed to protect surface water and groundwater from the adverse effects of construction activities, agricultural operations requiring a County Permit and urban runoff in coordination with the Water Quality Control Board.

WR-2.4 Construction Site Sediment Control - The County shall continue to enforce provisions to control erosion and sediment from construction sites.

WR-2.5 Major Drainage Management - The County shall continue to promote protection of each individual drainage basin within the County based on the basins unique hydrologic and use characteristics.

WR-2.6 Degraded Water Resources - The County shall encourage and support the identification of degraded surface water and groundwater resources and promote restoration where appropriate.

WR-2.8 Point Source Control - The County shall work with the Regional Water Quality Control Board to ensure that all point source pollutants are adequately mitigated (as part of the California Environmental Quality Act review and project approval process) and monitored to ensure long-term compliance.

WR-3.3 Adequate Water Availability - The County shall review new development proposals to ensure the intensity and timing of growth will be consistent with the availability of adequate water supplies. Projects must submit a Will-Serve letter as part of the application process, and provide evidence of adequate and sustainable water availability prior to approval of the tentative map or other urban development entitlement.

WR-3.5 Use of Native and Drought Tolerant Landscaping - The County shall encourage the use of low water consuming, drought-tolerant and native landscaping and emphasize the importance of utilizing water conserving techniques, such as night watering, mulching, and drip irrigation.

WR-3.6 Water Use Efficiency - The County shall support educational programs targeted at reducing water consumption and enhancing groundwater recharge.

WR-3.10 Diversion of Surface Water - Diversions of surface water or runoff from precipitation should be prevented where such diversions may cause a reduction in water available for groundwater recharge.

IMPACT EVALUATION

Would the project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Project Impact Analysis: ***Less Than Significant Impact***

The Applicant, Deer Creek Rock Co., Inc., currently operates a rock and gravel surface mining operation on 110 acres. The Project consists of a ± 20-acre expansion to the footprint and operations of the existing and currently operational Deer Creek Mine facility. The proposed mining activities will take place within the approved excavation area, as depicted in **Figure 2-2** (per PMR 01-001, PMR 09-002, and PSP 01-055(ZA), and PMR 14-002) and **Figure 4.7-5** and; the 20-acre expansion area. As such, the Project will include both lateral and depth expansion.

The basis for the conclusions reach in this analysis is the "Hydrology and Water Quality Report for Deer Creek Mine Expansion (PMR 19-001) Project" (Hydrology Report) prepared by consultants Mason GeoScience which included in Appendix "E" of this DEIR. Based on the following analysis, the Project will not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

Septic System

As noted in the Hydrology Report, "It was reported by site mining personnel that the site is not served by an engineered Onsite Wastewater Treatment System (septic system). Mine personnel utilize portable restrooms maintained on-site."[52] As such, no new or expansion of water or wastewater treatment facilities is anticipated or proposed. Therefore, the Project would result in ***No Impact*** to this resource.

Storm Drainage System

As noted in the Hydrology Report, "The Federal Clean Water Act, as amended in 1987, is the principal legislation for establishing requirements or the control of stormwater pollutants from urbanization and related activities. The State Porter-Cologne Act (Water Code 13000, et seq.) is the principal legislation for controlling stormwater pollutants in California. In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with an NPDES permit. The 1987 amendments to the CWA added Section 402(p), which establishes a framework for regulating municipal and industrial stormwater discharges, including discharges associated with construction activities, under the NPDES Program (CSQA Industrial/Commercial, 2003).

In California, the State Water Resources Control Board (SWRCB) through the nine Regional Water Quality Control Boards (RWQCB) administers the NPDES stormwater permitting program. For industrial facilities and construction activities, the SWRCB elected to issue statewide general permits that apply to all stormwater discharges requiring an NPDES permit (CSQA Industrial/Commercial, 2003).

In California mining facilities must prepare a Stormwater Pollution Prevention Plan (SWPPP). Industrial and commercial activities regarding stormwater best management practices (BMPs) for the site are identified in a SWPPP, that had previously been prepared for the site.

BMPs are measures to prevent or mitigate pollution. Potential sources of pollution could include maintenance of machinery, the asphalt plant, and aggregate wash system. Pollutants

[52] *"Hydrology and Water Quality Report for Deer Creek Mine Expansion (PMR 19-001) Project"* (Hydrology Report). Page 27. July 2019. Prepared by consultants Mason GeoScience which is included in Appendix "E" of this SEIR.

could include petroleum hydrocarbons such as oil and grease, gasoline constituents, diesel constituents, natural gas, and suspended solids.

SWPPP requirements include the following (General Permit, 2012).

The discharger shall ensure that the Storm Water Pollution Prevention Plans (SWPPPs) for all traditional project sites are developed and amended or revised by a qualified SWPPP Developer (QSD). The SWPPP shall be designed to address the following two major objectives:

1. To help identify the sources of pollution that affect the quality of industrial stormwater discharges and authorized non-stormwater discharges.
2. To describe and ensure the implementation of BMPs to reduce or prevent pollutants in industrial stormwater discharges and authorized non-stormwater discharges.

The SWPPP must identify a specific individual or individuals within the facility organization as members of the Pollution Prevention Team (PPT). The PPT may have personnel that overlap with related pollution control responsibilities such as a spill prevention and response team. The PPT is responsible for:

- Developing the SWPPP
- Assisting the facility manager in SWPPP implementation and revision
- Conducting the monitoring activities

The SWPPP must include a narrative description of the facility's industrial activities, associated potential pollutant sources, and potential pollutants that could be discharged in stormwater discharges or authorized non-stormwater discharges.

The site SWPPP is provided in Appendix B [of the Hydrology Report] and includes SWPPP requirements, facility information, Best Management Practices (BMP), BMP implementation, and monitoring implementation plan."

Therefore, implementation of the SWPP, BMP, and monitoring implementation plan as result in a ***Less Than Significant Impact*** to this resource.

Groundwater Quality

"The California Department of Public Health's water system permit application indicates that any well serving drinking water to at least 25 persons for at least 60 days out of the year is a public water system. The site supply wells are used primarily for washing of crushed aggregate. The facility is not expected to employ more than 25 workers for more than 60 days a year, therefore the site would be considered a non-community water system. The proposed project will utilize the existing three supply wells for uses associated with aggregate washing.

Site specific groundwater quality data were not available. Groundwater quality was assessed from nearby wells obtained on the Geotracker GAMA website (Figure 6). Iron exceeded SMCLs in four of the seven wells analyzed from 1995 through 2018. Manganese exceeded SMCLs two of the even wells analyzed from 1992 through 2016. Laboratory turbidity measurements exceeded the SMCL in three of the seven wells analyzed from 2013 through 2016.

Lead exceeded the MCL in two of the seven wells analyzed in 1985 and 1998. Copper exceeded the MCL in one of the seven wells analyzed in 1982 and 1985. The MCL exceedances occurred prior to mining activities at the site that reportedly began in approximately 2003.

Surface water emanating from precipitation and mining operations is contained on-site by graded exterior berms, within the settling basins, and drainage into a collection point within the quarry floor. Storm water runoff is collected and analyzed per requirements of the SWPPP.

All infrastructure designed for the site should follow local, state, and/or federal standards. All potential sources of pollution should be handled to retain pollution and meet regulatory requirements. It is anticipated that the project will require preparation and approval of waste discharge requirements by the Central Valley Regional Water Quality Control Board or will be enrolled under General Waste Discharge requirements for aggregate mining facilities currently being prepared by the Regional Water Quality Control Board. Therefore, violation of water quality standards or waste discharge requirements and substantial degradation of surface and groundwater quality will be less than significant."[53]

[53] Ibid. 28 and 29.

Figure 4.7-4
Existing Contours

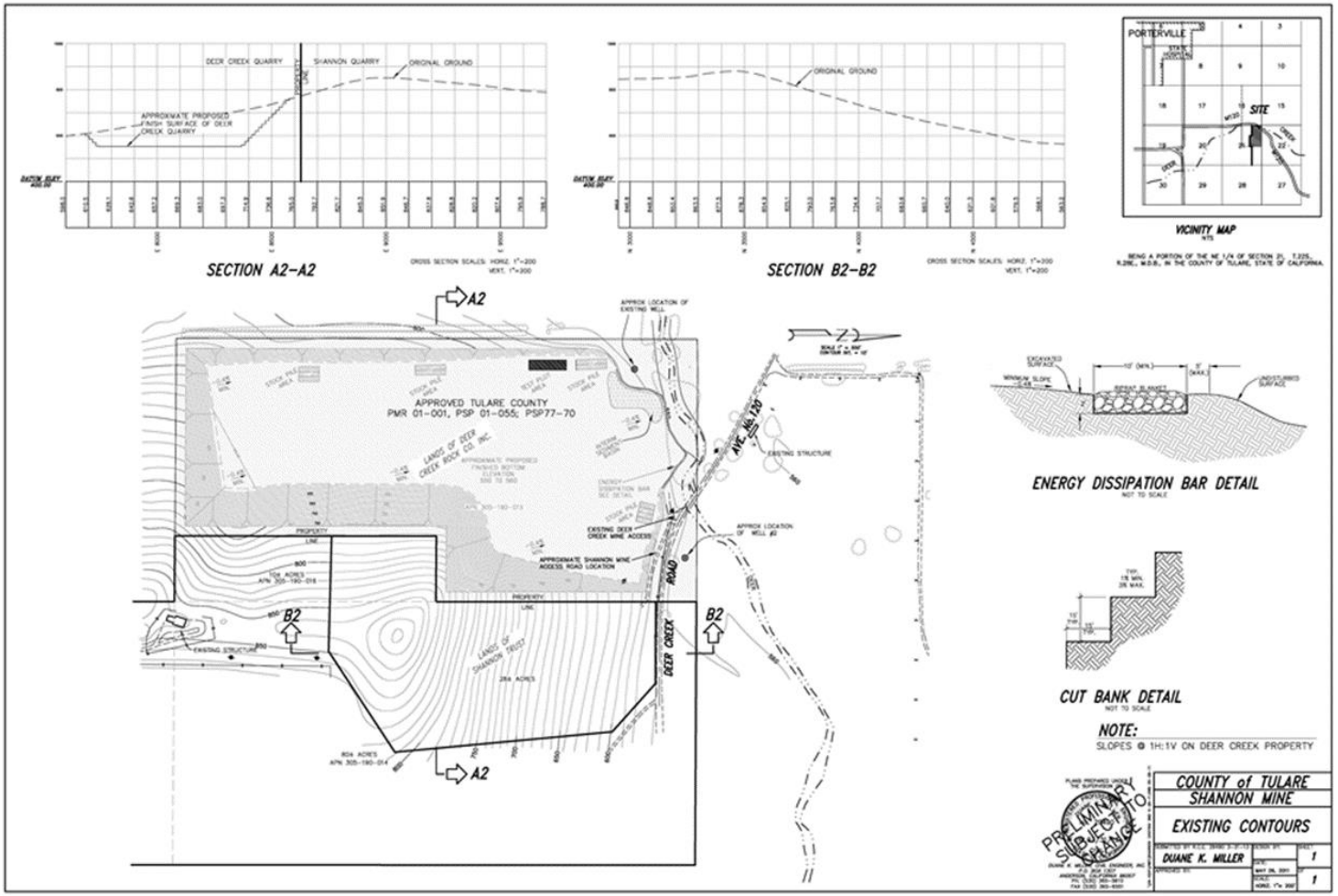
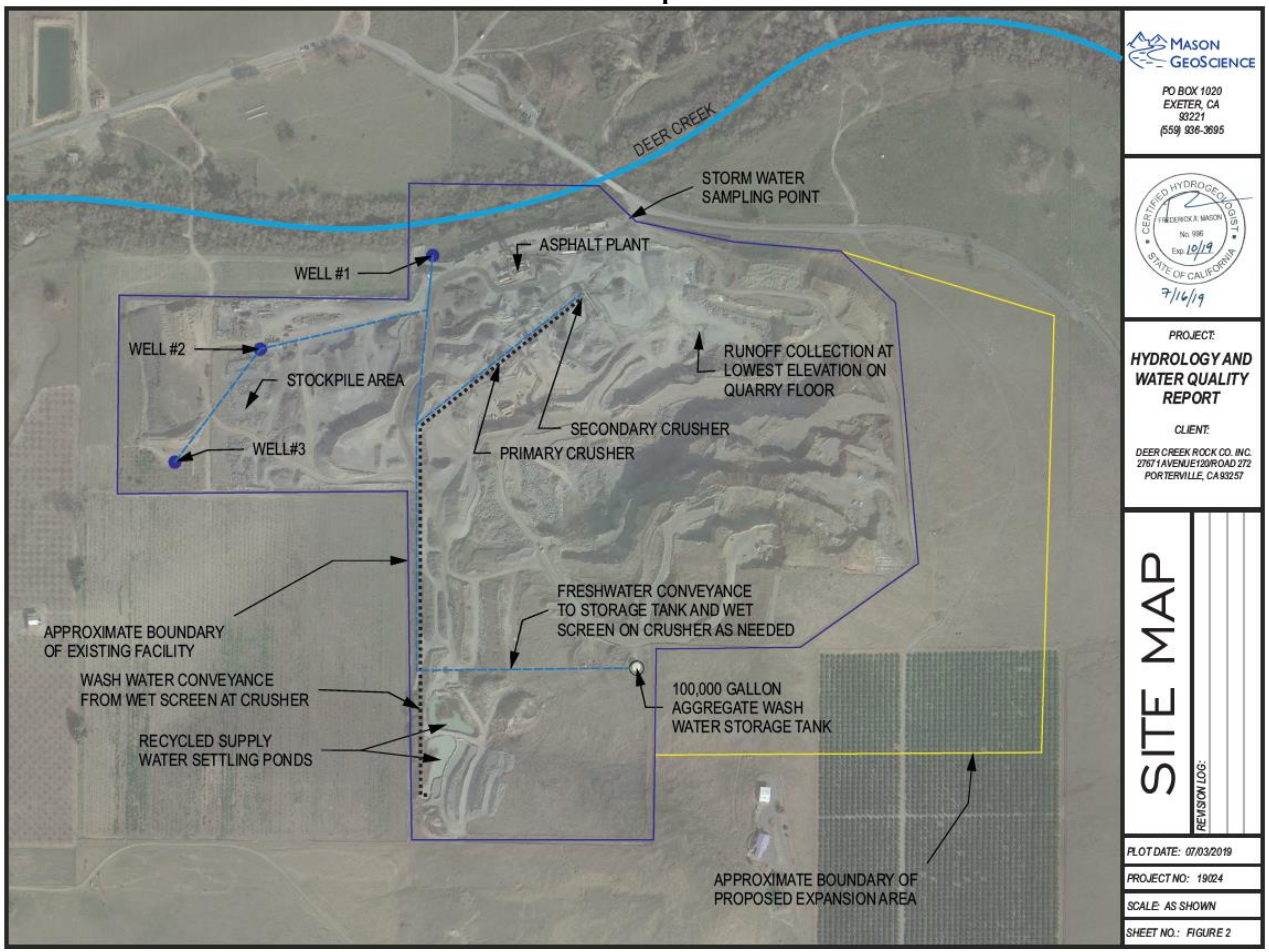


Figure 4.7-5
Site Map[54]



[54] Op. Cit. 44.

The proposed expansion Project will not cause a significant increase in impacts above and beyond what is already occurring and/or is permitted on the site. The Project will result in a ***Less Than Significant Impact***.

Cumulative Impact Analysis: ***Less Than Significant Impact***

The geographic area of this cumulative analysis is the Tulare Lake Basin. This cumulative analysis is based on information provided from the Regional Water Quality Control Board in the Water Quality Control Plan for the Tulare Lake Basin and the requirements of Tulare County Environmental Health.

As noted earlier, the proposed Project will be required to comply with the all local, state, and/or federal required; requirements of the Regional Water Quality Control Board. Therefore, the proposed Project will result in ***Less Than Significant Cumulative Impacts*** related to this Checklist item.

Mitigation Measure(s): ***None Required***.

Conclusion: ***Less Than Significant Impact***

Project-specific and cumulative impacts related to this Checklist Item will be reduced to a ***Less Than Significant Impact*** because the existing drainage system and basin is sufficient in size to accommodate any run-off.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that project may impede sustainable groundwater management of the basin?

Project Impact Analysis: ***Less Than Significant Impact***

The Hydrology Report prepared by GeoScience (included in Appendix "E" of this DEIR) provided the following analysis indicating that a less than significant impact would occur as a result of the proposed expansion Project. "The project owner has reported the mining facility utilizes approximately 130,000 gallons of groundwater per day on a 300 day per year basis; totaling approximately 39,000,000 gallons per year. Based on these estimates, total annual groundwater used for the current project flow is estimated to be 120 acre-ft./yr. (0.4 acre-ft./day). Mining personnel report that the proposed expansion will not require additional water for operations.

The water is used for aggregate washing at the primary and secondary crushers, dust control, and employee use. The three wells are pumped daily into the on-site 100,000 gallon storage tank. Water is used on demand, as required. Each well provides approximately 30-gpm based on the estimated daily volume of groundwater used.

Harder (2017) reported average annual infiltration along a reach of Deer Creek between a USGS gaging station 8.5-miles southeast of the site at Fountain Springs, and Trenton Weir 15 miles southwest of the site near Pixley. Average annual infiltration was reported as 12,677 acre-ft./yr. between water years 1990/91 and 2009/10 along the reach of Deer Creek between Trenton Weir and the Fountain Springs gaging station. The mine site is located adjacent to Deer Creek that recharges the aquifer locally. The volume of localized infiltration along Deer Creek adjacent to the mine site is unknown.

It is assumed the 120 acre-ft./yr. of groundwater used for the site comes from the reported 12,677 acre-ft./yr. of annual infiltration from Deer Creek. Therefore, it is estimated that 0.9% of the annual Deer Creek infiltration is utilized by the mining facility.

Additionally, a portion of the water used for the mining operations is contained within recycled supply water settling basins on-site. It is unknown what volume of infiltration occurs beneath the settling basins but can be concluded that some portion of the 120 acre-ft./yr. pumped from groundwater infiltrates into the local aquifer.

According to the USGS, mining represents approximately 7% of California water use (Johnson and Cody, 2015). The average acre-feet of irrigation water applied to agricultural crops in California is 3.1 acre-feet applied per acre (Johnson and Cody, 2015). The existing mine parcel occupies approximately 118 acres. The expansion area is estimated to be approximately 20 acres. Therefore, a total of 138 acres will be utilized at the mining facility. A similarly sized farm of 138 acres will utilize approximately 428 acre-ft./yr. based on the average acre-feet of irrigation water applied to agricultural crops in California of 3.1 acre feet. The estimated usage of groundwater for the project is approximately 60% less than the average water usage on a similarly sized farm. Future water storage projects within the Tule Basin are under development. These operations will help to offset future reductions of groundwater supply.

Based on the daily usage and infiltration estimates, recharge from the on-site settling basins, continued use of approximately 120 acre-ft./yr. with no increase in usage, and future groundwater banking development within the Tule subbasin along Deer Creek, decrease in groundwater supplies or substantial interference with groundwater recharge by the expansion project such that it may impede sustainable groundwater management of the basin is expected to be less than significant."[55]

Therefore, the proposed expansion Project, combined with the existing water use of 120 acre/feet per year, will result in a ***Less Than Significant Impact*** to this resource.

<u>Cumulative Impact Analysis</u>: ***Less Than Significant Impact***

[55] Op. Cit. 29 and 30.

The geographic area of this cumulative analysis is the Tulare Lake Basin. This cumulative analysis is based on the information provided in the California Water Plan Update 2009, Tulare Lake.

As noted in the California Water Plan 2009, Regional Report 3, Tulare Lake, is estimated the future water demand will be reduced by 550,000 acre-feet in future conditions. The proposed increase in production will create a need for an increase in the amount of water usage; however, as shown earlier, this usage is less than the water usage of a typical agricultural activity. The proposed Project is part of an overall reduction of water use versus agricultural activities.

Additionally, the County has available surface water storage facilities to allow for future recharge areas should they be required. Therefore, development of the proposed Project will not significantly impact groundwater recharge in the cumulative, and impacts will be ***Less Than Significant.***

Mitigation Measure(s): ***None Required.***

Conclusion: ***Less Than Significant Impact***

The proposed Project will not have a significant Project-specific or cumulative impact to this resource.

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 off-site?**
- **iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**

Project Impact Analysis: ***Less Than Significant Impact***

c.i) The Hydrology Report prepared by GeoScience (included in Appendix "E" of this DEIR) provided the following analysis indicating that a less than significant impact would occur as a result of the proposed expansion Project. "The mining facility is located south of Deer Creek. The closest boundary of the proposed expansion is approximately 900 feet from the Deer Creek main channel. The current mining area and proposed expansion area will not alter or divert the existing drainage pattern of Deer Creek. Impervious surfaces at the site include exposed portions of non-fractured bedrock that are predominantly steep to near vertical on the mine sidewalls and relatively flat on mine operating surfaces. Existing roadways

constructed within the mine facility provide access to mining equipment and are exposed compacted soil, gravel, or bedrock. Where roadways, storage areas, or quarry surfaces are not exposed, the remaining parcel is covered in native vegetation.

Drainage onsite is controlled with berms along the perimeter and graded roadways. Native vegetation in undeveloped portions of the site impede surface water runoff and help to capture erosion of surface soil. The SWPPP prepared for the site reports four flow paths for surface water runoff (Appendix B [of the Hydrology Report]). The SWPPP site flow map shows runoff to the south flows towards and into the settling basins. Runoff along the east side of the site within the area of the proposed expansion currently flows northerly toward the entrance to the mine gate. No erosional features or sediment buildup was observed on the east flank of Tennessee Ridge or along the shoulder of Deer Creek Drive located between the proposed eastern border of the expansion area and Deer Creek floodplain further east.

The middle portion of the site drains from the top of the quarry ridge down to the north end of the site near the primary and secondary crushers, asphalt plant, and office. Runoff in these areas is controlled by berms along the north border of the site and surface topography of the drive areas where it accumulates at the lowest elevation of the site within the quarry floor operating area. Runoff along the west end of the site near the stockpile location flows to the east toward the crushers and flows to the low point in the quarry floor. Well #1 is located at the northern end of the site at the base end of a driveway that terminates at the base of the quarry fill. Berms are built around the driveway and Well #1 forming a barrier between the site and the floodplain and main channel of Deer Creek further north.

The proposed expansion is expected to contain infrastructure such a graded berms and swales to control runoff as outlined in an Erosion and Drainage Control Plan for the expansion. Erosion or siltation on or offsite is expected to be controlled as a function of normal mining operations.

The site is not crossed by any rivers, streams, canals, or irrigation ditches. Deer Creek is not expected to inundate the site under normal flow conditions throughout the year and the drainage pattern will not be altered due to the project. Erosion and siltation on or offsite is considered a less than significant impact."[56]

The proposed expansion Project will not cause a significant increase in impacts above and beyond what is already occurring and/or is permitted on the site. In addition, existing regulations and existing permit requirements will ensure that Project impacts remain insignificant. Therefore, ***No Project-specific Impacts*** related to this Checklist Item will occur.

c.ii) In regards to potential of the Project to result in flooding on- or off-site, the Hydrology Report prepared by consultants GeoScience concluded that, "As above in c.i. above, no

[56] Op. Cit. 30 and 31.

alteration of the existing drainage pattern of Deer Creek will occur from the proposed expansion. Current surface topography of the expansion area slopes down to the east at approximately 20% (1H:0.2V). Additional impervious surfaces on the proposed expansion area may include exposed quarry walls, quarry floors, and vehicle roadways. Current topography of the expansion area is expected to be altered by mining activities creating relatively flat or gently sloped operating surfaces where mining occurs. Surface runoff in the expansion area is expected to be controlled by grading of roadways and diversion berms that will divert runoff away from the expansion area boundary and toward the main quarry floor.

Because current runoff BMPs and Surface Mining Permit activities are expected to be maintained on the proposed expansion area, similar to the currently mined area, changes to the site drainage pattern in the proposed expansion area are not expected to impact the nearby offsite Deer Creek floodplain or channel and are not expected to increase substantial flooding on or off-site. Therefore, less than significant impact is expected."[57]

The RMA agrees that the analysis provided by GeoSciences for this resource is accurate and substantive, as such, the impact to this resource would be ***Less Than Significant***.

c.iii) In regards to potential of the Project to result in the creation or contribution of runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, the Hydrology Report prepared by consultants GeoScience concluded that, "It is anticipated that the current SWPPP will be amended to include the proposed expansion area. As such, less than significant impacts are expected to occur."[58]

The RMA agrees that the analysis provided by GeoSciences for this resource is accurate and substantive, as such, the impact to this resource would be ***Less Than Significant***.

Cumulative Impact Analysis: ***Less Than Significant Impact***

The geographic area of this cumulative analysis is Tulare County. The proposed Project will not result in significant impacts to these resources, as such, ***No Cumulative Impacts*** related to this Checklist Item will occur.

Mitigation Measure(s): ***None Required***.

Conclusion: ***Less Than Significant Impact***

As noted earlier, no Project-specific impacts related to this Checklist item will occur. ***Less Than Significant Cumulative Impacts*** would occur.

[57] Op. Cit. 31.
[58] Op. Cit.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Project Impact Analysis: ***Less Than Significant Impact***

The proposed expansion is located within a minimal flood hazard area and is located more than 100 miles from the ocean. It is not located along a lake shore that may be potential for threats to tsunami or seiche, therefore, no impact. As noted earlier, the Project site has been designed to capture, store and dispose of surface runoff in a manner which will not result in flooding on or off site. The proposed Project will not cause a significant increase in impacts above and beyond what is already occurring and/or is permitted on the site. As such ***Less Than Significant Project-specific Impacts*** related to this Checklist Item will occur.

Cumulative Impact Analysis: ***No Impact***

The geographic area of this cumulative analysis is Tulare County. The proposed Project will not affect the drainage pattern of any off-site parcels, ***No Cumulative Impacts*** related to this Checklist Item will occur.

Mitigation Measure(s): ***None Required.***

Conclusion: ***Less Than Significant Impact***

As noted earlier, ***Less Than Significant Project-specific or Cumulative Impacts*** related to this Checklist Item will occur.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Project Impact Analysis: ***Less Than Significant Impact***

See Response 4.7.c. In regards to potential of the Project to result in flooding on- or off-site, the Hydrology Report prepared by consultants GeoScience concluded that, "The proposed expansion project is located within Tule subbasin that has been designated as a high priority critically overdrafted basin by the Department of Water Resources as described in the Sustainable Groundwater Management Act (SGMA) that went into effect in 2015. Since 2015, the City of Porterville, Porterville Irrigation District, Saucelito Irrigation District, Teapot Dome Water District, Vandalia Water District, Terra Bella Irrigation District, Kern-Tulare Water District, and Tulare County have been meeting to form the Eastern Tule GSA to cover each District. SGMA requires that local water agencies within all medium and high-priority subbasins form one or more Groundwater Sustainability Agencies (GSA) to write and implement Groundwater Sustainability Plans (GSPs) to accomplish measurable goals and prevent unreasonable physical harm to the basin or the water resource. GSPs must be adopted

by January 1, 2020 (East Tule GSA, 2019). The GSP for the East Tule GSA was unavailable for review.

According to the East Tule GSA and Tule Subbasin Web Map application, the current project site and proposed expansion area are located within the boundary of the East Tule GSA under Tulare County responsibility. Since the East Tule GSP is unavailable, specific requirements for the site are not available. It is unknown what significant requirements, if any, will be placed on the expansion project by the East Tule GSP.

The proposed expansion project is not anticipated to increase the volume of water required for the mining facility. Additionally, water quality objectives for the site are anticipated to be met as required by the site SWPPP and Regional Water Board waste discharge requirements. As such, less than significant impact is expected to conflict with or obstruct implementation of the Tulare Lake Basin Water Quality Control Plan and Groundwater Sustainability Plan."[59]

Therefore, based on the analysis above, the Project would result in ***Less Than Significant Project-specific Impacts*** related to this Checklist Item.

Cumulative Impact Analysis: ***Less Than Significant Impact***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the requirements of the Central Valley Regional Water Quality Control Board.

As noted in the SWPPP, and in the responses above, the Project will provide a self-contained storm drainage system. As such, ***a Less Than Significant Cumulative Impacts*** related to this Checklist Item will occur.

Mitigation Measure(s): ***None Required.***

Conclusion: ***Less Than Significant Impact***

As noted earlier, a ***Less Than Significant Project-specific or Cumulative Impacts*** related to this Checklist Item will occur.

.

[59] Op. Cit. 31-32.

DEFINITIONS/ACRONYMS

Acronyms

AF	Acre-feet
AMP	Agricultural Management Plan
CIMIS	California Irrigation Management Information System
CWA	Federal Clean Water Act
CVP	Central Valley Project
DWR	State of California Department of Water Resources
FEMA	Federal Emergency Management Agency
EPA	United States Environmental Protection Agency
LAMP	Local Agency Management Program
MCL	Maximum Contaminant Level
M&I	Municipal and Industrial
MW	Megawatts
NFIP	National Flood Insurance Program
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
PCE	Tetrachloroethylene
SDWA	Safe Drinking Water Act
SGMA	Sustainable Groundwater Management Act
SMARA	Surface Mining and Reclamation Act
SWP	State Water Project
SWPP	Stormwater Pollution Prevention Plan
SWQCB	State Water Quality Control Board
RWQCB	Regional Water Quality Control Board
TCE	Trichloroethylene
TDS	Total Dissolved Solids
UWMP	Urban Water Management Plan
WSA	Water Supply Assessment
U.S. ACE	United States Army Corps of Engineers

REFERENCES

Bookman-Edmonston Engineering Inc. Water Resources Management in the Southern San Joaquin Valley, Table A-1.

California Regional Water Quality Control Board Central Valley Region. "Water Quality Control Plan for the Tulare Lake Basin Second Edition". Revised January 2015 (with Approved Amendments). Accessed July 2019 at: https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/tlbp_201501.pdf.

Central Valley Water Quality Control Board. Water Quality Control Plan for the Tulare Lake Basin Third Edition. Revised May 2018 (with Approved Amendments). Accessed March 2019 at: https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/tlbp_201805.pdf

County of Tulare. Tulare County General Plan 2030 Update. August 2012. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/documents.html.

County of Tulare. Tulare County General Plan 2030 Update Background Report. February 2010. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/BackgroundReport.pdf.

County of Tulare Environmental Health Division. Who Are We. Accessed July 2019 at: https://tularecountyeh.org/eh/index.cfm/about-us/who-are-we/

"Hydrology and Water Quality Report for Deer Creek Mine Expansion (PMR 19-001) Project" July 2019. Prepared by Mason GeoScience and included in Appendix "E" of this DEIR.

State of California Department of Conservation SMARA Statutes and Regulations. Accessed August 2019 at: https://www.conservation.ca.gov/dmr/lawsandregulations.

State of California. Natural Resources Agency Office of Planning and Research. CEQA Guidelines, Section 15126.2 (a). Accessed August 2019 at: http://resources.ca.gov/ceqa/docs/2018_CEQA_FINAL_TEXT_122818.pdf

State of California Department of Water Resources, Water Data Library. Accessed March 2019 at: http://www.water.ca.gov/waterdatalibrary/

State of California Department of Water Resources. Porter-Cologne Water Quality Control Act Summary. Accessed July 2019 at: http://ceres.ca.gov/wetlands/permitting/Porter_summary.html.

State of California Department of Water Resources "Water Quality Control Plan for the Tulare Lake Basin". Third Edition. May 2018. Accessed August 2019 at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/California-Water-Plan/Docs/Update2013/Regional-Reports/Water-Plan-Update-2013-Tulare-Lake-Regional-Report.pdf

State of California Department of Water Resources "California Water Plan Update 2009, Tulare Lake Hydrologic Region". Page TL-60 and TL-61. Accessed July 2019 at https://water.ca.gov/Programs/California-Water-Plan/Water-Plan-Updates, then access zip file "v3_tularelake_cwp2009.pdf."

State of California Department of Water Resources "California Water Plan Update 2013, Tulare Lake Hydrologic Region". Accessed August 2019 at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/California-Water-Plan/Docs/Update2013/Regional-

Reports/Water-Plan-Update-2013-Tulare-Lake-Regional-Report.pdf

State of California Department of Water Resources. SGMA Groundwater Management. Accessed August 2019 at: https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management

State of California Water Boards. Mission Statement. Accessed July 2019 at: http://www.waterboards.ca.gov/about_us/water_boards_structure/mission.shtml

U.S. Army Corps of Engineers. Accessed July 2019 at: http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx

U.S. Environmental Protection Agency. Summary of the Clean Water Act – Accessed July 2019 at: http://water.epa.gov/lawsregs/rulesregs/sdwa/index.cfm

U.S. Environmental Protection Agency. What we do. http://www.epa.gov/aboutepa/whatwedo.html. Accessed August 2019.

U.S. Federal Emergency Management Agency. National Flood Insurance Program Summary. Accessed July 2019 at: https://www.fema.gov/nfip50

U.S. Federal Emergency Management Agency. National Flood Insurance Program. Accessed July 2019 at: https://www.fema.gov/national-flood-insurance-program

Noise
Chapter 4.8

SUMMARY OF FINDINGS

The proposed Project will result in ***Less Than Significant Impact*** related to the Noise resource. A Noise Study Report prepared by consultant VRPA Technologies is included as Appendix "F" of this document which is used as the basis for determining this Project will result in a less than significant impact with mitigation. A detailed review of potential impacts is provided in the following analysis.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

This section of the draft Subsequent Environmental Impact Report (draft Supplemental EIR, draft SEIR, or SEIR) addresses potential impacts related to Noise. As required in Section 15126, all phases of the proposed Project will be considered as part of the potential environmental impact.

As noted in Section 15126.2 (a), "[a]n EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the project might cause by bringing development and people into the area affected. For example, an EIR on a subdivision astride an active fault line should identify as a significant effect the seismic hazard to future occupants of the subdivision. The subdivision would have the effect of attracting people to the location and exposing them to the hazards found there. Similarly, the EIR should evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas) as identified in authoritative hazard maps, risk assessments or in land use plans addressing such hazards areas."[1]

[1] CEQA Guidelines, Section 15126.2 (a)

The environmental setting provides a description of the Noise Setting in Tulare County. The regulatory setting provides a description of applicable Federal, State, and Local regulatory policies that were developed in part from information contained in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or Tulare County 2030 General Plan EIR incorporated by reference and summarized below. Additional documents utilized are noted as appropriate. A description of the potential impacts of the proposed Project is provided and includes the identification of feasible mitigation measures (if necessary and feasible) to avoid or lessen the impacts.

Thresholds of Significance

- Exceed Tulare County Standards for Noise Levels
- Expose people of excessive groundborne vibration
- Expose people to excessive airport/airstrip noise

ENVIRONMENTAL SETTING

The County of Tulare is relying on the 2018 Regional Transportation Plan's (2018 RTP) Environmental Impact Report (at Chapter 4.8.3 Noise) to describe potential noise sources in Tulare County as this document considers the entire region (that is, Tulare County) and provides a well written summary of sources of noise.

"Many principal noise generators within the County are associated with transportation (i.e., airports, roadways, and railroads). Additional noise generators include stationary sources, such as industrial manufacturing plants, construction sites, and wind turbines. Local collector streets are not considered to be a significant source of noise since traffic volume and speed are generally much lower than for freeways and arterial roadways. Generally, transportation-related noise sources characterize the ambient noise environment of an area."[2]

"The extent to which traffic noise levels along the County's roads affect sensitive land uses depends upon a number of factors. These include whether the roadway itself is elevated above grade or depressed below grade, whether there are intervening structures or terrain between the roadway and the sensitive uses, and the distance between the roadway and such uses. For example, measurements show that depressing a freeway by approximately 12 feet yields a reduction in traffic noise relative to an at-grade freeway of 7 to 10 dBA at all distances from the freeway.6 Other factors that can affect roadway noise include condition of the road, type of vehicles using the road (fleet mix), the type of roadway (freeway, arterial, collector, etc.), average speeds, gradient and signalization. Typical traffic noise levels on existing state highways within the County range from a high of 78.9 dBA on State Route 99 between Avenue 308 and Merritt Drive to a low of 54.1 dBA on State Route 245 between the Fresno County line and State Route 201. On arterials, noise levels range from 66.8 dBA on Avenue 152 between State Route 65 and Road 252 to a low of 47.0

[2] Tulare County Association of Governments 2018 Regional Transportation Plan Draft EIR. Page 4.8.7. Accessed August 2019 at: http://www.tularecog.org/wp-content/uploads/2018/05/4.8-Noise.pdf

dBA on Avenue 304 between Shirk and Giddings Avenue (Tulare County GP EIR, Table 3.5-3)."[3] "An additional factor where trucks are present is gradient, road alignment, and signalization. Trucks going up or down a grade can produce significantly more noise due to de-acceleration or acceleration."[4]

The 2018 RTP also discusses noise from airports, railroad operations, freight trains, and commuter passenger trains. However, as the Project is remotely located, it will neither impact nor be impacted by these types of sources.

"Noise from industrial complexes (including oil extraction and other energy facilities), manufacturing plants, and construction sites are characterized as stationary, or point, sources of noise, even though they may include mobile sources, such as forklifts and graders. Local governments typically regulate noise from industrial, manufacturing, and construction equipment and activities through enforcement of noise ordinance standards, implementation of general plan policies, and imposition of conditions of approval for building or grading permits. Industrial complexes and manufacturing plants are generally located away from sensitive land uses, and, as such, noise generated from these sources generally has less effect on the local community. In contrast to industrial and manufacturing plants, construction sites are located throughout the region and are often located within, or adjacent to, residential districts. In general, construction activities generate high noise levels intermittently, on and adjacent to the construction sites, and the related noise impacts are short-term in nature. The dominant source of noise from most construction equipment is the engine, usually a diesel engine, with inadequate muffling. In a few cases, however, such as impact pile driving or pavement breaking, noise generated by the process dominates. Construction equipment can be considered to operate in two modes, stationary and mobile. Stationary equipment operates in one location for one or more days at a time, with either a fixed-power operation (pumps, generators, compressors) or a variable noise operation (pile drivers, pavement breakers). Mobile equipment moves around the construction site with power applied in cyclic fashion (bulldozers, loaders), or movement to and from the site (trucks). Construction-related noise levels generally fluctuate depending on the construction phase, equipment type and duration of use, distance between noise source and receptor, and presence or absence of barriers between noise source and receptor. Table 4.8-4, Demolition and Construction Equipment Source Noise Levels [of the RTP's DEIR], shows typical noise levels associated with various types of construction-related machinery. These noise levels, which correspond to a distance of 50 feet, decrease by approximately 6 dBA with each doubling of distance from the construction site (e.g., noise levels from excavation might be approximately 83 dBA at 100 feet from the site, and about 77 dBA at 200 feet from the site). Interior noise levels from construction are approximately 10 dBA (open windows) to 20 dBA (closed windows) less than exterior noise levels due to the attenuation provided by building facades."[5]

A Noise Study Report (NSR) was prepared by consultants VRPA Technologies (VRPA) to determine if significant noise impacts would be expected to occur as a result of the Project, and to

[3] Ibid. 4.8.8.
[4] Op. Cit. 4.8.9.
[5] Op. Cit. 4.8.13.

describe mitigation measures for noise if significant impacts are determined to exist. The NSR can be seen in its entirety in Appendix "F" of this SEIR.

"Existing traffic noise levels are established based on previously collected traffic data (Table 2) [in the NSR] and using the Traffic Noise Model (TNM) Version 2.5. TNM 2.5 is an FHWA Traffic Noise Prediction Program. Once existing levels are established, future levels, based on expected traffic growth, are calculated and compared to both the existing noise level and the maximum allowable noise exposure to noise generation sources as described in Tulare County's General Plan. Referencing Table 1, Tulare County's criteria shows that mitigation must be considered when the exterior noise exposure level of 60 Ldn/CNEL for single family residential and exterior noise exposure level of 65 to 70 Ldn/CNEL for multi-family, transient lodging, hospitals, churches, schools, business commercial and meeting halls has been exceeded. Levels reported in this section are in terms of A-weighted levels.

To assess the traffic noise impacts from the project on the adjacent receptors, the first step is to determine the baseline or the existing noise condition. The second is to then compare the baseline to future level results, based on expected traffic growth, and Tulare County's Land Use Compatibility for Community Noise Environments.

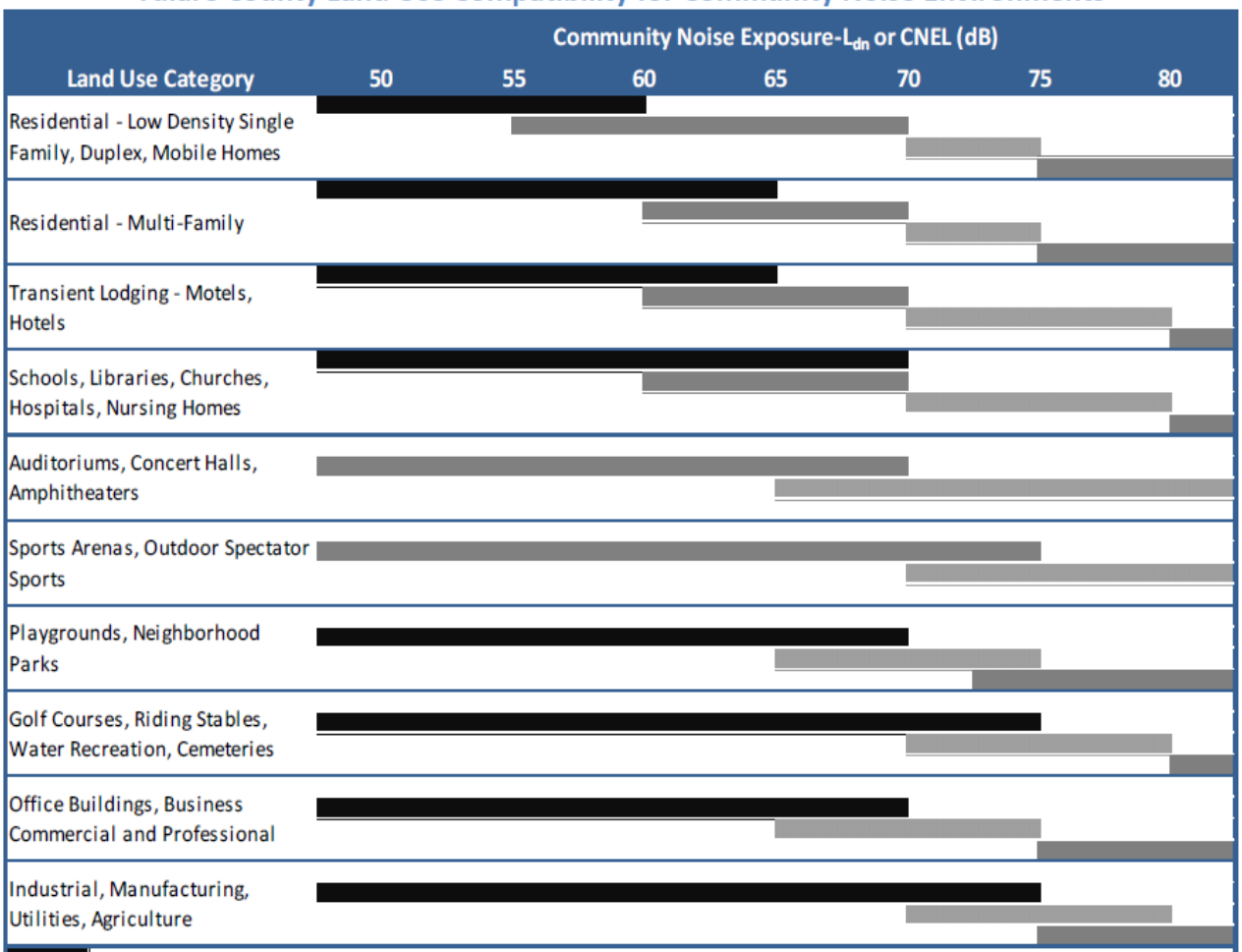
To assess existing noise conditions, VRPA Technologies staff compiled current traffic counts and existing geometric conditions. Staff conducted noise level measurements within the project site and tabulated the results. The weather during the time of the noise measurements consisted of sunshine and wind speeds of less than 5 mph. The purpose of the measurements was to evaluate the accuracy of the model in describing traffic noise exposure within the project site. "[6]

Two field receptor locations were identified by VRPA. Receptor 1 is a commercial minimart/gas station and Receptor 2 is an agricultural residence. The locations for each field receptor location are geographically depicted in **Figure 4.8-1** (Figure 4 in the NSR).

[6] Deer Creek Rock Co., Inc. Expansion Project, Noise Study Report. Page 15. April 2019. Prepared by VRPA Technologies and included in Appendix "F" of this SEIR.

Table 4.8-1

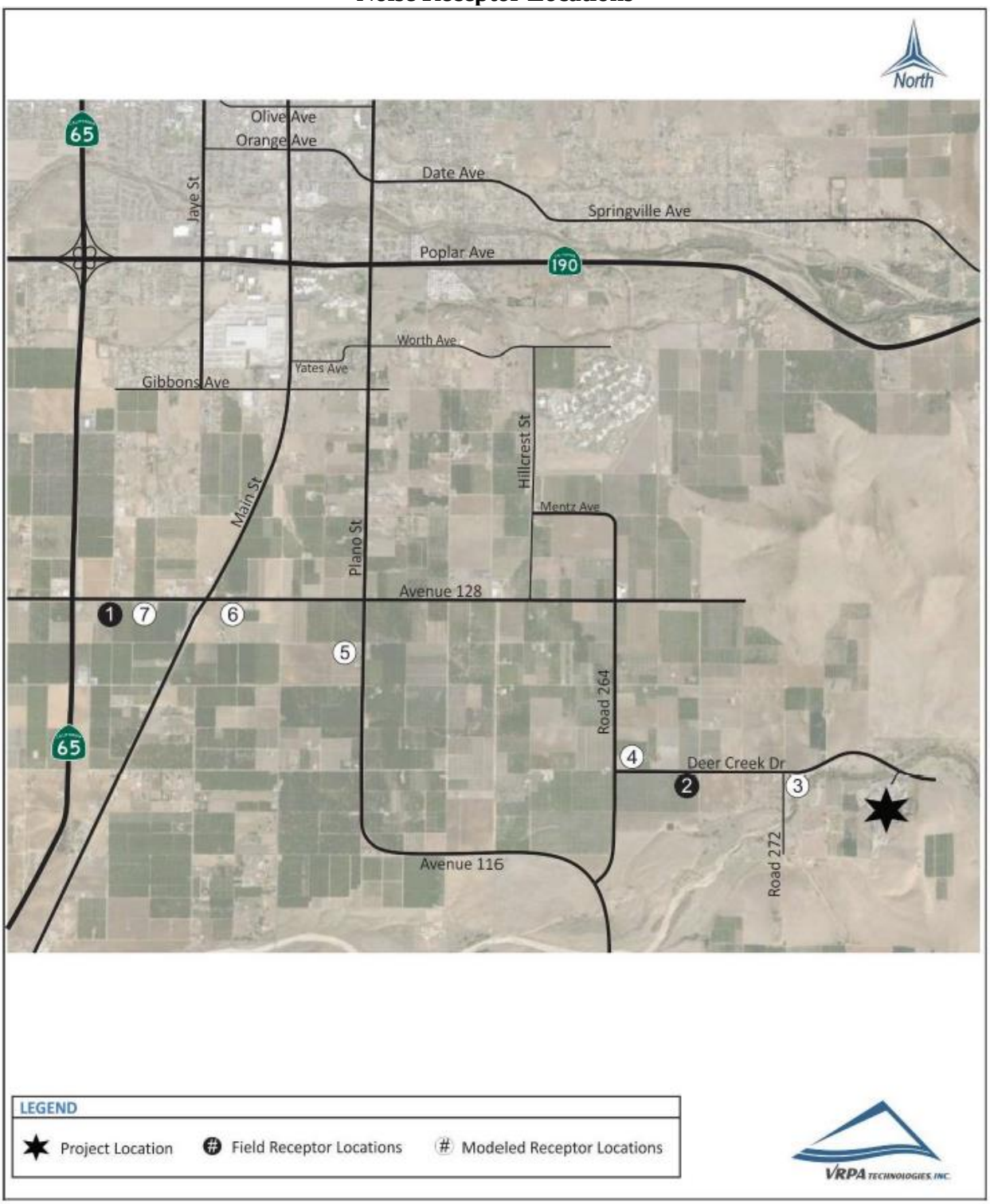
Tulare County Land Use Compatibility for Community Noise Environments



Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable	New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable	New construction or development generally should not be undertaken.

Source: Tulare County General Plan

Figure 4.8-1
Noise Receptor Locations



Existing traffic noise exposure levels at a setback of 80 feet from the roadway centerline and the distances from the roadway centerline necessary to achieve 60 Leq(h) dBA can be seen in Table 8 (in the NSR, **Table 4.8-2** in this draft SEIR).[7]

Table 4.8-2
Existing Noise Levels for Roadway Segments

Roadway	Segment	Existing Noise Level Leq(h) dBA @ 80 Feet From Roadway Centerline	Distance (Feet) to 60 Leq(h) dBA From Roadway Centerline
Deer Creek Drive	Between Road 272 and Road 264	63.0	160
Road 264	Between Deer Creek Drive and Avenue 116	62.0	127
Plano Street	Between Avenue 116 and Avenue 128	59.0	64
Avenue 128	Between Plano Street and SR 65	59.0	64

"In order to calibrate the TNM 2.5 model, the existing counts, lane geometry, and any other pertinent existing conditions were added to the model. The noise level measurements taken in the study area were then compared to the noise levels computed by the model. The difference between the measured and modeled noise levels, referred to as the "K constant", is then added to any additional receivers to be evaluated in the TNM 2.5 model."[8]

"Existing Plus Project traffic noise levels were established based on previously collected traffic data and using the Traffic Noise Model (TNM) Version 2.5. Existing Plus Project levels, which are based on expected Project trip distribution, are calculated and compared to both the existing noise level and the maximum allowable noise exposure for transportation noise sources as described in the Tulare County's General Plan.

Traffic volumes associated with the Project in addition to existing traffic along roadway segments in the study area were entered into the model to estimate noise levels at various receivers that would be affected by the Project. Tables E-1 and E-2 [n the NSR, **Tables 4.8-3** and **4.8-4** in this Draft SEIR], show the predicted noise levels at sensitive receivers in the Project area that could potentially be exposed to high noise levels due to the Project's proximity to existing street traffic. Results of the analysis show that none of the sensitive receivers will exceed Tulare County's Land Use Compatibility for Community Noise Environments."[9]

[7] Ibid. 24
[8] Op. Cit. 20
[9] Op. Cit. E-1.

Table 4.8-3

Existing Plus Project Noise Levels

Receptor I.D. No.	Type of Development	Existing Plus Project Noise Level Leq(h) dBA	Tulare County Noise Standard dBA Ldn	Impact
1	Commercial	66.0	70.0	None
2	Residential	53.0	60.0	None
3	Residential	56.0	60.0	None
4	Residential	59.0	60.0	None
5	Residential	57.0	60.0	None
6	Residential	56.0	60.0	None
7	School	48.0	70.0	None

Table 4.8-4
Near-Term Noise Levels

Receptor I.D. No.	Type of Development	Near-Term Without Project Noise Level Leq(h) dBA	Near-Term Plus Project Noise Level Leq(h) dBA	Noise Increase (+) or Decrease (-)	Tulare County Noise Standard dBA Ldn	Impact
1	Commercial	66.0	66.0	0.0	70.0	None
2	Residential	51.0	53.0	2.0	60.0	None
3	Residential	54.0	56.0	2.0	60.0	None
4	Residential	58.0	60.0	2.0	60.0	None
5	Residential	57.0	57.0	0.0	60.0	None
6	Residential	55.0	56.0	1.0	60.0	None
7	School	48.0	48.0	0.0	70.0	None

"Mine Safety and Health Administration - MSHA

The Mine Safety and Health Administration (MSHA) has established a Noise Exposure Standard for the purposes of reducing the long-term effects of noise for mining related activities. The National Institute for Occupational Safety and Health (NIOSH) has identified occupational noise-induced hearing loss as one of the ten leading work-related diseases and injuries. MSHA estimated that 13% of the mining population of the United States would develop material hearing impairment during their working lifetime under the previous noise standards. The noise exposure standards established by MSHA applies to all mine operators, both coal and metal and nonmetal, underground and surface operations.

"Section 62.120 of the Noise Exposure Standard requires that if a miner's noise exposure equals or exceeds the "action level" during any work shift, the business/company is required to enroll the miner in a "hearing conservation program" (HCP) that complies with Section 62.150. This "action level" is identical to what is being used by Occupational Safety and Health Administration's (OSHA) in its hearing conservation amendment, and results in uniform enforcement levels in both general industry and the mining industry." [10]

[10] Op. Cit. 26.

REGULATORY SETTING

"The federal government sets noise standards for transportation-related noise sources that are closely linked to interstate commerce, such as aircraft, locomotives, and trucks, and, for those noise sources, the state government is preempted from establishing more stringent standards. The state sets noise standards for those transportation noise sources that are not preempted from regulation, such as automobiles, light trucks, and motorcycles. Noise sources associated with industrial, commercial, and construction activities are generally subject to local control through noise ordinances and general plan policies."[11]

Federal Agencies & Regulations

Federal Highway Administration

"Federal regulations for railroad noise are contained in 40 Code of Federal Regulations (CFR) Part 201 and 49 CFR Part 210. The regulations set noise limits for locomotives and are implemented through regulatory controls on locomotive manufacturers. Federal regulations also establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 CFR Part 205, Subpart B. The federal truck passby noise standard is 80 dB at 15 meters from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers.

The Federal Highway Administration (FHWA) regulations for noise abatement must be considered for federal or federally-funded projects involving the construction of a new highway or significant modification of an existing freeway when the project would result in a substantial noise increase, or when the predicted noise levels approach or exceed the Noise Abatement Criteria (NAC), discussed below.

Title 23 of the Code of Federal Regulations (23 CFR § 772) provides procedures for preparing operational and construction noise studies and evaluating noise abatement considered for federal and federal-aid highway projects. Under 23 CFR section 772.7, projects are categorized as Type I or Type II projects. FHWA defines a Type I project as a proposed federal or federal-aid highway project for the construction of a highway on a new location, or the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment, or increases the number of through-traffic lanes. A Type II project is a noise barrier retrofit project that involves no changes to highway capacity or alignment.

Type I projects include those that create a completely new noise source, as well as those that increase the volume or speed of traffic or move the traffic closer to a receiver. Type I projects include the addition of an interchange, ramp, auxiliary lane, or truck-climbing lane to an existing highway, or the widening of an existing ramp by a full lane width for its entire length. Projects

[11] Tulare County Association of Governments. 2018 Regional Transportation Plan Draft Subsequent EIR. Page 4.8.15.

unrelated to increased noise levels, such as striping, lighting, signing, and landscaping projects, are not considered Type I projects.

Under 23 CFR section 772.11, noise abatement must be considered for Type I projects if the project is predicted to result in a traffic noise impact (discussed more below). In such cases, 23 CFR section 772 requires that the project sponsor "consider" noise abatement before adoption of the environmental document. This process involves identification of noise abatement measures that are reasonable, feasible, and likely to be incorporated into the project, and of noise impacts for which no apparent solution is available.

Traffic noise impacts, as defined in 23 CFR section 772.5, occur when the predicted noise level in the design year approaches or exceeds the NAC specified in 23 CFR section 772, or a predicted noise level substantially exceeds the existing noise level (a "substantial" noise increase). Under these regulations, an impact could result unrelated to the Plan if existing noise levels already exceed the NAC. A "substantial increase" is defined as an increase in Leq of 12 dBA during the peak hour of traffic noise. For sensitive uses, such as residences, schools, churches, parks, and playgrounds, the NAC for interior and exterior spaces is Leq 57 and 66 dBA, respectively, during the peak hour of traffic noise."[12] See **Table 4.8-5**, FHWA Noise Abatement Criteria (NAC), which summarizes NAC corresponding to various land use activity categories. Activity categories and related traffic noise impacts are determined based on the actual land use in a given area.

Table 4.8-5
FHWA Noise Abatement Criteria

NAC, Hourly A-Weighted Noise Level	***Description of Activities***
57 dBA (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
67 dBA (Exterior)	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
72 dBA (Exterior)	Developed lands, properties, or activities not included in above.
52 dBA (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: 23 CFR Part 772

Federal Highways Administration (FHWA) Highway Traffic Noise Prediction methodology

"Prior to the release of the FHWA TNM, the FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108), or "108 model," was in use for over 20 years. The FHWA TNM (Version 1.0) was released in March of 1998. The model was the culmination of six years of extensive research. It included a new/expanded vehicle noise emissions database and state-of-the-art acoustical algorithms. After the release, a survey was distributed to FHWA TNM users to allow user input for program Graphical User Interface (GUI) enhancements and bug fixes. This list was

[12] Ibid. 4.8-16 and -17.

prioritized, and many of the enhancements/bug fixes were incorporated into FHWA TNM Versions 1.0a, 1.0b, and 1.1. Version 1.1 also included a major improvement to the computational speed of the program, upgrading the architecture from 16 to 32-bit. Unfortunately, this version also introduced some new bugs. Version 2.0, released in June 2002, focused on removing Version 1.1 bugs, while maintaining the faster computational speed. Version 2.1, released in March 2003, fixed additional bugs and included over 20 enhancements to the TNM GUI. Version 2.5, released in April 2004, is the first version of the software, since the original release, with major improvements to the acoustics."[13]

Federal Aviation Administration (FAA)

"Aircraft operated in the US are subject to certain federal requirements regarding noise emissions levels. These requirements are set forth in Title 14 CFR, Part 36. Part 36 establishes maximum acceptable noise levels for specific aircraft types, taking into account the model year, aircraft weight, and number of engines."[14]

Federal Transit Administration (FTA)

"The Federal Transit Administration (FTA) has published guidance relative to vibration impacts. According to the FTA, engineered concrete and masonry buildings can be exposed to groundborne vibration levels of 0.3 inch per second without experiencing structural damage. Buildings extremely susceptible to vibration damage can be exposed to groundborne vibration levels of 0.12 inch per second without experiencing structural damage."[15]

State Agencies & Regulations

California Noise Insulation Standards

"The California Noise Insulation Standards, found at 25 California Code of Regulations, section 1092, set requirements for new multi-family residential units, hotels, and motels that may be subject to relatively high levels of transportation-related noise. For exterior noise, the noise insulation standard is 45 dBA CNEL in any habitable room and requires an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than 60 Dba CNEL."[16]

California's Airport Noise Standards

"The State of California has the authority to establish regulations requiring airports to address aircraft noise impacts on land uses in their vicinities. The State of California's Airport Noise Standards, found in Title 21 of the California Code of Regulations *et seq*., identify a noise exposure

[13] United States Federal Highway Administration website, Traffic Noise Model, http://www.fhwa.dot.gov/environment/noise/traffic_noise_model/. Accessed July 2019.
[14] Tulare County Association of Governments. 2018 Regional Transportation Plan Draft Subsequent EIR. Page 4.8-17.
[15] Ibid. 4.8-18
[16] Op. Cit. 4.8-21.

level of CNEL 65 dB as the noise impact boundary around airports. Within the noise impact boundary, airport proprietors are required to ensure that all land uses are compatible with the aircraft noise environment or the airport proprietor must secure a variance from the California Department of Transportation."[17]

California Department of Transportation (Caltrans)

"The State of California establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the state passby standard is consistent with the federal limit of 80 dBA at 15 meters from the centerline. The state passby standard for light trucks and passenger cars (less than 4.5 tons gross vehicle rating) is also 80 dBA at 15 meters from the centerline. For new roadway projects, Caltrans employs the Noise Abatement Criteria, discussed above [pages 4.8-10 and -11 in this draft SEIR] in connection with FHWA"[18]

Local Policy & Regulations

Tulare County General Plan Policies

The General Plan has a number of policies that apply to projects within Tulare County. General Plan policies that relate to the proposed Project are listed as follows:

HS-8.1 Economic Base Protection - The County shall protect its economic base by preventing the encroachment of incompatible land uses on known noise-producing industries, railroads, airports, and other sources.

HS-8.2 Noise Impacted Areas - The County shall designate areas as noise-impacted if exposed to existing or projected noise levels that exceed 60 dB Ldn (or Community Noise Equivalent Level (CNEL)) at the exterior of buildings.

HS-8.3 Noise Sensitive Land Uses - The County shall not approve new noise sensitive uses unless effective mitigation measures are incorporated into the design of such projects to reduce noise levels to 60 dB Ldn (or CNEL) or less within outdoor activity areas and 45 dB Ldn (or CNEL) or less within interior living spaces.

HS-8.4 Airport Noise Contours - The County shall ensure new noise sensitive land uses are located outside the 60 CNEL contour of all public use airports.

HS-8.6 Noise Level Criteria - The County shall ensure noise level criteria applied to land uses other than residential or other noise-sensitive uses are consistent with the recommendations of the California Office of Noise Control (CONC).

HS-8.8 Adjacent Uses - The County shall not permit development of new industrial, commercial,

[17] Ibid. 4.9-19.
[18] Op. Cit.20.

or other noise-generating land uses if resulting noise levels will exceed 60 dB Ldn (or CNEL) at the boundary of areas designated and zoned for residential or other noise-sensitive uses, unless it is determined to be necessary to promote the public health, safety and welfare of the County.

HS-8.10 Automobile Noise Enforcement - The County shall encourage the CHP, Sheriff's office, and local police departments to actively enforce existing sections of the California Vehicle Code relating to adequate vehicle mufflers, modified exhaust systems, and other amplified noise.

HS-8.11 Peak Noise Generators - The County shall limit noise generating activities, such as construction, to hours of normal business operation (7 a.m. to 7 p.m.). No peak noise generating activities shall be allowed to occur outside of normal business hours without County approval.

HS-8.13 Noise Analysis - The County shall require a detailed noise impact analysis in areas where current or future exterior noise levels from transportation or stationary sources have the potential to exceed the adopted noise policies of the Health and Safety Element, where there is development of new noise sensitive land uses or the development of potential noise generating land uses near existing sensitive land uses. The noise analysis shall be the responsibility of the project applicant and be prepared by a qualified acoustical engineer (i.e., a Registered Professional Engineer in the State of California, etc.). The analysis shall include recommendations and evidence to establish mitigation that will reduce noise exposure to acceptable levels (such as those referenced in Table 10-1 of the Health and Safety Element).

HS-8.14 Sound Attenuation Features - The County shall require sound attenuation features such as walls, berming, heavy landscaping, between commercial, industrial, and residential uses to reduce noise and vibration impacts.

HS-8.15 Noise Buffering - The County shall require noise buffering or insulation in new development along major streets, highways, and railroad tracks.

HS-8.16 State Noise Insulation - The County shall enforce the State Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the Uniform Building Code.

HS-8.18 Construction Noise - The County shall seek to limit the potential noise impacts of construction activities by limiting construction activities to the hours of 7 am to 7pm, Monday through Saturday when construction activities are located near sensitive receptors. No construction shall occur on Sundays or national holidays without a permit from the County to minimize noise impacts associated with development near sensitive receptors.

HS-8.19 Construction Noise Control - The County shall ensure that construction contractors implement best practices guidelines (i.e. berms, screens, etc.) as appropriate and feasible to reduce construction-related noise-impacts on surrounding land uses.

IMPACT EVALUATION

Would the project:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Project Impact Analysis: ***Less Than Significant***

Existing Traffic Noise Levels

Table 4.8-4 shows that the impact to any sensitive receptors by this Project in the existing or existing plus project scenarios will be ***Less Than Significant***. The noise from vehicles, equipment or mining operations is not projected to exceed Tulare County's Land Use Compatibility for Community Noise Environments of 60 L_{dn}/CNEL, with or without the Project.[19]

Mining Operations

Compliance with Section 62.120 of the Noise Exposure Standard requires that if miner's noise exposure equals or exceeds the "action level" during any work shift, the business/company is required to enroll the miner in a "hearing conservation program" (HCP) that complies with Section 62.150. This "action level" is identical to what is being used by Occupational Safety and Health Administration's (OSHA) in its hearing conservation amendment, and results in uniform enforcement levels in both general industry and the mining industry. The Permissible Exposure Level (PEL) is defined as an 8-hour time-weighted average sound level of 90 dBA integrating all sound levels from at least 90 dBA to at least 140 dBA. A miner may not be exposed at any time to sound levels exceeding 115 dBA, even if the miner is wearing hearing protectors. The Project will expose workers to noise levels of 85 to 110 dBA based upon information provided in Table 9 above [in the NSR]. In order to comply with the MSHA standard, the Project may establish a system of monitoring that evaluates each miner's noise exposure sufficiently to determine continuing compliance with the MSHA rule. [20]

Table 4.8-6
Mining Operation Requirements

Provision	Condition	Action Required by the Mine Operator
§62.120	Miner's noise exposure is less than the action level	None
§62.120	Miner's exposure equals or exceeds the action level, but does not exceed the	Operator enrolls the miner in hearing conservation program (HCP) which includes (1) a system of monitoring, (2) voluntary, with two exceptions, use of operator-provided

[19] "*Deer Creek Rock Co., Inc. Expansion Project, Noise Study Report*". Pages E-2 and E-3. April 2019. Prepared by VRPA Technologies and included in Appendix "F" of this DEIR.
[20] Ibid. 26.

Table 4.8-6
Mining Operation Requirements

Provision	Condition	Action Required by the Mine Operator
	permissible exposure level (PEL)	hearing protectors, (3) voluntary audiometric testing, (4) training, and (5) record keeping.
§62.130	Miner's exposure exceeds the PEL	Operator uses/continues to use all feasible engineering and administrative controls to reduce exposure to PEL; enrolls the miner in a HCP including ensured use of operator-provided hearing protectors; posts administrative controls and provides copy to affected miner; must never permit a miner to be exposed to sound levels exceeding 115 dBA.
§62.140	Miner's exposure exceeds the dual hearing protection level	Operator enrolls the miner in a HCP, continues to meet all the requirements of §62.130, ensures concurrent use of earplug and earmuff.

Mitigation Measure(s): ***None Required.***

Cumulative Impact Analysis: ***Less Than Significant***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

As indicated in the NSR, "The levels of traffic expected in the year 2040 relate to the cumulative effect of traffic increases resulting from the implementation of the general plans of local agencies and pending development projects. Traffic conditions considering the adopted general plan in Tulare County for the Year 2040 were estimated using the Tulare County Association of Governments (TCAG) regional travel model. Traffic volumes, truck mix, and vehicle speeds were used as inputs to the TNM 2.5 model for the Cumulative Year 2040 modeled scenarios consistent with generally accepted engineering principles and methods."[21]

"Table 7 (in the NSR, **Table 4.8-7** in this Draft SEIR) shows the predicted noise levels at the modeled receivers evaluated in the study area for the Cumulative Year 2040 With and Without Project conditions. Results of the analysis show that none of the sensitive receivers will exceed Tulare County's Land Use Compatibility for Community Noise Environments. As a result, the Project will not create a significant impact at sensitive receptors in the study area. Table 3.12-6 also shows the increase in noise levels for the Cumulative Year 2040 scenario once Project trips are added to the surrounding roadway system. Results show that the greatest increase in noise levels as a result of the Project is 1 Leq(h) dBA. Section 1.2.1 above [in the NSR] indicates that a 3 dB change is considered a just-perceivable difference outside of the laboratory and that a change in level of at least 5 dB is required before any noticeable change in community response would be expected."[22]

[21] "*Deer Rock Creek Co., Inc. Expansion Project, Noise Study Report*". April 2019. Page 23. Prepared by VRPA Technologies and included in Appendix "F" of this document.
[22] Ibid.

In addition, the NSR further states, "It should be noted that the noise levels presented in Table 7 do not account for noise attenuation caused by buildings or tree/shrubs that break the line of sight from the sound source to the receiver. A decibel reduction of 3 to 5 dBA is plausible when buildings or trees/shrubs break the line of sight according to FHWA."[23]

Therefore, the proposed cumulative Project impacts to this resource would be ***Less Than Significant.***

Table 4.8-7
Cumulative Year 2040 Noise Levels

Receptor I.D. No.	Type of Development	Cumulative Year 2040 Without Project Noise Level Leq(h) dBA	Cumulative Year 2040 Plus Project Noise Level Leq(h) dBA	Noise Increase (+) or Decrease (-)	Tulare County Noise Standard dBA Ldn	Impact
1	Commercial	68.0	68.0	0.0	70.0	None
2	Residential	53.0	54.0	1.0	60.0	None
3	Residential	56.0	57.0	1.0	60.0	None
4	Residential	59.0	60.0	1.0	60.0	None
5	Residential	58.0	59.0	1.0	60.0	None
6	Residential	58.0	58.0	0.0	60.0	None
7	School	50.0	50.0	0.0	70.0	None

"Table 8 (in the NSR, and **Table 4.8-8** in this Draft SEIR) shows the roadway segment noise exposure levels at a setback of 80 feet from the roadway centerline and the distances from the roadway centerline necessary to achieve 60 Leq(h) dBA considering the noise study scenarios."[24]

[23] Op. Cit.
[24] Ibid. 24.

Table 4.8-8
Roadway Segment Noise Levels[25]

Roadway	Segment	Noise Level Leq(h) dBA @ 80' From Roadway Centerlines	Distance (feet) to 60 Leq(h) dBA From Roadway Centerlines
Existing Plus Project			
Deer Creek Drive	Between Road 272 and Road 264	63.0	160
Road 264	Between Deer Creek Drive and Avenue 116	62.0	127
Plano Street	Between Avenue 116 and Avenue 128	59.0	64
Avenue 128	Between Plano Street and SR 65	59.0	64
Near-Term Without Project			
Deer Creek Drive	Between Road 272 and Road 264	63.0	160
Road 264	Between Deer Creek Drive and Avenue 116	62.0	127
Plano Street	Between Avenue 116 and Avenue 128	57.0	40
Avenue 128	Between Plano Street and SR 65	58.0	50
Near-Term Plus Project			
Deer Creek Drive	Between Road 272 and Road 264	63.0	160
Road 264	Between Deer Creek Drive and Avenue 116	62.0	127
Plano Street	Between Avenue 116 and Avenue 128	59.0	64
Avenue 128	Between Plano Street and SR 65	59.0	64
Cumulative Year 2040 Without Project			
Deer Creek Drive	Between Road 272 and Road 264	65.0	253
Road 264	Between Deer Creek Drive and Avenue 116	63.0	160
Plano Street	Between Avenue 116 and Avenue 128	59.0	64
Avenue 128	Between Plano Street and SR 65	59.0	64
Cumulative Year 2040 Plus Project			
Deer Creek Drive	Between Road 272 and Road 264	65.0	253
Road 264	Between Deer Creek Drive and Avenue 116	63.0	160
Plano Street	Between Avenue 116 and Avenue 128	60.0	80
Avenue 128	Between Plano Street and SR 65	60.0	80

[25] Op. Cit.

As shown in **Table 4.8-8**, ***No Significant Cumulative Impacts*** are forecasted to occur.

Mitigation Measure(s): ***None Required.***

Conclusion: ***Less Than Significant Impact***

b) Generation of excessive groundborne vibration or groundborne noise levels?

Project Impact Analysis: ***Less Than Significant Impact***

As discussed in the NSR, "Surface mining activities can result in ground vibration, depending upon the types of equipment used. Operation of on-site equipment causes ground vibrations which spread through the ground and diminish in strength with distance from the source generating the vibration. Building structures that are founded on the soil in the vicinity of the site respond to these vibrations, with varied results. Ground vibrations as a result of site activities very rarely reach vibration levels that will damage structures but can cause low rumbling sounds and feelable vibrations for buildings very close to the site. Project site activities that generally create the most severe vibrations are blasting and impact pile driving.

Vibration levels from various types of equipment ranges can be seen in Table 4 (in the NSR, Table 4.8-9 in this draft SEIR). The primary concern with vibration generated by mining activities is building damage. Therefore, vibration is generally assessed in terms of peak particle velocity (PPV). It should be noted that there is a considerable variation in reported ground vibration levels from equipment used in surface mining operations. The data provides a reasonable estimate for a wide range of soil conditions."[26]

Table 4.8-9
Vibration Source Levels for Construction Equipment

Equipment	PPV at 25 ft. (in/sec)	Approximate L_v* at 25 ft.
Large Bulldozer	0.089	87
Caisson drilling	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

**RMS velocity in decibels (VdB) re 1 minch/second.*

"Ambient vibration levels in residential areas are typically 50 VdB, which is well below human perception. The operation of heating/air conditioning systems and slamming of doors produce typical indoor vibrations that are noticeable to humans. The most common exterior sources of ground vibration that can be noticeable to humans inside residence include construction activities, train operations, and street traffic."[27] "Despite the perceptibility threshold of about

[26] Op. Cit. 18.
[27] Op. Cit.

65 VdB, human reaction to vibration is not significant unless the vibration exceeds 75 VdB according to the United States Department of Transportation."[28]

"In order to estimate the impact of vibrations from mining activities for the proposed Project, the following formula was applied to evaluate ground vibration at the nearest residence to the Project site.

Lv(D) = Lv(25 ft) – 20 log (D/25)

The nearest residence to the proposed expanded mining area is located approximately 450 feet south of the Project site. Using the highest vibration level shown in Table 3.12-8 (Lv 87) and the formula shown above, the anticipated vibration level at the nearest residence is 62 VdB. As a result, mining activity related vibration from the proposed Project is considered less than significant."[29]

As such, based on the thorough and substantive analysis provided by consultant VRPA Technologies, RMA agrees that the Project would result in a ***Less Than Significant Impact*** to this resource.

Cumulative Impact Analysis: ***Less Than Significant Impact***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

Less Than Significant Impacts related to this Checklist Item will occur.

Mitigation Measure(s): ***None Required.***

Conclusion: ***Less Than Significant Impact***

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?

Project Impact Analysis: ***Less Than Significant Impact***

"The Project is not located within the vicinity of a private airstrip or an airport land use plan or within two miles of a public airport or public use airport. The Porterville Municipal Airport

[28] Op. Cit.
[29] Op. Cit. 19.

is the closest public airport and is located approximately 5.5 miles northwest of the Project site. Therefore, the Project will not result in the stated impact. No Mitigation is needed."[30]

Cumulative Impact Analysis: ***Less Than Significant Impact***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project will increase ambient noise levels; however, the increase in noise levels will not exceed Tulare County's Maximum Acceptable Ambient Noise Exposure for Various Land Uses. Therefore, ***Less Than Significant*** cumulative impacts related to this Checklist Item will occur.

Mitigation Measure(s): ***None Required.***

Conclusion: ***Less Than Significant Impact***

[30] Op. Cit. 24.

DEFINITIONS/ACRONYMS

Acronyms

CFR	Code of Federal Regulations
dBA	Decibel
FFA	Federal Aviation Administration
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HCP	Hearing Conservation Program
Ldn/CNEL	Night Average Sound Level/Community Noise Equivalent Level
Leq(h) dBA	Equivalent Sound level (Hourly level of L_{eq}) Decibel
MSHA	Mine Safety and Health Administration
NCA	Noise Abatement Criteria
NIOSH	National Institute for Occupational Safety and Health
NSR	Noise Study Report
PEL	Permissible Exposure Level
PPV	Peak Particle Velocity
RTP	Tulare County Association of Governments Regional Transportation Plan
SEIR	Subsequent Environmental Impact Report
TNM	Traffic Noise Model
VdB	Vibration decibels

Definitions

"Noise is often described as unwanted sound, and thus is a subjective reaction to characteristics of a physical phenomenon. Researchers have generally agreed that A-weighted sound pressure levels (sound levels) are well correlated with subjective reaction to noise. Variations in sound levels over time are represented by statistical descriptors, and by time-weighted composite noise metrics such as the Day/Night Average Level (Ldn)."[31] This definition is similar to that contained in the Tulare County General Plan 2030 Update Background Report, "In technical terms, sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Simply, sound is what we hear. Noise is defined as unwanted sound. As sounds reach undesirable unacceptable levels, this is referred to as noise."[32] As such, in addressing noise impacts, the following key terms are outlined and explained below:

"Ambient Noise - The total noise associated with a given environment and usually comprising sounds from many sources, both near and far."

[31] TCAG 2011 Regional Transportation Plan Draft Subsequent EIR. Page 150.

[32] Tulare County General Plan 2030 Update Background Report. Pages 8-46 and 8-47. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/Appendix%20B%20-%20Background%20Report.pdf

Attenuation - "Reduction in the level of sound resulting from absorption by the topography, the atmosphere, distance, barriers, and other factors.

A-weighted decibel (dBA) - A unit of measurement for noise based on a frequency weighting system that approximates the frequency response of the human ear.

Community Noise Equivalent Level (CNEL) - Used to characterize average sound levels over a 24-hour period, with weighting factors included for evening and nighttime sound levels. Leq values (equivalent sound levels measured over a 1-hour period - see below) for the evening period (7:00 p.m. to 10:00 p.m.) are increased by 5 dB, while Leq values for the nighttime period (10:00 p.m. to 7:00 a.m.) are increased by 10 dB. For a given set of sound measurements, the CNEL value will usually be about 1 dB higher than the Ldn value (see below). In practice, CNEL and Ldn are often used interchangeably.

Decibel (dBA) - A unit of measurement describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure (which is 20 micronewtons per square meter).

Day-Night Average Sound Level (Ldn) - Average sound exposure over a 24-hour period. Ldn values are calculated from hourly Leq values, with the Leq values for the nighttime period (10:00 p.m. to 7:00 a.m.) increased by 10 dB to reflect the greater disturbance potential from nighttime noises."

Equivalent Sound Level (Leq) - The level of a steady-state sound that, in a stated time period and at a stated location, has the same sound energy as the time-varying sound (approximately equal to the average sound level). The equivalent sound level measured over a 1-hour period is called the hourly Leq or Leq (h).

Lmax and Lmin - The maximum and minimum sound levels, respectively, recorded during a measurement period. When a sound meter is set to the "slow" response setting, as is typical for most community noise measurements, the Lmax and Lmin values are the maximum and minimum levels recorded typically for 1-second periods.

Percentile-Exceeded Sound Level (Lx) - The sound level exceeded during a given percentage of a measurement period. Examples include L10, L50, and L90. L10 is the A-weighted sound level that is exceeded 10% of the measurement period, L50 is the level exceeded 50% of the period, and so on. L50 is the median sound level measured during the measurement period. L90, the sound level exceeded 90% of the time, excludes high localized sound levels produced by nearby sources such as single car passages or bird chirps. L90 is often used to represent the background sound level. L50 is also used to provide a less conservative assessment of the background sound level.

Sensitive Receptors - Sensitive receptors are defined to include residential areas, hospitals, convalescent homes and facilities, schools, and other similar land uses."[33]

[33] Ibid. 8-46 and 8-47.

REFERENCES

"Deer Creek Rock Co., Inc. Expansion Project Noise Study Report" prepared by VRPA Technologies, Inc. April 2019 and is included as Appendix "F" of this SEIR.

Tulare County Association of Governments 2011 Regional Transportation Plan Draft Subsequent EIR

Tulare County Association of Governments 2018 Regional Transportation Plan Draft EIR. Page 4.8.7. Accessed August 2019 at: http://www.tularecog.org/wp-content/uploads/2018/05/4.8-Noise.pdf

Tulare County General Plan 2030 Update. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/index.asp

Tulare County General Plan 2030 Update, *Background Report*. February 2010. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/Appendix%20B%20-%20Background%20Report.pdf

State of California. Natural Resources Agency Office of Planning and Research. CEQA Guidelines, Section 15126.2 (a). Accessed August 2019 at: http://resources.ca.gov/ceqa/docs/2018_CEQA_FINAL_TEXT_122818.pdf

United States Department of Labor. Title 30, Code of Federal Regulations. Which can be accessed at http://www.msha.gov/30CFR/62.140.htm. Accessed October 2014.

United States Federal Highway Administration website, Traffic Noise Model, Which can be accessed at http://www.fhwa.dot.gov/environment/noise/traffic_noise_model/. Accessed October 2014.

United States Federal Highway Administration website, Traffic Noise Model, http://www.fhwa.dot.gov/environment/noise/traffic_noise_model/. Accessed July 2019.

Transportation
Chapter 4.9

SUMMARY OF FINDINGS

The proposed Project will result in a ***Less Than Significant Impact With Mitigation*** related to Transportation and Traffic. *"The Deer Creek Rock Co., Inc. Expansion Project Traffic Impact Study"* (TIS) report prepared by consultant VRPA Technologies, Inc., is included as Appendix "G" of this draft Subsequent Environmental Impact Report (draft Subsequent EIR, draft SEIR or SEIR) which is used as the basis for determining this Project will result in a less than significant impact with mitigation. A detailed review of potential impacts is provided in the following analysis.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

This section of the draft SEIR addresses potential impacts to Transportation. As required in Section 15126, all phases of the proposed Project will be considered as part of the potential environmental impact.

As noted in Section 15126.2 (a), "[a]n EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the project might cause by bringing development and people into the area affected. For example, an EIR on a subdivision astride an active fault line should identify as a significant effect the seismic hazard to future occupants of the subdivision. The subdivision would have the effect of attracting people to the location and exposing them to the hazards found there. Similarly, the EIR should evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas) as identified in authoritative hazard

maps, risk assessments or in land use plans addressing such hazards areas."[1]

The environmental setting provides a description of the Transportation and Traffic in the County. The regulatory setting provides a description of applicable Federal, State and Local regulatory policies that were developed in part from information contained in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or Tulare County 2030 General Plan EIR incorporated by reference and summarized below. Additional documents utilized are noted as appropriate. A description of the potential impacts of the proposed Project is provided and includes the identification of feasible mitigation measures (if necessary and feasible) to avoid or lessen the impacts.

Thresholds of Significance

The thresholds of significance for this section are established by the CEQA Checklist item questions. The following are potential thresholds for significance.

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities
- conflict or be inconsistent with CEQA Guidelines section 15064.3,
- subdivision (b)
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or
- dangerous intersections) or incompatible uses (eg., farm equipment)
- Result in inadequate emergency access

ENVIRONMENTAL SETTING

"Tulare County has two major regional highways, State Highway [Route] 99 and 198. State Highway [Route] 99 connects Tulare County to Fresno and Sacramento to the north and Bakersfield to the south. State Highway 198 connects from U.S. Highway 101 on the west and continues eastward to Tulare County, passing through the City of Visalia and into Sequoia National Park. The highway system in the County also includes State highways, County-maintained roads, and local streets within each of the eight cities."[2]

"Tulare County's transportation system is composed of several State Routes, including three freeways, multiple highways, as well as numerous county and city routes. The county's public transit system also includes two common carriers (Greyhound and Orange Belt Stages), the AMTRAK Service Link, other local agency transit and paratransit services, general aviation, limited passenger air service and freight rail service.

Travel within Tulare County is a function of the size and spatial distribution of its population, economic activity, and the relationship to other major activity centers within the Central Valley

[1] CEQA Guidelines, Section 15126.2 (a).
[2] Tulare County General Plan 2030 Update. Page 13-2. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/index.asp.

(such as Fresno and Bakersfield) as well as more distant urban centers such as Los Angeles, Sacramento, and the Bay Area. In addition, there is considerable travel between the northwest portions of Tulare County and southern Fresno County and travel to/from Kings County to the west. Due to the interrelationship between urban and rural activities (employment, housing, services, etc.) and the low average density/ intensity of land uses, the private automobile is the dominant mode of travel for residents in Tulare County."[3]

"Some prominent county roadways include, but are not limited to, Alta Avenue (Road 80), Caldwell Avenue/Visalia Road (Avenue 280), Demaree Road/Hillman Street (Road 108), Tulare Avenue (Avenue 232), Olive Avenue (Avenue 152), Spruce Road (Road 204), El Monte Way (Avenue 416), Paige Avenue (Avenue 216), Farmersville Boulevard (Road 164), Road 192, and Road 152. Additionally, the highway system includes numerous county-maintained local roads, as well as local streets and highways within each of the eight cities and several unincorporated communities."[4]

Road Capacity and Level of Service

"Capacity

"According to the 2010 Highway Capacity Manual (HCM), capacity is defined as "the maximum sustainable hourly flow rate at which persons or vehicles reasonably can be expected to traverse a point or a uniform section of a lane or roadway during a given time period under prevailing roadway, environmental, traffic and control conditions, usually expressed as vehicles per hour or persons per hour." The ratio of the roadway volume to its capacity, V/C, can be useful in determining the preliminary Level of Service (LOS) of a roadway.

*V*olume = Actual number of vehicles.
*C*apacity = Maximum number of vehicles on a particular segment of roadway during a specific time frame.

Level of Service (LOS)

LOS is categorized by two parameters: uninterrupted flow and interrupted flow. Uninterrupted flow facilities have no fixed elements, such as traffic signals, that cause interruptions in traffic flow (e.g., freeways, highways, and controlled access, some rural roads). Interrupted flow facilities have fixed elements that cause an interruption in the flow of traffic such as stop signs and signalized intersections."[5]

The difference between uninterrupted flow and interrupted LOS is defined in the following summaries in **Tables 4.9-1** and **4.9-2**.

[3] Tulare County General Plan 2030 Update Background Report, page 5-4.
[4] Tulare County General Plan 2030 Update Background Report, page 5-7.
[5] Tulare County Association of Governments Regional Transportation Plan, 2018. Page B-7. Accessed August 2019 at: http://www.tularecog.org/RTPSCS/ActionElement.pdf

Table 4.9-1 Uninterrupted Traffic Flow Facilities LOS[6]	
LOS A	Describes free-flow operations. Free-Flow Speed (FFS) prevails on the freeway, and vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. The effects of incidents or point breakdowns are easily absorbed.
LOS B	Represents reasonably free-flow operations, and FFS on the freeway is maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high. The effects of minor incidents and point breakdowns are still easily absorbed.
LOS C	Provides for flow with speeds near the FFS of the freeway. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver. Minor incidents may still be absorbed, but the local deterioration in service quality will be significant. Queues may be expected to form behind any significant blockages
LOS D	At this level speeds begin to decline with increasing flows, with density increasing more quickly. Freedom to maneuver within the traffic stream is seriously limited and drivers. At this level speeds begin to decline with increasing flows, with density increasing more quickly. Freedom to maneuver within the traffic stream is seriously limited and drivers
LOS E	Describes operation at capacity. Operations on the freeway at this level are highly volatile because there are virtually no useable gaps within the traffic stream, leaving little room to maneuver within the traffic stream. Any disruption to the traffic stream, such as vehicles entering from a ramp or changing lanes, can establish a disruption wave that propagates throughout the upstream traffic flow. At capacity, the traffic stream has no ability to dissipate even the most minor disruption, and any incident can be expected to produce a serious breakdown and substantial queuing. The physical and psychological comfort afforded to drivers is poor.
LOS F	Describes breakdown, or unstable flow. Such conditions exist within queues forming behind bottlenecks. Breakdowns occur for a number of reasons: Traffic incidents can temporarily reduce the capacity of a short segment, so that the number of vehicles arriving at a point is greater than the number of vehicles that can move through it. Points of recurring congestion, such as merge or weaving segments and lane drops, experience very high demand in which the number of vehicles arriving is greater than the number of vehicles that can be discharged. In analyses using forecast volumes, the projected flow rate can exceed the estimated capacity of a given location.

Table 4.9-2 Interrupted Traffic Flow Facilities LOS[7]	
LOS A	Describes operations with a control delay of 10 seconds/vehicle or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
LOS B	Describes operations with a control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A, with reasonably unimpeded travel between intersections
LOS C	Describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual cycle failures (i.e.one or more queued vehicles are not able to

[6] Ibid. 7 and 8.
[7] Op. Cit. B-8 and B –9.

Table 4.9-2 Interrupted Traffic Flow Facilities LOS[7]	
	depart as a result of the insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping. May be longer queues and operations between locations may be more restricted.
LOS D	Describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. Travel speeds are about 40 percent below free flow speeds. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.
LOS E	Describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent. Average travel speed is one-third of free flow speeds. The facility is generally at full capacity
LOS F	Describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue. Extremely slow speeds with average delay of 80 seconds or more. Frequent stop and go conditions.

"Caltrans policy defines LOS D as an acceptable operating condition when planning for future state facilities in urbanized areas. TCAG monitors traffic levels of service on the regional roads. An LOS of D or better is the goal on urban roads, and C on rural roads."[8]

"A clean alternative to adding additional lanes to highways, streets, and roads is to provide mass transit systems. Mass transportation provides transportation to large numbers of people to designated destinations by bus or train. In Tulare County, buses are the primary mode of public transportation. Fixed Route and Dial-A-Ride services are provided by Visalia Transit, Tulare Intermodal Express (TIME), Porterville Transit, Dinuba Transit, and Tulare County Area Transit (TCaT). The City of Woodlake also operates a Dial-a-Ride only service."[9] "Public transportation in Tulare County also takes the form of shared-ride companies, carpools, and vanpools. Fixed route transit is generally used in the more populated urban areas while demand responsive transit and blended paratransit are often used in rural areas and communities."[10]

"Goals for all transit agencies are to integrate transit into the growth and development of their cities and communities. As developments and road designs occur, transit shall be integrated when possible. High and medium density neighborhoods, commercial, medical, educational, and employment areas can all benefit from transit. Arterials and transit friendly corridors should be identified in cities and communities to serve the anticipated population growth to become transit users or transit dependent. Transit Plans and General Plans shall determine the feasibility and steps to implement express bus service and bus rapid transit, where demands exist or will exist in the future."[11]

[8] Op. Cit. B-9.
[9] Op. Cit. B-51.
[10] Op. Cit. B-52.
[11] Op. Cit.

The proposed Project lies within the central portion of the San Joaquin Valley. The proposed Project is located on the Valley floor at an elevation of approximately 375 feet above sea level with the surrounding area mostly flat. **Figure 4.9-1** shows the location of the proposed Project along with major roadways, highways, and study intersections and segments.

Area Roadways

State Route 65 currently exists as a four-lane divided roadway with a posted speed limit of 55 miles per hour (mph) through the study area. According to the California Department of Transportation's website, the average annual daily traffic (AADT) along SR-65 in this area consisted of approximately 15,300 trips on 2017.[12]

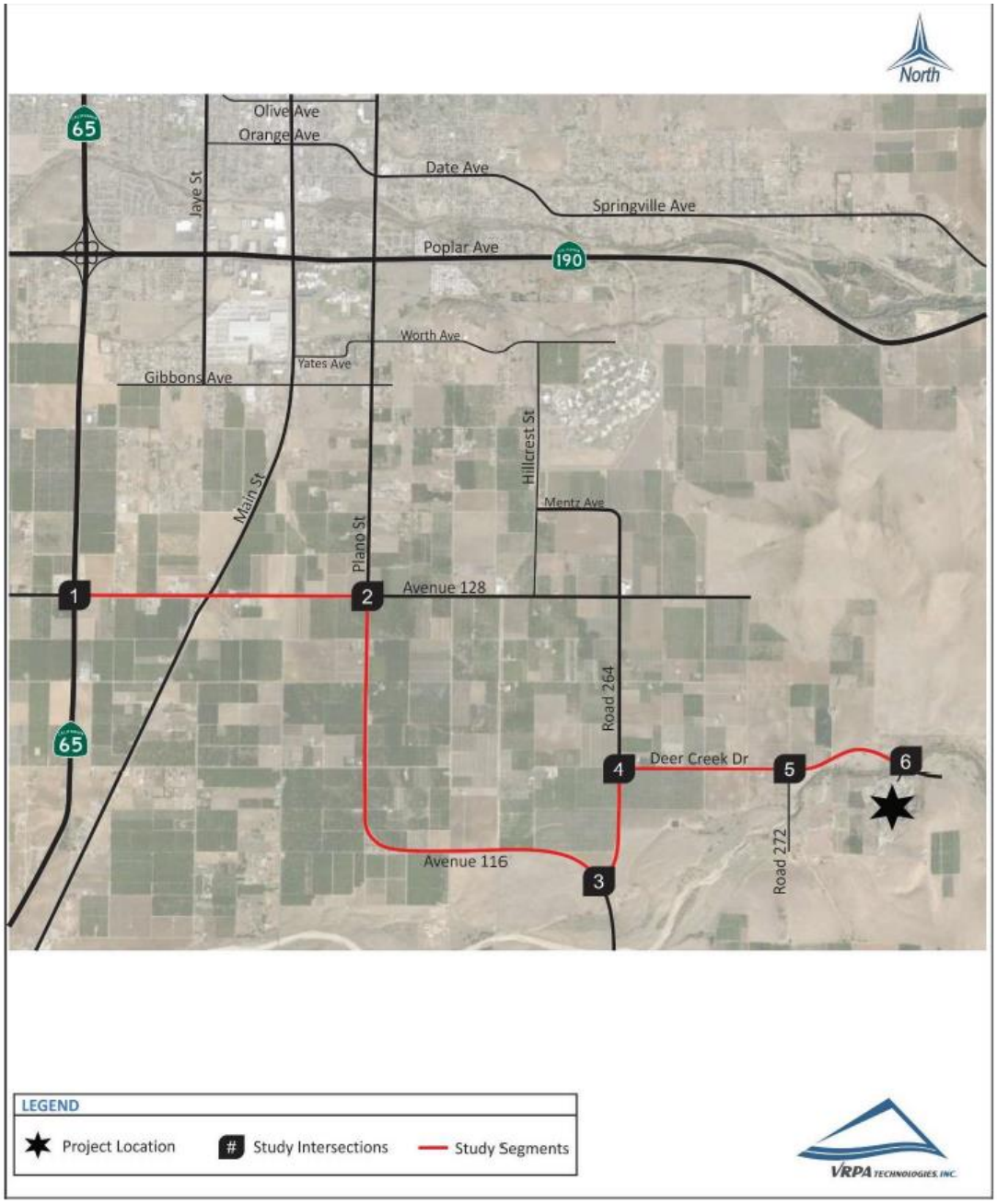
Avenue 128 currently exists as a two-lane undivided roadway without bike lanes and without a posted speed limit through the study area, except for the school zone which contains a posted speed limit of 25 mph.

Plano Street/Avenue 116, Road 264 and Deer Creek Drive currently exist as two-lane undivided roadways without bike lanes and without a posted speed limit through the study area.

There will be one point of access to the proposed Project, which currently serves as the access point for the existing operations. This access point is located along Deer Creek Drive, east of Road 272.

[12] *"The Deer Creek Rock Co., Inc. Expansion Project Traffic Impact Study"* report (TIS). Page 10. April 2019. Prepared by VRPA Technologies, Inc. and included in Appendix "G" of this SEIR.

Figure 4.9-1
Project Location[13]



[13] Ibid. 3.

Airport

"There are nine public use airports in Tulare County. These include six publicly owned and operated facilities (Porterville Municipal, Sequoia Field, Tulare Municipal [Mefford Field], Visalia Municipal, Woodlake, and Harmon Field [currently closed]) and three privately owned and operated airports (Alta Airport [currently closed], Thunderhawk Field, and Eckert Field). Badger Field is under consideration for Federal Aviation Administration (FAA) recertification as a restricted private airfield (as of August 2006)."[14] The Porterville Municipal Airport is the nearest public airport and is located approximately 5.5 miles northwest of the Project site.

Design for Emergency Access

According to § 21060.3 and § 15359 of the CEQA Guidelines, an "Emergency" means a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. "Emergency" includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences as riot, accident, or sabotage. A Proposed Project could potentially generate impacts through inadequate design for emergency access.

Alternative Transportation

"Transit planning in Tulare County is done at the county and local level. The Tulare County Association of Governments (TCAG) is the County's designated Metropolitan Planning Organization (MPO) and also serves as the Tulare County Council of Governments, Transportation Authority, and Regional Transportation Planning Agency. TCAG's nine member agencies include eight incorporated cities (Dinuba, Exeter, Farmersville, Lindsay, Porterville, Tulare, Visalia, and Woodlake) and Tulare County."[15] Fixed routes transit services operating in Tulare County are provided by Dinuba Area Regional Transit (DART), Porterville Transit (COLT), Tulare Intermodal Express (TIME), Tulare County Area Transit (TCaT), Visalia Transit, and Visalia-Fresno intercity service (V-Line).[16]

Traffic Impact Study Area

The "*Deer Creek Rock Co., Inc. Expansion Project Traffic Impact Study"* (TIS) report, (April 2019), was prepared for the Proposed Project by consultant VRPA Technologies, Inc. As indicated in the TIS, "The following intersections and roadway segments included in this TIS were determined in consultation with Tulare County and California Department of Transportation (Caltrans) staff and include:

[14] Tulare County General Plan 2030 Update. Page 13-2.
[15] Tulare County Association of Governments. Tulare County Long Range Transit Plan. Final Report. Page 2-2. Accessed August 2019 at: http://www.tularecog.org/RTPSCS/LongRangeTransitPlan.pdf
[16] Ibid. 2-30 through 2-31.

Intersections

- State Route (SR) 65/Avenue 128
- Plano Street/Avenue 128
- Road 264/Avenue 116
- Road 264/Deer Creek Drive
- Road 272/Deer Creek Drive
- Project Access/Deer Creek Drive

Roadway Segments

- Avenue 128 between:
  - SR 65 and Plano Street
- Plano Street-Avenue 116 between:
  - Avenue 128 and Road 264
- Road 264 between:
  - Deer Creek Drive and Avenue 116
- Deer Creek Drive between:
  - Road 264 and Road 272
  - Road 272 and Project Access[17]

Study Scenarios

"The TIS completed for the proposed Project includes level of service (LOS) analysis for the following traffic scenarios:

- Existing
- Existing Plus Project
- Near-Term (Opening Year 2020) Without Project
- Near-Term (Opening Year 2020) Plus Project
- Cumulative 2040 Without Project
- Cumulative Year 2040 Plus Project"[18]

REGULATORY SETTING

Federal Agencies & Regulations

None that apply to the proposed Project.

State Agencies & Regulations

Caltrans: Transportation Concept Reports

[17] Op. Cit. 1.
[18] Op. Cit. 4.

Caltrans has prepared a number concept reports for State Routes, Interstate Routes, and U.S. Routes. Tulare County is located in Caltrans District 6. Caltrans' SR 65 Transportation Concept Report (TCR) applies to this Project.

Caltrans Guide for the Preparation of Traffic Impact Studies

"The California Department of Transportation (Caltrans) has developed this "Guide for the Preparation of Traffic Impact Studies" in response to a survey of cities and counties in California. The purpose of that survey was to improve the Caltrans local development review process (also known as the Intergovernmental Review/California Environmental Quality Act or IGR/CEQA process). The survey indicated that approximately 30 percent of the respondents were not aware of what Caltrans required in a traffic impact study (TIS). In the early 1990s, the Caltrans District 6 office located in Fresno identified a need to provide better quality and consistency in the analysis of traffic impacts generated by local development and land use change proposals that effect State highway facilities. At that time, District 6 brought together both public and private sector expertise to develop a traffic impact study guide. The District 6 guide has proven to be successful at promoting consistency and uniformity in the identification and analysis of traffic impacts generated by local development and land use changes. The guide developed in Fresno was adapted for statewide use by a team of Headquarters and district staff. The guide will provide consistent guidance for Caltrans staff who review local development and land use change proposals as well as inform local agencies of the information needed for Caltrans to analyze the traffic impacts to State highway facilities. The guide will also benefit local agencies and the development community by providing more expeditious review of local development proposals."[19]

Local Policy & Regulations

Tulare County Transportation Control Measures (TCM)

"Transportation Control Measures (TCM) are designed to reduce vehicle miles traveled, vehicle idling, and/or traffic congestion in order to reduce vehicle emissions. Currently, Tulare County is a nonattainment region under the Federal Clean Air Act (CAA) and the California Clean Air Act (CCAA). Both of these acts require implementation of TCMs. These TCMs for Tulare County are as follows:

- Rideshare Programs;
- Park and Ride Lots;
- Alternate Work Schedules;
- Bicycle Facilities;
- Public Transit;
- Traffic Flow Improvement; and

[19] Caltrans Guide for the Preparation of Traffic Studies. Page ii. Accessed August 2019. https://www.contracosta.ca.gov/DocumentCenter/View/34121/Caltrans2002-TIS-Guidelines-PDF.

- Passenger Rail and Support Facilities."[20]

Tulare County Association of Governments (TCAG)

"TCAG is the federally designated Metropolitan Planning Organization (MPO) for Tulare County under federal transportation planning laws that requires preparation of RTPs (23 USC Section 134 et seq.)"[21] "Federal transportation planning regulations (23 CFR Parts 450 and 771; 49 CFR Part 613) require that RTPs have at least a 20-year horizon. For the 2018 RTP/SCS TCAG has selected a horizon year of 2042."[22] "In addition, federal Clean Air Act transportation conformity requirements apply in all MPO nonattainment and maintenance areas under Section 176(c) of the Clean Air Act (CAA), as amended. "Transportation conformity" requires that federal funding and approval are given to transportation plans, programs and projects that are consistent with the air quality goals established by a State Implementation Plan (SIP). For MPO nonattainment regions, the MPO, Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) are responsible for making the RTP conformity determination."[23] "The state requirements for RTPs (Section 65080 of the California Government Code) largely mirror the federal requirements and require Metropolitan Planning Organizations (MPOs)/Regional Transportation Planning Agencies (RTPAs) in urban areas to adopt and submit an updated RTP to the California Transportation Commission (CTC) and the California Department of Transportation (Caltrans) every four years. To ensure a degree of statewide consistency in the development of RTPs, the CTC under Government Code Section 14522 prepared RTP Guidelines.1 The most recently adopted guidelines by the CTC are the 2017 Regional Transportation Plan Guidelines for Metropolitan Planning Organizations. The adopted guidelines include a requirement for program level performance measures, which include objective criteria that reflect the goals and objectives of the RTP."[24] Also, pursuant to SB 375, TCAG is required to submit a Sustainable Communities Strategy (integrated with the RTP) to CARB for the purpose of determining whether the GHG reduction targets have been met.[25] The Tulare County Association of Government has prepared the 2018 Regional Transportation Plan. Specific policies that may apply to the Proposed Project are listed as follows:

TRANSPORTATION SYSTEM MANAGEMENT (TSM) TRANSPORTATION DEMAND MANAGEMENT (TDM) MEASURES, TRANSPORTATION CONTROL MEASURES (TCM), and INTELLIGENT TRANSPORTATION SYSTEMS (ITS) PROGRAMS

"GOAL: IMPROVE TRANSPORTATION MOBILITY AND OPERATIONS BY IMPROVING AND UTILIZING TSM STRATEGIES, TDM MEASURES, TCMs, AND ITS PROGRAMS.

[20] Tulare County General Plan 2030 Update Recirculated Draft Environmental Impact Report. Page 3.2-2.
[21] Tulare County Association of Governments 2018 RTP. Program EIR. 3.0 Project Description. Page 3.0-1 http://www.tularecog.org/rtp2018/
[22] Ibid. 3.0-6.
[23] Op. Cit.
[24] Op. Cit. 3.0-7.
[25] Op. Cit.

TRANSPORTATION SYSTEM MANAGEMENT (TSM)

(TSM strategies coordinate travel modes through operating, regulating, and service policies to achieve maximum efficiency and productivity for the whole circulation system.)

Objective: Improve vehicular flow and efficiency by promoting and programming operational improvement projects.

Policies:

1. Encourage adaptive signal timing and/or coordination programs in urbanized areas.
2. Support implementation of bus pullouts for stops on busy roadways.
3. Encourage removal of on-street parking in heavily congested areas.
4. Recommend that traffic is channeled and access is controlled on arterials and major collectors.
5. Support installation of adequate left and right turn pockets to allow increased vehicle queuing/stacking, as necessary.
6. Encourage improvements in design of signalized intersections to improve turning for large vehicles.
7. Support passing lanes, roundabout construction, and other operational improvements when warranted.
8. Encourage bicycle-friendly loop detectors at intersections.

TRANSPORTATION CONTROL MEASURES (TCMs)

(TCMs reduce vehicle trips, vehicle miles traveled, vehicle idling, and/or traffic congestion to reduce motor vehicle emissions.)

Objective: Support the reduction of automotive emissions and fuel consumption associated with urban travel.

Policies:

1. Evaluate the feasibility of implementing Express Bus and/or transit bus preemption/priority.
2. Evaluate future need for ramp metering.
3. Continue to coordinate and implement the College of Sequoias student transit pass program and the Tulare County Regional T-Pass.
4. Continue to participate in the Calvans vanpool program, providing incentives, if feasible.
5. Promote and implement projects using (or composed of) traffic calming devices and strategies.
6. Encourage cities to consider parking policies, including pricing and development parking requirements.
7. Encourage cities to provide signal prioritization for transit vehicles.

INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

(Intelligent Transportation Systems are a range of technologies including processing, control, communication, and electronics that are applied to a transportation system. It also includes an advanced approach to traffic management.)

Objective: Encourage the use of Intelligent Transportation Systems (ITS) technology by participating in the upkeep and implementation of the San Joaquin Valley Intelligent Transportation System Strategic Deployment Plan and the local Urban Area ITS Plan(s).

Policies

1. Periodically update Tulare County Region's Urbanized Area ITS Plan(s).
2. Support and update the San Joaquin Valley ITS Strategic Deployment Plan as needed.
3. Support Intelligent Transportation Systems for upgrading state highway interchanges from rural to urban standards.
4. Coordinate ITS improvements and infrastructure with public safety agencies."[26]

Tulare County General Plan Policies

The Tulare County General Plan has a number of policies that apply to projects within County of Tulare. General Plan policies that relate to the proposed Project are listed below.

LU-7.6 Screening - The County shall require landscaping to adequately screen new industrial uses to minimize visual impacts.

TC-1.14 Roadway Facilities - As part of the development review process, new development shall be conditioned to fund, through impact fees, tonnage fees, and/or other mechanism, the construction and maintenance of roadway facilities impacted by the project. As projects or locations warrant, construction or payment of pro-rata fees for planned road facilities may also be required as a condition of approval.

TC-1.15 Traffic Impact Study - The County shall require an analysis of traffic impacts for land development projects that may generate increased traffic on County roads. Typically, applicants of projects generating over 100 peak hour trips per day or where LOS "D" or worse occurs, will be required to prepare and submit this study. The traffic impact study will include impacts from all vehicles, including truck traffic.

TC-1.16 County Level Of Service (LOS) Standards - The County shall strive to develop and manage its roadway system (both segments and intersections) to meet a LOS of "D" or better in accordance with the LOS definitions established by the Highway Capacity Manual.

[26] Tulare County Association of Governments 2018 RTP. Program EIR. 2.0 Policy Element. Pages A-15 through A-17. Accessed August 2019 at: http://www.tularecog.org/RTPSCS/PolicyElement.pdf.

HS-1.9 Emergency Access - The County shall require, where feasible, road networks (public and private) to provide for safe and ready access for emergency equipment and provide alternate routes for evacuation.

IMPACT EVALUATION

Would the project:

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Project Impact Analysis: ***Less Than Significant Impact After Mitigation***

As indicated in the TIS prepared by consultant VRPA Technologies, "An important goal is to maintain acceptable levels of service along the highway, street, and road network. To accomplish this, Tulare County RMA and Caltrans adopt minimum levels of service in an attempt to control congestion that may result as new development occurs. Tulare County's 2030 General Plan, policy number TC-1.16, identifies a minimum LOS standard of "D" on the County roadway system (both segments and intersections). Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. For undeveloped or not densely developed locations, the goal may be to achieve LOS "C"."[27]

VRPA Technologies analyzed levels of service (including intersection capacity, queuing, and roadway segment capacity analyses), traffic impacts (including trip generation and trip distribution), project traffic, existing plus project traffic conditions, approved and pending project traffic, near-term traffic conditions, cumulative Year 2040 without project traffic conditions, and Cumulative Year 2040 plus project traffic conditions as a result of the Project.

Level of Service

Intersection Capacity Analysis

"All intersection LOS analyses were estimated using the Synchro 10 Software program. Various roadway geometrics, traffic volumes, and properties (peak hour factors, storage pocket length, etc.) were input into the Synchro 10 Software program in order to accurately determine the travel delay and LOS for each Study scenario. The intersection LOS and delays reported represent the HCM 6th Edition outputs. Synchro assumptions, listed below, show the various Synchro inputs and methodologies used in the analysis.

[27] *"The Deer Creek Rock Co., Inc. Expansion Project Traffic Impact Study"* report (TIS). Pages E-3 and E-4. April 2019. Prepared by VRPA Technologies, Inc. and included in Appendix "G" of this SEIR.

Traffic Conditions

- The peak hour factor (PHF) used for Existing, Existing Plus Project, Near-Term Year 2020 Without Project, and Near-Term Year 2020 Plus Project conditions was determined from the existing counts. The HCM default value of 0.92 was used for the SR 65 and Avenue 128 intersection for the Cumulative Year 2040 scenarios.
- Heavy vehicle percentages were applied as follows and are based on the HCM default, traffic counts, or Caltrans' parameters:
  - State Highway 65 – 12%
  - All other roadways – 3%

Results of the analysis show that all of the study intersections are currently operating at acceptable levels of service during the weekday peak hours. Table 2-1 [in the TIS, **Table 4.9-3** in this Draft SEIR] shows the intersection LOS for the existing conditions. Synchro 10 (HCM 6th Edition) Worksheets are provided in Appendix C [of the TIS]."[28]

Queuing Analysis

"Table 2-2 [in the TIS, **Table 4.9-4** in this draft SEIR] provides a queue length summary for study intersections for the Existing scenario. Traffic queue lengths at an intersection or along a roadway segment assist in the determination of a roadway's overall performance. Excessive queuing at an intersection increases vehicle delay and reduces capacity. If a dedicated left turn lane doesn't provide adequate storage, vehicles will queue beyond the left turn storage pocket and into other travel lanes, thus increasing vehicle delay and reducing capacity. The queuing analyses is based upon methodology presented in Chapter 400 of Caltrans' Highway Design Manual (HDM), which is included in Appendix D [of the TIS]."[29]

[28]. Ibid. 15.
[29] Op. Cit. 15.

TABLE 3-9.3
Existing Intersection Operations[30]

INTERSECTION	CONTROL	TARGET LOS	PEAK HOUR	EXISTING	
				DELAY	LOS
1. SR 65 / Avenue 128	Signalized	C	AM	28.2	C
			PM	28.9	C
2. Plano Street / Avenue 128	All-Way Stop Sign	D	AM	11.8	B
			PM	9.9	A
3. Road 264 / Avenue 116	One-Way Stop Sign	D	AM	9.8	A
			PM	9.7	A
4. Road 264 / Deer Creek Drive	Two-Way Stop Sign	D	AM	10.3	B
			PM	9.5	A
5. Road 272 / Deer Creek Drive	One-Way Stop Sign	D	AM	10.1	B
			PM	10.0	B
6. Project Access / Deer Creek Drive	One-Way Stop Sign	D	AM	9.2	A
			PM	9.6	A

DELAY is measured in seconds
LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded
For signalized and all-way stop controlled intersections, delay results show the average for the entire intersection. For one-way and two-way stop controlled intersections, delay results show the delay for the worst movement.

Table 4.9-4
Existing Queuing Operations[31]

INTERSECTION	EXISTING QUEUE STORAGE LENGTH (ft)		EXISTING CONDITIONS	
			AM Queue	PM Queue
SR 65 / Avenue 128	NB Left	550	7	8
	NB Right	200	29	43
	SB Left	450	141	104
	EB Left	475	18	31
	WB Left	350	33	28

Queue is measured in feet / **BOLD** denotes exceedance

[30] Op. Cit. 16.
[31] Op. Cit. 16.

Roadway Segment Capacity Analysis

"Peak hour LOS segment analysis along the existing street and highway system are reflected in Table 2-3 [in the TIA, **Table 4.9-5** in this draft SEIR]. Roadway segment analysis was based on the Modified HCM-Based LOS Tables (Florida Tables). The tables consider the capacity of individual road and highway segments based on numerous roadway variables (design speed, passing opportunities, signalized intersections per mile, number of lanes, saturation flow, etc.). These variables were identified and applied to reflect segment LOS conditions. Results of the analysis show that all of the study roadway segments are currently operating at acceptable levels of service."[32]

TABLE 4.9-5
Existing Segment Operations[33]

STREET SEGMENT	SEGMENT DESCRIPTION	DIRECTION	TARGET LOS	PEAK HOUR	EXISTING	
					VOLUME	LOS
Avenue 128						
SR 65 to Plano Street	2 Lanes Undivided	EB	D	AM	247	B
				PM	233	B
		WB		AM	256	B
				PM	237	B
Plano Street - Avenue 116						
Avenue 128 to Road 264	2 Lanes Undivided	NB / WB	D	AM	159	B
				PM	175	B
		SB / EB		AM	141	B
				PM	151	B
Road 264						
Deer Creek Drive and Avenue 116	2 Lanes Undivided	NB	D	AM	72	B
				PM	60	B
		SB		AM	60	B
				PM	65	B
Deer Creek Drive						
Road 264 to Road 272	2 Lanes Undivided	EB	D	AM	118	B
				PM	64	B
		WB		AM	64	B
				PM	77	B
Road 272 to Project Access	2 Lanes Undivided	EB	D	AM	75	B
				PM	62	B
		WB		AM	62	B
				PM	71	B

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

[32] Op. Cit. 15.
[33] Op. Cit. 17.

Traffic Impacts

Trip Generation

"To assess the impacts that the Project may have on the surrounding street and highway segments and intersections, the first step is to determine Project trip generation. The Project's trip generation was estimated based on information received from the Project representative as well as the previous Conditions of Approval. The Project's estimated Daily, AM peak hour, and PM peak hour trips are shown in Table 3-1 [in the TIS, **Table 4.9-6** in this draft SEIR]. As shown in Table 3-1 [**Table 4.9-6**], the current mining permit allows operations of 1,000,000 tons/year which equates to the existing trip generation. The Project seeks to increase operations to 1,500,000 tons/year. Therefore, the Project trip generation applied in this analysis considers the net increase of trips associated with the increase in operations."[34]

TABLE 4.9-6
Project Trip Generation[35]

Land Use Description	Trip Rate Source	Average Daily Trip Ends [1]	Weekday AM Peak Hour				Weekday PM Peak Hour			
		Volume	In:Out	In	Out	Total	In:Out	In	Out	Total
Existing Surface Mining Operation	Deer Creek Rock Co., Inc. [2]	188	50:50	19	19	38	50:50	19	19	38
	Total	**188**		**19**	**19**	**38**		**19**	**19**	**38**
Proposed Surface Mining Operation	Deer Creek Rock Co., Inc. [2]	300	50:50	30	30	60	50:50	30	30	60
	Total	**300**		**30**	**30**	**60**		**30**	**30**	**60**
Net Increase		**112**		**11**	**11**	**22**		**11**	**11**	**22**
Net Increase with Passenger Car Equivalent (PCE) of 2.5:1		**280**		**28**	**28**	**56**		**28**	**28**	**56**

1 A "trip" is defined as a "one-way" trip.
2 Trip generation is consistent with information received from the Project representative as well as the previous Conditions of Approval.

Trip Distribution

"Project trip distribution is shown in Figure 3-1 [in the TIS, **Figure 4.9-2** in this draft SEIR] and is based upon engineering judgement, prevailing traffic patterns in the study area, complementary land uses, major routes, population centers and customer base. Project traffic as shown in Table 3-1 [**Table 4.9-6** in this draft SEIR] was distributed to the roadway system using the trip distribution percentages shown in Figure 3-1 [**Figure 4.9-2** in this draft SEIR]."[36]

[34] Op. Cit. 18.
[35] Op. Cit.
[36] Op. Cit.

Project Traffic

"Project traffic [trip generation] as shown is Table 3-1 [in the TIS, **Table 4.9-6** in this draft SEIR] was distributed to the roadway system using the trip distribution percentages shown in Figure 3-1 [in the TIS, **Figure 4.9-2** in this draft SEIR]. A graphical representation of the resulting AM and PM peak hour Project trips is shown in Figures 3-2 and 3-3 [in the TIS]. It should be noted that Figures 3-2 and 3-3, [in the TIS], include a Passenger Car Equivalent (PCE) of 2.5:1 for Project truck trips entering and exiting the facility."[37]

Existing Plus Project Traffic Conditions

"An Existing Plus Project Scenario was analyzed to include existing traffic plus traffic generated by the Project. The resulting traffic is shown in Figures 3-4 and 3-5 [in the TIS]."[38]

Approved/Pending Project Traffic

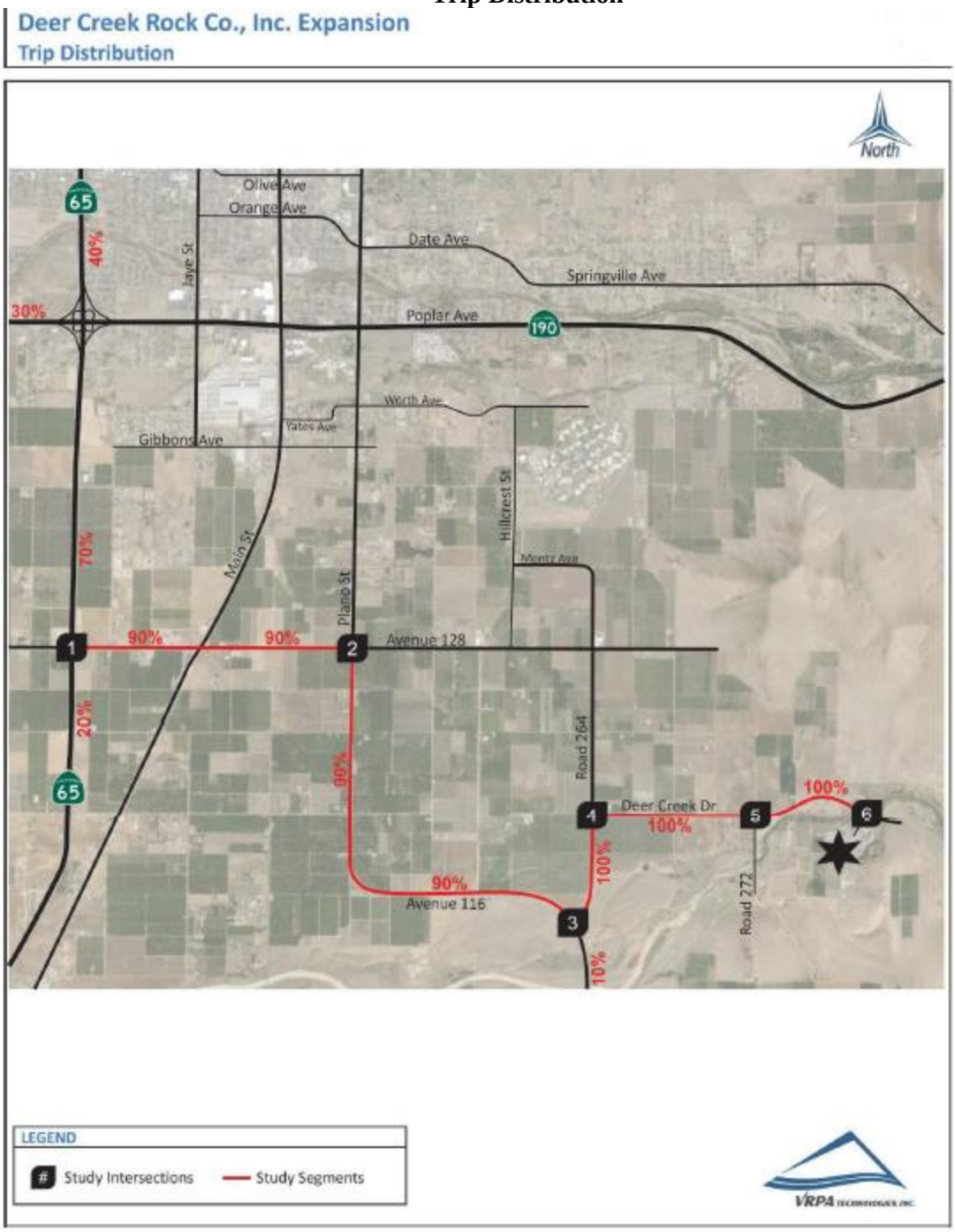
"Traffic impact analyses typically require the analysis of approved or pending developments that have not yet been built in the vicinity of the Project in addition to the proposed Project. Tulare County and Caltrans staff was consulted for approved or pending developments in the study area. The only approved or pending projects in the study area are improvement projects related to drainage and culvert repair, landscaping, and intersection improvements from Westwood Street to Main Street along Avenue 128. Recent improvements at the Avenue 128 and SR 65 intersection are reflected in the existing conditions and future year analysis."[39]

Near-Term Traffic Conditions

"A Near-Term Scenario was analyzed to include year 2020 traffic (estimated Project Opening-Day) plus traffic generated by other projects approved or being processed by Tulare County. Traffic conditions in the Year 2020 was estimated by using a 1.5% per year growth factor for background (ambient) growth along Tulare County facilities. The Tulare County Association of Governments (TCAG) regional travel demonstrates a growth rate 0.5 to 2%. A 2.5% per year growth factor was applied to all intersections along SR 65 which is consistent with Caltrans' SR 65 Transportation Concept Report (TCR). The resulting traffic is shown in Figures 3-6 and 3-7 [in the TIS]. A Near-Term Plus Project Scenario was analyzed to include year 2020 traffic plus traffic generated by other approved/pending projects plus traffic generated by the Project. The resulting traffic is shown in Figures 3-8 and 3-9 [in the TIS]."[40]

[37] Op. Cit. 20.
[38] Op. Cit. 20.
[39] Op. Cit.
[40] Op. Cit.

FIGURE 4.9-2
Trip Distribution[41]



[41] Op. Cit. 19.

Existing Plus Project Traffic Conditions

Impacts

Intersection Capacity Analysis

"Table 3.2 [in the TIS, **Table 4.9-7** in this draft SEIR] shows intersections that are expected to fall short of desirable operating conditions for various scenarios. Potential mitigation measures are discussed in Chapter 4 of the TIS. Results of the analysis show that the Project will contribute to an unacceptable LOS at the intersection of SR 65 and Avenue 128 when comparing the Cumulative Year 2040 Without Project and Cumulative Year 2040 Plus Project scenarios."[42]

Table 4.9-7
Intersection Operations[43]

INTERSECTION	CONTROL	TARGET LOS	PEAK HOUR	EXISTING PLUS PROJECT		NEAR-TERM WITHOUT PROJECT		NEAR-TERM PLUS PROJECT		CUMULATIVE YEAR 2040 WITHOUT PROJECT		CUMULATIVE YEAR 2040 PLUS PROJECT	
				DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS
1. SR 65 / Avenue 128	Signalized	C	AM	29.7	C	28.6	C	30.2	C	**43.6**	D	**47.9**	D
			PM	30.6	C	29.3	C	31.1	C	**43.7**	D	**47.5**	D
2. Plano Street / Avenue 128	All-Way Stop Sign	D	AM	13.0	B	12.0	B	13.1	B	20.6	C	24.3	C
			PM	10.5	B	10.0	A	10.6	B	13.0	B	14.5	B
3. Road 264 / Avenue 116	One-Way Stop Sign	D	AM	10.2	B	9.9	A	10.3	B	10.7	B	11.3	B
			PM	10.1	B	9.8	A	10.1	B	10.5	B	11.0	B
4. Road 264 / Deer Creek Drive	Two-Way Stop Sign	D	AM	10.9	B	10.3	B	10.9	B	11.3	B	12.1	B
			PM	10.0	B	9.5	A	10.0	B	10.0	B	10.6	B
5. Road 272 / Deer Creek Drive	One-Way Stop Sign	D	AM	10.6	B	10.2	B	10.7	B	11.1	B	11.7	B
			PM	10.7	B	10.0	B	10.7	B	10.7	B	11.6	B
6. Project Access / Deer Creek Drive	One-Way Stop Sign	D	AM	9.7	A	9.2	A	9.7	A	9.3	A	9.7	A
			PM	10.3	B	9.6	A	10.3	B	9.6	A	10.4	B

DELAY is measured in seconds
LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded
For signalized and all-way stop controlled intersections, delay results show the average for the entire intersection.
For one-way and two-way stop controlled intersections, delay results show the delay for the worst movement.

Queuing Analysis

"Table 3-3 [in the TIS, **Table 4.9-8** in this draft SEIR] provides a queue length summary for left and right turn lanes at the study intersections for various study scenarios. Queuing analysis was completed using Section 400 of Caltrans' Highway Design Manual."[44]

[42] Op. Cit.
[43] Op. Cit. 34.
[44] Op. Cit. 29.

Table 4.9-8
Queuing Operations[45]

INTERSECTION	EXISTING QUEUE STORAGE LENGTH (ft)		EXISTING PLUS PROJECT		NEAR-TERM WITHOUT PROJECT		NEAR-TERM PLUS PROJECT		CUMULATIVE YEAR 2040 WITHOUT PROJECT		CUMULATIVE YEAR 2040 PLUS PROJECT	
			AM Queue	PM Queue	AM Queue	PM Queue	AM Queue	PM Queue	AM Queue	PM Queue	AM Queue	PM Queue
SR 65 / Avenue 128	NB Left	550	7	8	7	8	7	8	11	13	11	13
	NB Right	200	34	48	30	44	34	49	49	73	53	78
	SB Left	450	158	121	144	107	161	123	237	175	253	192
	EB Left	475	18	31	18	32	18	32	29	52	29	52
	WB Left	350	38	33	34	29	39	33	56	48	61	53

Queue is measured in feet / **BOLD** denotes exceedance

Roadway Segment Capacity Analysis

Results of the segment analysis along the existing street and highway system are reflected in Table 4.4 [in the TIS, **Table 4.9-9** in this draft SEIR]. The performance criteria used for evaluating volumes and capacities on the road and highway system for this study were estimated using the Modified Arterial Level of Service Tables included in Table 1-4 and Appendix A [of the TIS]. Results of the analysis show that all of the study roadway segments are projected to operate at acceptable levels of service through the year 2040.[46]

Table 4.9-9
Segment Operations

STREET SEGMENT	SEGMENT DESCRIPTION	DIRECTION	TARGET LOS	PEAK HOUR	EXISTING PLUS PROJECT		NEAR-TERM WITHOUT PROJECT		NEAR-TERM PLUS PROJECT		CUMULATIVE YEAR 2040 WITHOUT PROJECT		CUMULATIVE YEAR 2040 PLUS PROJECT	
					VOLUME	LOS	VOLUME	LOS	VOLUME	LOS	VOLUME	LOS	VOLUME	LOS
Avenue 128														
SR 65 to Plano Street	2 Lanes Undivided	EB	D	AM	272	B	253	B	278	B	415	B	440	B
				PM	258	B	239	B	264	B	391	B	417	B
		WB		AM	281	B	262	B	288	B	430	B	455	B
				PM	262	B	243	B	268	B	398	B	423	B
Plano Street - Avenue 116														
Avenue 128 to Road 264	2 Lanes Undivided	NB / WB	D	AM	184	B	161	B	187	B	217	B	243	B
				PM	200	B	178	B	203	B	239	B	264	B
		SB / EB		AM	166	B	143	B	168	B	193	B	218	B
				PM	176	B	153	B	178	B	206	B	232	B
Road 264														
Deer Creek Drive and Avenue 116	2 Lanes Undivided	NB	D	AM	100	B	73	B	101	B	98	B	126	B
				PM	88	B	61	B	89	B	82	B	110	B
		SB		AM	88	B	61	B	89	B	82	B	110	B
				PM	93	B	66	B	94	B	89	B	117	B
Deer Creek Drive														
Road 264 to Road 272	2 Lanes Undivided	EB	D	AM	146	B	120	B	148	B	161	B	189	B
				PM	92	B	65	B	93	B	87	B	115	B
		WB		AM	92	B	65	B	93	B	87	B	115	B
				PM	105	B	78	B	106	B	105	B	133	B
Road 272 to Project Access	2 Lanes Undivided	EB	D	AM	103	B	76	B	104	B	103	B	131	B
				PM	90	B	63	B	91	B	85	B	113	B
		WB		AM	90	B	63	B	91	B	85	B	113	B
				PM	99	B	72	B	100	B	97	B	125	B

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

[45] Op. Cit. 34.
[46] Op. Cit.

Truck Operational Maneuvers

In addition to typical traffic impact analyses, VRPA Technologies as analyzed [heavy-duty haul] truck operation maneuvers resulting from the Project. As indicated in the TIS, "The geometric design of an intersection influences roadway safety and operational performance as well as defines how vehicles proceed through an intersection. Truck dimensions and operating characteristics affect the physical roadway infrastructure and should be appropriately considered in the geometric design and traffic operations of roads in the study area. Operational maneuvers for the Project's truck traffic was evaluated at left and right-turn movements at study intersections. The American Association of State Highway and Transportation Official's (AASHTO) WB-67D design vehicle was used to assess the operational maneuvers of Project truck traffic. As noted in the National Cooperative Highway Research Program (NCHRP) Report 505, swept paths (path of the outside front tractor tire and the inside rear trailer tire) for the WB-67D design vehicle are so great that trucks cannot make a 90 degree right turn from one two-lane road to another while remaining within a 12 ft lane for turning radii of 75 ft. or less.1 In these cases, trucks will encroach on the roadway shoulder or an opposing lane. Figures 3-14a through 3-17b [in the TIS] depict the left and right turning maneuvers at study intersections which were developed using the AutoTURN software program. Results indicate that Project truck traffic may slightly encroach on an opposing lane while conducting turning maneuvers at the Plano Street and Avenue 128 [Figures 3-15a and 3-15b], Road 264 and Avenue 116 [Figures 3-16a and 3-16b in the TIS], and Road 264 and Deer Creek Drive [Figures 3-16c and 3-16d, and 3-17a and 3-17b in the TIS] intersections."[47] As shown in Figures 3-14a through 3-14c, in the TIS, Project-related truck turning maneuvers will not impact SR 65 during access or egress of this Caltrans facility. See **Figures 4.9-3** through **4.9-13.**

Therefore, the Project would result in a less than significant impact in regards to trucking turning maneuvers.

Mitigation(s) ***None Required.***

Conclusion: ***Less Than Significant***

"Results of the analysis show that the Project will not exceed Tulare County's minimum LOS standard of "D" as shown in Tables E-1 and E-2 [in the TIS]. However, [as discussed in the Cumulative Impact Analysis section, below] Caltrans's minimum LOS standard of "C" will be exceeded for the Cumulative Year 2040 Without Project and Cumulative Year 2040 Plus Project scenarios."[48]

Cumulative Impact Analysis: ***Less Than Significant With Mitigation***

[47] Op. Cit. 35.
[48] Op. Cit. E-3.

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the traffic report, Tulare County 2030 General Plan, Tulare County General Plan Background Report, Tulare County 2030 General Plan EIR, City of Porterville 2030 General Plan, and/or Porterville 2030 General Plan EIR.

Cumulative Year 2040 Without Project Traffic Conditions

"The impacts of the Project were analyzed considering future traffic conditions, approximately twenty (20) years after the assumed opening day of the Project, or in this case the year 2040. The levels of traffic expected in 2040 relate to the cumulative effect of traffic increases resulting from the implementation of the General Plans of local agencies, including Tulare County. The TCAG regional travel demonstrates a growth rate 0.5 to 2% per year. Traffic conditions in the Year 2040 was estimated using a 1.5% per year growth factor for background (ambient) growth along Tulare County facilities. A 2.5% per year growth factor was applied to all intersections along SR 65 which is consistent with Caltrans' SR 65 TCR. Traffic conditions resulting from this scenario are shown in Figures 3-10 and 3-11 [in the TIS]."[49]

Cumulative Year 2040 Plus Project Traffic Conditions

"The addition of Project trips, which were distributed to the roadway system using the trip distribution percentages shown in Figure 3-1 (Section 3.3) [in the TIS], were added to Cumulative 2040 Without Project traffic volumes. This leads to the results shown in Figures 3-12 and 3-13 [in the TIS]."[50]

As such, ***Mitigation Measure 4.9-1*** would be required at the SR 65 and Avenue 128 intersection for the Cumulative Year 2040 scenarios that address future transportation and circulation issues in the study area. The improvements identified would result in acceptable levels of service as shown in Tables E-3 [in the TIS].

Mitigation Measure(s): ***See Mitigation Measure 4.9-1*** and ***Equitable Fair Share Responsibility Estimate***

The TIS contains recommended improvements at the intersection of SR65 and Avenue 128 to mitigate the traffic impacts of the Project. It also describes potential improvements at study area intersections for various scenarios.

[49] Op. Cit. 29.
[50] Op Cit.

Mitigation Measure(s):

4.9-1. Widen the westbound approach to 1 left turn lane, 1 through lane, and 1 right turn lane with overlap phasing (adding 1 right turn)"[51]

Equitable Fair-Share Responsibility – "The proposed Project will be required to contribute a fair-share towards the costs of improvements that are identified for the Cumulative Year 2040 scenarios. The intent of determining the equitable responsibility for the improvements identified above for the Cumulative Year 2040 scenarios, is to provide a starting point for early discussions to address traffic mitigation equitability and to calculate the equitable share for mitigating traffic impacts. According to the Caltrans "Guide for the Preparation of Traffic Impact Studies," the intent of determining the equitable responsibility for mitigation measures is to provide a starting point for early discussions to address traffic mitigation equitability and to calculate the equitable share for mitigation traffic impacts. The formula used to calculate the equitable share responsibility to the study area is as follows:

Equitable Share = (Project Trips)/(Future Year Plus Approved Project Traffic - Existing Traffic)

Table 4-3 [in the TIS, **Table 4.9-10** of this SEIR] shows the equitable share responsibility to the study area. The equitable share responsibility shown in Table 4-3 [**Table 4.9-10**] is the result of LOS enhancements related to capacity."[52]

Table 4.9-10
Equitable Fair-Share Responsibility

INTERSECTION	PEAK HOUR	EXISTING	PROJECT TRIPS	CUMULATIVE YEAR 2040 PLUS PROJECT	FAIR SHARE PERCENTAGE
SR 65 / Avenue 128	AM	1,375	52	2,360	5.3%
	PM	1,395	52	2,393	5.2%

Conclusion: ***Less Than Significant Impact With Mitigation***

b) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

[51] Op. Cit. 47.
[52] Op. Cit. 49.

Project Impact Analysis: ***Less Than Significant Impact With Mitigation***

"An important goal is to maintain acceptable levels of service along the highway, street, and road network. To accomplish this, Tulare County RMA and Caltrans adopt minimum levels of service in an attempt to control congestion that may result as new development occurs. Tulare County's 2030 General Plan, policy number TC-1.16, identifies a minimum LOS standard of "D" on the County roadway system (both segments and intersections). Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. For undeveloped or not densely developed locations, the goal may be to achieve LOS "C".

Results of the analysis show that the Project will not exceed Tulare County's minimum LOS standard of "D" as shown in Tables 3.16-7 and 3.16-8 [in the TIS]. However, Caltrans's minimum LOS standard of "C" will be exceeded for the Cumulative Year 2040 Without Project and Cumulative Year 2040 Plus Project scenarios."[53]

As such, based on the thorough and substantive analysis provided by consultant VRPA Technologies, RMA agrees that the Project would result in a ***Less Than Significant Impact With Mitigation***.

Cumulative Impact Analysis: ***Less Than Significant Impact With Mitigation***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the TIA, Tulare County 2030 General Plan, Tulare County General Plan Background Report, Tulare County 2030 General Plan EIR, and the TCAG Regional Transportation Plan.

As noted in the Response to Item 4.9 a), the Proposed Project would have a less than significant cumulative impact in 2040. As such, ***Less Than Significant Cumulative Impact With Mitigation*** related to this Checklist item will occur.

c) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Project Impact Analysis: ***No Impact***

As indicated in the TIA, "In the fall of 2013, Senate Bill 743 (SB 743) was passed by the legislature and signed into law by the governor. For some parts of California (and possibly the entire state), this legislation will eventually change the way that transportation studies are

[53] Op. Cit. E-3.

conducted for environmental documents. In the areas where SB 743 is implemented, delay-based metrics such as roadway capacity and level of service will no longer be the performance measures used for the determination of the transportation impacts of projects in studies conducted under CEQA. Instead, new performance measures such as vehicle miles travelled (VMT) or other similar measures will be used. July 1, 2020 is the statewide implementation date and agencies may opt-in use of new metrics prior to that date. Therefore, the traffic analysis follows current practice regarding state and local guidance as of the date of preparation. However, an estimate of VMT associated with the Project is provided in Table E-4 for the Project. The estimated VMT for the Project is derived from the trip length from the Project site to the northern boundary of Tulare County (near Orange Cove). It should be noted that the Office of Planning and Research (OPR) has determined that projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less than significant transportation impact. The Project will generate an additional 112 trips per day in accordance with the expansion of the site. Therefore, no mitigation is required."[54]

As such, based on the thorough and substantive analysis provided by consultant VRPA Technologies, RMA agrees that the Project would result in a ***Less Than Significant Impact*** to this resource.

Cumulative Impact Analysis: ***Less Than Significant Impact***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

As there will be a less than significant impact on the Project level, a ***Less Than Significant Cumulative Impact*** related to this Checklist Item will occur.

Mitigation Measure(s): ***None Required.***

Conclusion: ***No Impact***

As noted earlier, ***No Project-specific or Cumulative Impacts*** related to this Checklist Item will occur.

d) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Project Impact Analysis: ***Less Than Significant Impact***

The proposed Project will not create any new design features on-site. The existing on-site circulation pattern will remain the same as the currently approved surface mining permit.

[54] Op. Cit. E-4.

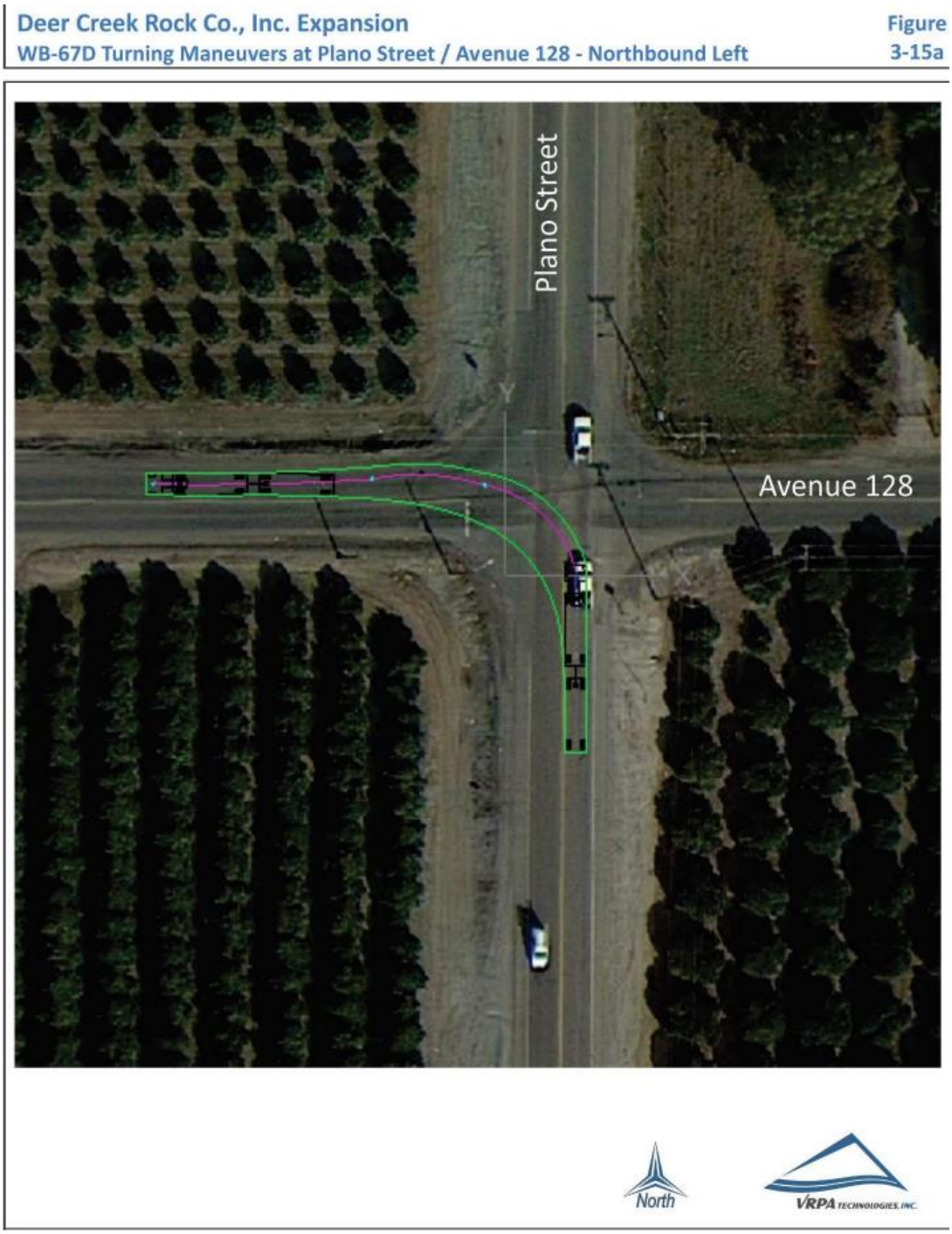
Although there will be an increase in the volume of vehicles accessing the site, the same types of vehicles (heavy-duty haul trucks and personal vehicles) will continue to access the site. The existing site access/egress is located at a sufficient distance from any intersection to allow for safe vehicular access/egress to and from the site.

Also, as discussed in earlier Item a), VRPA Technologies analyzed heavy-duty truck operational movements (i.e., turning movements) in the TIS which concluded, "Figures 3-14a through 3-17b [in the TIS] depict the left and right turning maneuvers at study intersections which were developed using the AutoTURN software program. Results indicate that Project truck traffic may slightly encroach on an opposing lane while conducting turning maneuvers at the Plano Street and Avenue 128 [Figures 3-15a and 3-15b], Road 264 and Avenue 116 [Figures 3-16a and 3-16b in the TIS], and Road 264 and Deer Creek Drive [Figure 3-16c and 3-16d, and 3-17a and 3-17b in the TIS] intersections."[55] As shown in Figures 3-14a through 3-14c, in the TIS, Project-related heavy-duty truck turning maneuvers will not impact SR 65 during access or egress of this Caltrans facility."[56] See **Figures 4.9-3** through **4.9-13**.

Therefore, a ***Less Than Significant Project-specific Impact*** related to this Checklist Item will occur.

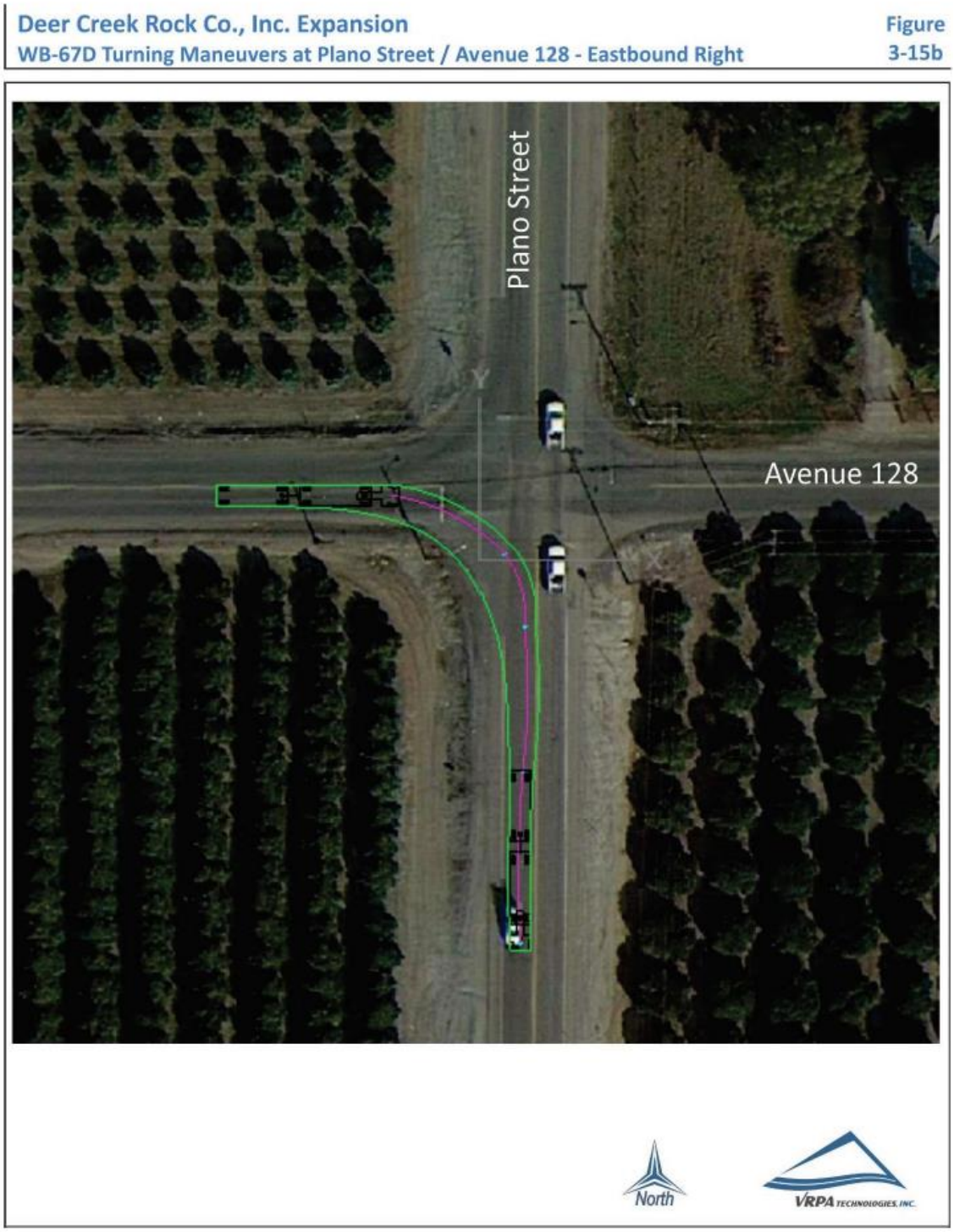
[55] Op. Cit. 35.
[56] Op. Cit.

Figure 4.9-3[57]



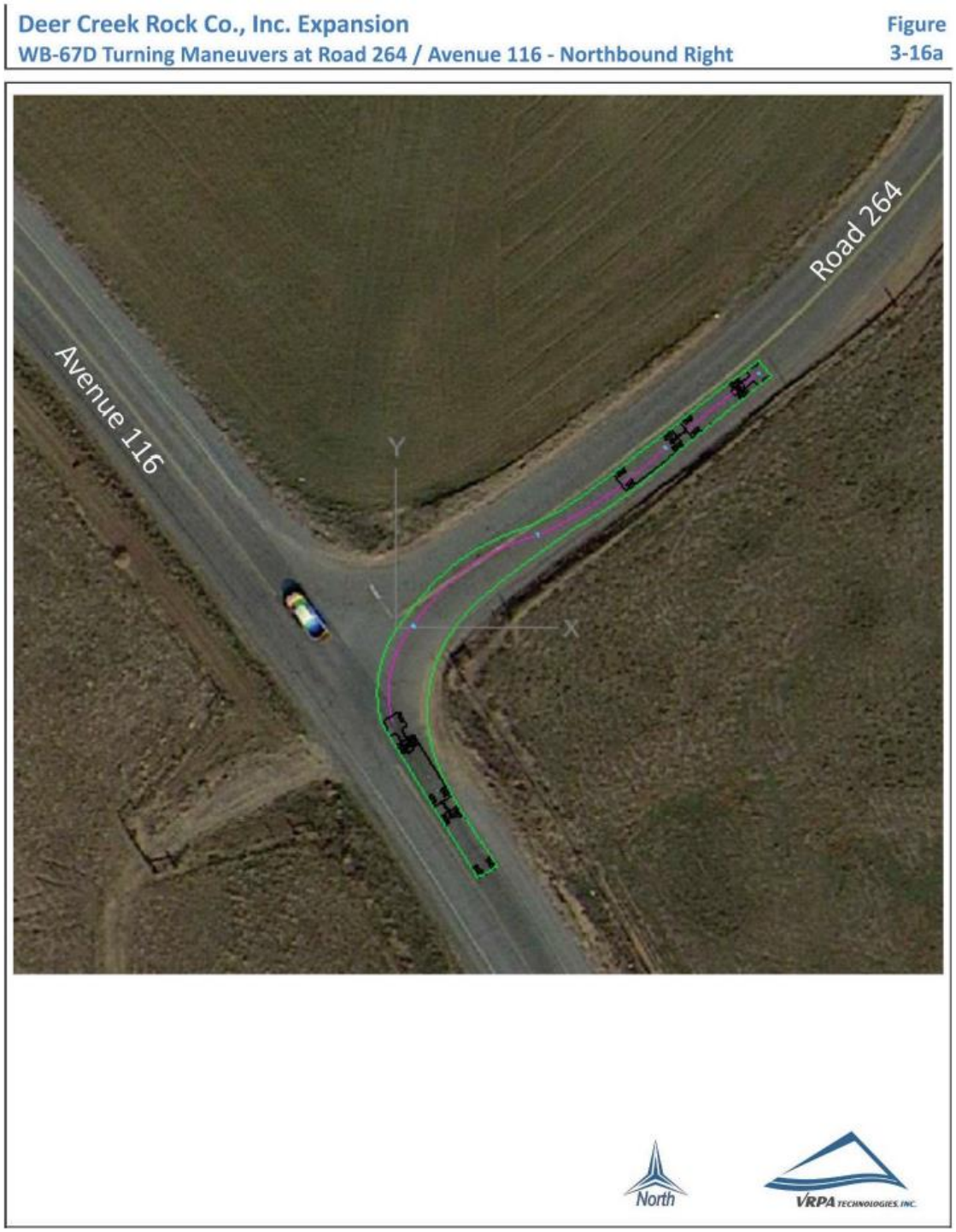
[57] Op. Cit. 39

Figure 4.9-4[58]



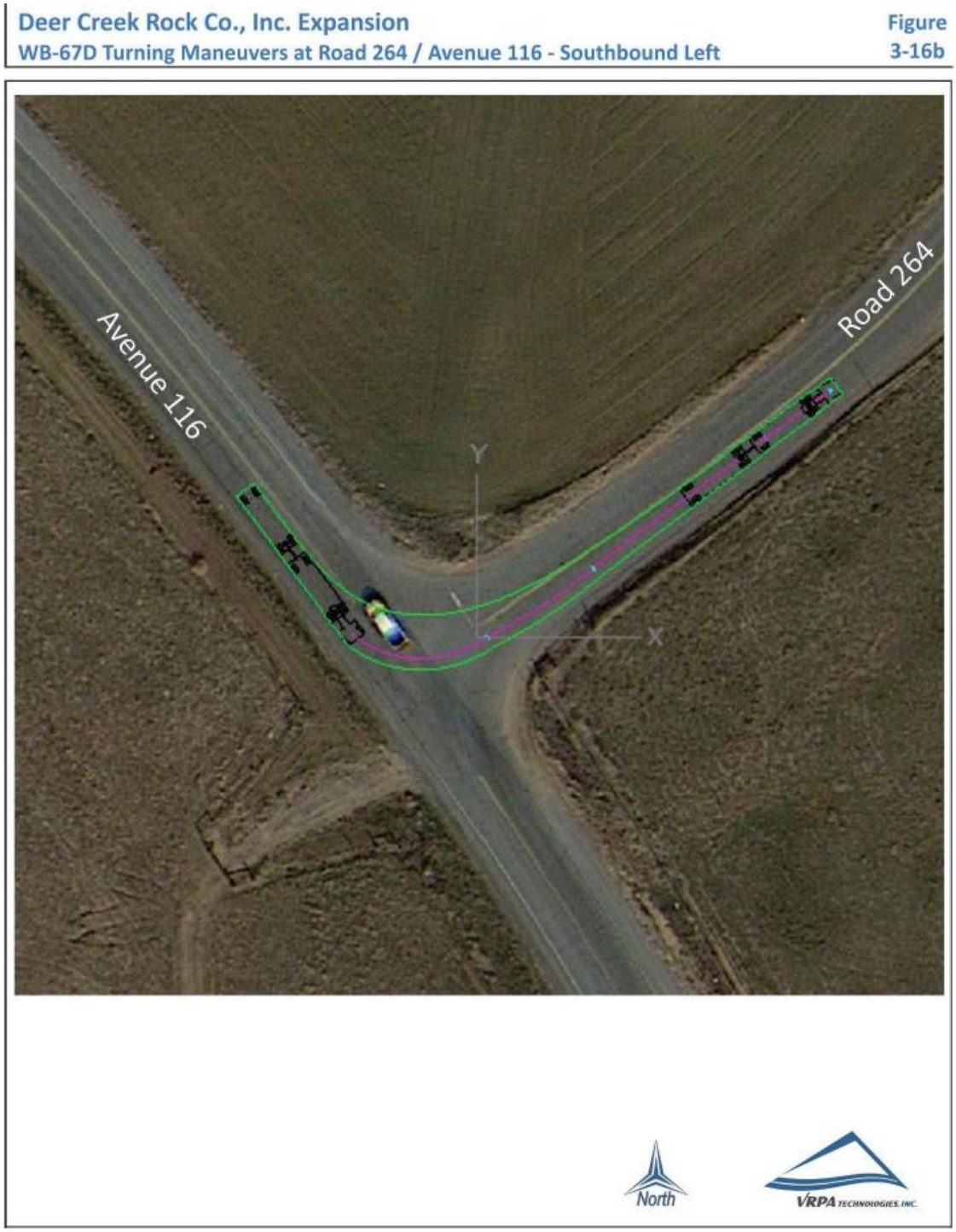
[58] Op. Cit. 40.

Figure 4.9-5[59]



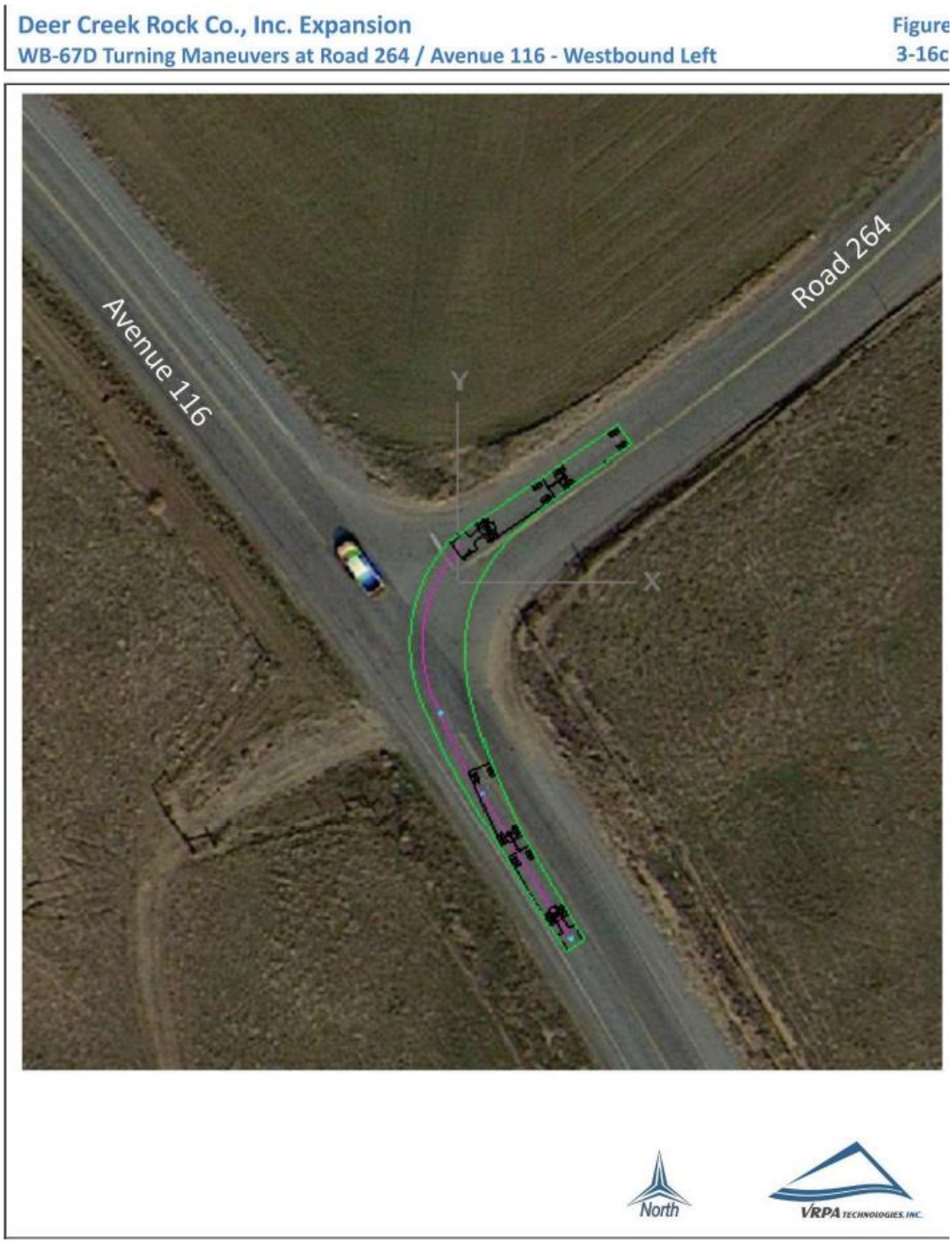
[59] Op. Cit. 41.

Figure 4.9-6[60]



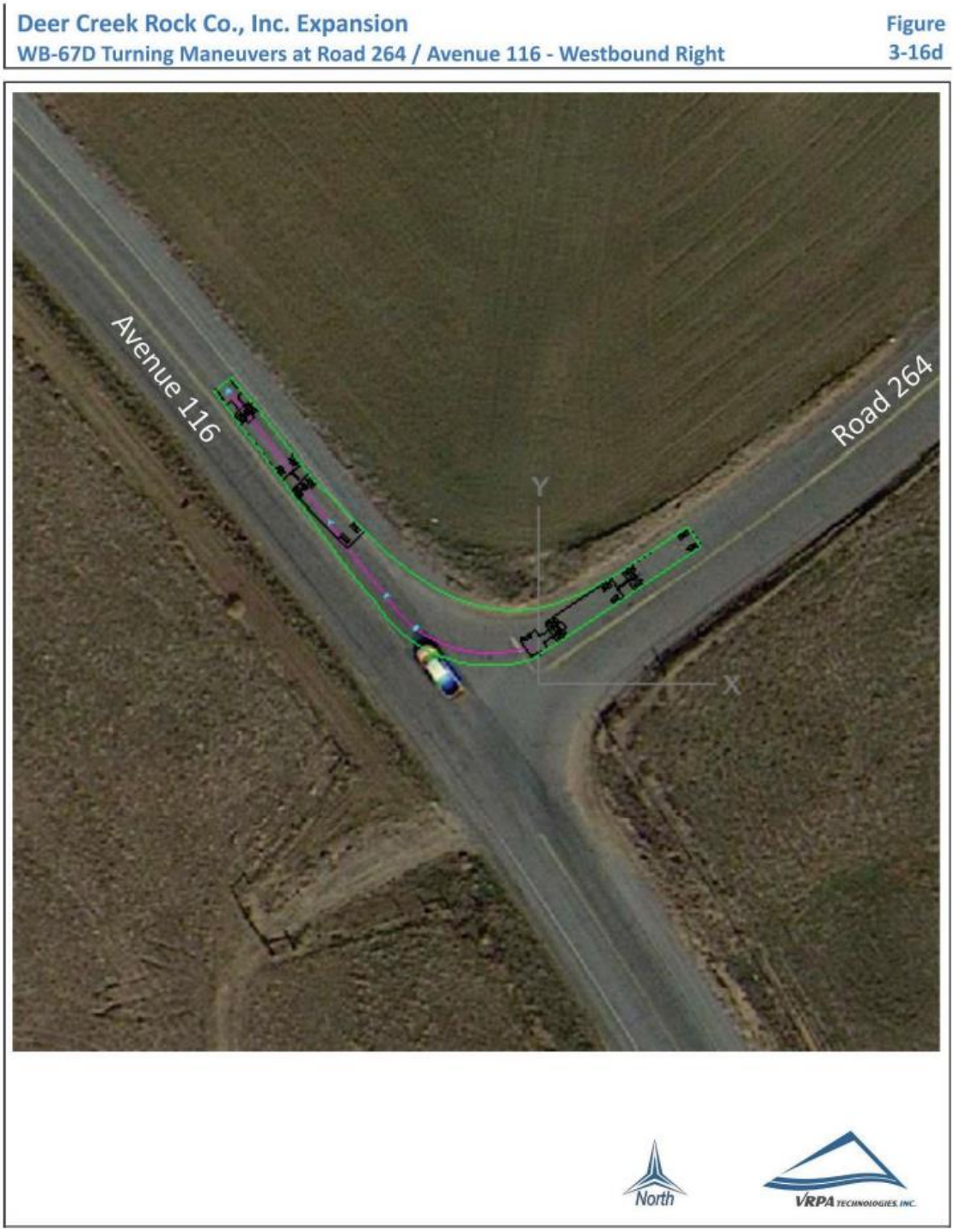
[60] Op. Cit. 42.

Figure 4.9-7[61]



[61] Op. Cit. 43

Figure 4.9-8[62]



[62] Op. Cit. 44.

Figure 4.9-9[63]

[63] Op. Cit. 45.

Figure 4.9-10[64]

[64] Op. Cit. 46.

Figure 4.9-11[65]

[65] Op. Cit. 36.

Figure 4.9-12[66]

[66] Op. Cit. 37.

Figure 4.9-13[67]

[67] Op. Cit. 38.

Cumulative Impact Analysis: ***No Impact***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

As noted earlier, no significant design changes that would cause a hazard are proposed. As such, ***No Cumulative Impact*** related to this Checklist Item will occur.

Mitigation Measure(s): ***None Required.***

Conclusion: ***No Impact***

As noted earlier, ***No Project-specific or Cumulative Impacts*** related to this Checklist Item will occur.

e) Result in inadequate emergency access?

Project Impact Analysis: ***Less Than Significant Impact***

The Project site is currently accessed/egressed via an existing entrance road from Deer Creek Drive. Emergency access to the site will remain as approved on the existing surface mining permit, and adequate space will be maintained for emergency vehicles to turn around on site. As such, there will be a ***Less Than Significant Impact*** to this resource.

Cumulative Impact Analysis: ***Less Than Significant Impact***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

The existing site currently has adequate access/egress for emergency vehicles. The Project will not cumulatively limit access/egress to any of the surrounding properties. Therefore, a ***Less Than Significant Impact*** to this Checklist Item will occur.

Mitigation Measure(s): ***None Required.***

Conclusion: ***No Impact***

As noted earlier, ***Less Than Significant Project-specific or Cumulative Impacts*** related to this Checklist Item will occur.

DEFINITIONS/ACRONYMS

Acronyms

AADT	Average Annual Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
CAA	Federal Clean Air Act
CCAA	California Clean Air Act
CARB	California Air Resources Board
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CTC	California Transportation Commission
COLT	Porterville Transit
DART	Dinuba Area Transit
DEIR	Draft Environmental Impact Report
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HCM	Highway Capacity Manual (2010)
IGR	Intergovernmental Review
ITS	Intelligent Transportation Systems
LOS	Level of Service (LOS)
MPO	Metropolitan Planning Organization
OPR	Office of Planning and Research
PHF	Peak hour factor
RMA	Resource Management Agency (of Tulare County)
RTP	Regional Transportation Plan
TCM	Transportation Control Measures
TDM	Transportation Demand Management
TIME	Tulare Intermodal Express
TCAG	Tulare County Association of Governments
TCR	Transportation Concept Report
TCaT	Tulare County Area Transit
TIS	Traffic Impact Study
TSM	Transportation System Management
SB	Senate Bill (State of California)
SIP	State Implementation Plan
SR	State Route
V/C	volume/capacity
V-Line	Visalia-Fresno intercity service
VMT	Vehicle Miles Travelled
VRPA	Valley Research and Planning Associates Technologies

REFERENCES

California Department of Transportation (Caltrans). "Guide for the Preparation of Traffic Impact Studies". December 2002. Accessed August 2019. https://www.contracosta.ca.gov/DocumentCenter/View/34121/Caltrans2002-TIS-Guidelines-PDF.

State of California. Natural Resources Agency Office of Planning and Research. CEQA Guidelines CEQA Section 15126.2 (a). Accessed August 2019 at: http://resources.ca.gov/ceqa/docs/2018_CEQA_FINAL_TEXT_122818.pdf

"Deer Creek Rock Co., Inc. Expansion Project Traffic Impact Study" (TIS) report prepared by consultant VRPA Technologies, Inc., is included as Appendix "G" of this document.

Tulare County Association of Governments Regional Transportation Plan, 2018. Accessed August 2019 at: http://www.tularecog.org/RTPSCS/ActionElement.pdf.

Tulare County Association of Governments 2018 RTP. Program EIR. 2.0 Policy Element. http://www.tularecog.org/RTPSCS/PolicyElement.pdf.

Tulare County General Plan 2030 Update. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/index.asp.

Tulare County General Plan 2030 Update Background Report. February 2010. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/Appendix%20B%20-%20Background%20Report.pdf.

Tulare County General Plan 2030 Update Recirculated Draft Environmental Impact Report http://generalplan.co.tulare.ca.us/documents/generalplan2010/RecirculatedDraftEIR.pdf. Accessed August 2019.

Tribal Cultural Resources
Chapter 4.10

SUMMARY OF FINDINGS

The proposed Project will result in a ***Less Than Significant Impact With Mitigation*** to Cultural Resources. Consultant Culturescape completed a cultural resources study, including a records search and survey which is included in Appendix "C" of this draft Subsequent Environmental Impact Report (draft Subsequent EIR, draft SEIR, or SEIR). A detailed review of potential impacts is provided in the following analysis. Culturescape conducted a records search of site files and maps by the Southern San Joaquin Valley Archaeological Information Center, California State University, Bakersfield. A Sacred Lands File Request was also submitted to the Native American Heritage Commission (NAHC). Letters and follow-up phone calls were made to tribal organizations on the NAHC contact list, to determine whether tribal cultural resources were known in or near the Project. These investigations determined no previously reported cultural resources within the project area and two previous cultural studies within the area; one study was conducted in 2009 on a previous 29-acre expansion of the Deer Creek Quarry. "No cultural resources were located during these studies within the proposed project or within ½ mile radius of the property. There are no resources that are listed in the National Register of Historic Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks."[1] This information, and additional analysis in the resource discussion item, are used as the basis for determining that this Project will result in a less than significant impact with mitigation.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

Several CEQA statutes and guidelines address requirements for cultural resources, including historic and archaeological resources.[2] If a proposed Project may cause a substantial adverse effect on the significance of a historical resource, then the Project may be considered to have a significant effect on the environment, and the impacts must be evaluated under CEQA (Section 21084.1). The definition of "historical resources" is included in Section 15064.5 of CEQA Guidelines, and includes both historical and archaeological resources. "Substantial adverse change" is defined as "physical demolition, destruction, relocation, or alteration of the resource…"

Section 15064.5 also provides guidelines when there is a probable likelihood of Native American remains existing in the Project site. Provisions for the accidental discovery of historical or unique

[1] "Twenty Acre Expansion of the Deer Creek Rock Company Porterville, Tulare County, California" Page i. June 2019 Prepared by Culturescape and included in Appendix "C" of this SEIR.

[2] California State Parks. Office of Historic Preservation. *"CEQA Basics"* http://ohp.parks.ca.gov/?page_id=21721. Accessed May 2019.

archaeological resources encountered during construction include a recommendation for evaluation by a qualified archaeologist, with follow up as necessary.

Public Resources Code Section 5097.5 prohibits excavation or removal of any "vertebrate paleontological site…or any other archaeological, paleontological or historical feature, situated on public lands, except with express permission of the public agency having jurisdiction over such lands."

This section of the Draft Program/Project Environmental Impact Report (DEIR) for the Project meets CEQA requirements by addressing potential impacts to tribal cultural resources on the proposed Project site. The "Environmental Setting" section provides a description of cultural resources in resources in the region, with special emphasis on the proposed Project site and vicinity. The "Regulatory Setting" section provides a description of applicable State and local regulatory policies. Results of cultural resources reports from CHRIS are included in Appendix "C" of this DEIR. A description of potential impacts is provided, along with feasible mitigation measures to reduce the impacts to less than significant.

CEQA Thresholds of Significance

"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 a defined in Public Resources Code section 5020.1(k), or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe."[3]

ENVIRONMENTAL SETTING

"Tulare County lies within a culturally rich province of the San Joaquin Valley. Studies of the prehistory of the area show inhabitants of the San Joaquin Valley maintained fairly dense populations situated along the banks of major waterways, wetlands, and streams. Tulare County was inhabited by aboriginal California Native American groups consisting of the Southern Valley Yokuts, Foothill Yokuts, Monache, and Tubatulabal. Of the main groups inhabiting the Tulare County area, the Southern Valley Yokuts occupied the largest territory."[4]

[3] CEQA Guidelines Appendix "G" Item XVIII. Tribal Cultural Resources.
[4] Tulare County General Plan Update 2030. Page 8-5.

"California's coast was initially explored by Spanish (and a few Russian) military expeditions during the late 1500s. However, European settlement did not occur until the arrival into southern California of land-based expeditions originating from Spanish Mexico starting in the 1760s. Early settlement in the Tulare County area focused on ranching. In 1872, the Southern Pacific Railroad entered Tulare County, connecting the San Joaquin Valley with markets in the north and east. About the same time, valley settlers constructed a series of water conveyance systems (canals, dams, and ditches) across the valley. With ample water supplies and the assurance of rail transport for commodities such as grain, row crops, and fruit, a number of farming colonies soon appeared throughout the region."[5]

"The colonies grew to become cities such as Tulare, Visalia, Porterville, and Hanford. Visalia, the County seat, became the service, processing, and distribution center for the growing number of farms, dairies, and cattle ranches. By 1900, Tulare County boasted a population of about 18,000. New transportation links such as SR 99 (completed during the 1950s), affordable housing, light industry, and agricultural commerce brought steady growth to the valley. The California Department of Finance estimated the 2007 Tulare County population to be 430,167"[6]A summary of the southern San Joaquin Valley during the Prehistoric Period, an Ethnographic summary, and a Historic Period summary is included as Appendix D [of the Cultural Study].

Existing Cultural and Historic Resources

"Tulare County's known and recorded cultural resources were identified through historical records, such as those found in the National Register of Historic Places, the Historic American Building Survey/Historic American Engineering Record (HABS/HAER), the California Register of Historic Resources, California Historical Landmarks, and the Tulare County Historical Society list of historic resources."[7]

Due to the sensitivity of many prehistoric, ethnohistoric, and historic archaeological sites, locations of these resources are not available to the general public. The Information Center at California State University, Bakersfield houses records associated with reported cultural resources surveys, including the records pertinent to sensitive sites, such as burial grounds, important village sites, and other buried historical resources protected under state and federal laws.

As indicated earlier, consultants Culturescape prepared a cultural resource inventory for historic and prehistoric sites within the proposed project area (20 acres) located approximately six miles southeast of the city of Porterville in Tulare County, California located in the NE ¼ of Section 21 T. 22 S., R. 28E M.D.B. & M., on the Success Dam 7.5 Quadrangle USGS topographic map.[8] The following excerpt provides an objective description of by a qualified expert :

[5] Ibid.
[6]Op. Cit. 8-6.
[7] Tulare County General Plan 2030 Update *Background Report.* Page 9-56.
[8] *"Twenty Acre Expansion of the Deer Creek Rock Company Porterville, Tulare County, California"* Page i. June 2019 Prepared by Culturescape and included in Appendix "C" of this SEIR.

"Natural Setting

"The project area is located approximately six miles southeast of Porterville (Figures 1-2), a rural community within the San Joaquin Valley. Its elevation is approximately 850 feet above sea level at the highest point falling to about 550 feet near Deer Creek in the north. This is part of the Great Central Valley. This encompasses an area that is approximately 430 miles long north/south and 40 miles wide. "The valley floor is composed of several thousands of feet of sediments deposited from runoff from the surrounding mountains" (Schoenherr 1995:516). The rainfall in this area averages between 10-12 inches per year. Agriculture and overgrazing have modified the area with the introduction of invasive weeds and desertification is apparent over most of the area, with the most obvious indications being salt build up and polluted waterways (Schoenherr 1995:16). The valley is divided and named for the two river systems that drain it; the Sacramento in the north and the San Joaquin in the south. This area supported a wide variety of wildlife, including elk, pronghorn, and mule deer until the advent of agriculture. Pronghorn were rare by 1875, and by 1885 only one band of elk were limited to the area around Buena Vista (Schoenherr 1995:549, 550). The project area is located in the Lower Sonoran Lifezone within the California Valley Grassland Community. The natural water source near the project area is Deer Creek."[9]

The Windmiller Pattern

As defined by the Society for California Archaeology, there are several chronological and cultural units (i.e., periods, phases, horizons, stages, patterns, etc.) that define California prehistory. "The literature on prehistoric California contains numerous designations for units referring to chronological, geographical, cultural, technological, or functional diversity in the archaeological record. These dimensions have often been invoked in overlapping or inconsistent ways."[10] As noted in the Cultural Study, the Windmiller Pattern was prevalent in the San Joaquin Valley, which includes Tulare County's prehistory. As defined by Society for California Archaeology, a Pattern is "A geographically and chronologically extended cultural unit within a region, characterized by similar technology, economy, and burial practices. A pattern has been defined as "a configuration of basic traits representing a cultural adaptation" (Bennyhoff and Fredrickson 1994:20). Geographical and chronological subdivisions of patterns have been termed *aspects* and *phases*.[11]"

"The Windmiller Pattern appears to be widespread in the San Joaquin Valley dating from the Middle Archaic through the Upper Archaic based on burial patterns found as far south as Buena Vista Lake (Rosenthal Et AL. 2007:154, 155). The Windmiller Pattern is more prevalent in the Central Valley and is represented by a successful utilization of resources. This is demonstrated by the recovery of a wide variety of projectile point types, baked clay line weights for fishing, trident bone spear tips for fishing, two types of bone fish hooks, and the faunal remains of both terrestrial and aquatic species (Bennyhoff 1950; Ragir 1972). Trade objects that were obtained were "generally obtained as finished items rather than as raw material" (Moratto 2004:203 [1984]). The presence of artifacts made of exotic materials, such as obsidian, shell, and quartz, indicates that by

[9] Ibid 4.

[10] Society for California Archaeology. Chronological and Cultural Units. A Glossary of Proper Names in California History. Accessed August 2019 at: https://scahome.org/about-ca-archaeology/glossary-of-terms/chronological-and-cultural-units/.

[11] Ibid.

4000 B.C. an extensive trade network existed in central California. The Windmiller people excelled in flaked and ground stone production. Especially notable are ground and polished charmstones of alabaster, marble, and diorite (Moratto 2004:203 [1984]).

Delta Windmiller burials occur both in village plots and in cemeteries separate from habitation sites. Burials typically (85%) contain both grave goods and red ochre (Moratto 2004:203 [1984]). The position of the dead follows certain traits, where "Skeletons are most often extended ventrally and oriented toward the west, although westerly oriented dorsal extensions are also common. Flexed burials, non-westerly orientation and cremations occur infrequently" (Moratto 2004:203 [1984]). At four Windmiller sites burials were oriented towards the summer and winter solstice (Moratto 2004:203 [1984]). Burial patterns included internment on low rises above the river flood plain, a greater quantity of wealth and variety along with "more advanced technology in that greater attention was paid to finished products and to artistic elaboration" (Wallace 1978:32).

Ethnography

Yokuts

The area of the proposed site is linked to the Yokuts who were linguistically associated to Penutian speakers. These included the Costanoan, Miwok, Wintun, Maidu, and Yokuts (Heizer and Elasser 1980:137). The estimate for the time depth based on "the small phonological and morphological differences among Yokuts subgroups . . . indicates a relatively recent date for proto-Yokuts, probably between 1,500 and 1,000 years ago" (Golla 2007:76) While they could understand each other, the dialect of this group varied from the northern to the southern end of the San Joaquin Valley.

Sutton (2010:3-30) has proposed that an earlier language group of Uto-Aztecan was pervasive in The Great Central Valley based on similarities of language and burial patterns in Central Coastal California. He has suggested that this language group was a remnant of an earlier sub-group known as Takic, previously referred to as "Shoshonean" language that was originally called "The Southern California" branch. Based on these and previous studies, it is thought that this language group originated in the southern foothills of the Sierra Nevada and that these groups occupied the Southern San Joaquin Valley in the Middle Holocene (Sutton 2010:6).

"To the north of the Chumash, there is some linguistic evidence of 'ancient and long-term contact' between Salinian and Uto-Aztecan...This contact may have been severed by the entry of Yokuts into the San Joaquin Valley (circa 3000 cal B.P.)" [Sutton 2010:8].

The Yokuts held territory "from the San Joaquin Valley floor from the mouth of the San Joaquin River south to Tehachapi Pass to the lower Sierran foothills south of the Fresno River and the lower Kern and Kings river lands in the southern valley" (Heizer and Elasser 1980:14-15). There were at least 50 distinct tribes within this area of approximately 250 by 100 miles (Heizer and Elasser 1980:15, 16; Kroeber 1976:475; Heizer and Whipple 1971:370). The Yokuts differed from other groups in that "They are divided into true tribes" . . . each has a name, a dialect, and a territory" (Heizer and Whipple 1971:369; Kroeber 1976:474). The area of the "valley edge and the

foothill margin, particularly towards the better-watered Sierra slopes to the east…" led to denser populations south of the Fresno River (Heizer and Whipple 1971:91). While these groups were somewhat mobile to reflect changes in resource availability, some areas were occupied by particular groups "with sufficient permanence to become identified with it" (Heizer and Whipple 1971:370). Individual Yokut groups identified with their name or village more than with the Yokuts as a whole.

The village of Bokninuwa was located on Deer Creek, however, these lands were ceded in 1851 and tribal members were relocated to the Kings River Reservation (Access Genealogy). Hostilities between tribal people were instigated by settlers after that time. This was driven by miner's incursions into tribal lands and led by Walter Harvey who was elected as judge. In an attempt to intervene, James Savage, acting in the defense of the Yokuts was shot and killed by Harvey. The area had a relative peace for a few years until 1856 when the last Indian war was fought near Battle Mountain on the North Fork of the Tule River. This included over 600 tribal members against local militia known as the Tulare Mounted Volunteers and another group of 100 men from Keyesville. Troops were sent from Fort Tejon and from Fort Miller which hauled an artillery piece. The Yokuts were in in general decline after that time (Historynet)

Historical Background/ Affiliations

The first Europeans to reach the interior valleys were deserting Spanish soldiers from San Diego in 1772 and although there were no permanent settlements the interior valley became well known (Smith, 1976: preface). By 1807 the mission system along the coast was well in place and at this time an expedition under the command of Color-Sergeant Gabriel Moraga was sent into the interior to locate mission sites. This expedition closely followed the present route of Highway 99. This expedition continued east along Mariposa Creek. It was on this expedition that Moraga located the Merced River and proposed this area as a possible mission site (Smith 1939/1976:36; Bingaman 1968:2). On a second expedition in 1810 Moraga reversed this decision (Smith, 1976:38).

A second expedition occurred in 1814 by Sargent Ortega, Padre Cabot and thirty men entering the village of Bubal on the southern shore of Tulare Lake. The village contained an estimated 700 residents. The expedition continued north along the Kings River and although the area lacked timber for the construction of large buildings, Cabot recommended this area near the river was suitable for a mission (Smith 1976:42). Several expeditions occurred between 1815 and 1822, however, tribal people were uncooperative and would flee when approached by the Spanish, leading to hostilities between the two. After spending some time in the Porterville area Moraga moved south along the Kern River (Smith 1962:37).

The majority of California was considered unoccupied or Indian territory. Ranchos and missionary development remained clustered in small areas. Effort to secularize the California missions began as early as 1813 having the effect of weakening the mission control of land and by 1834 was California law (Robinson 1979: 29, 30). In 1848, the Treaty of Guadalupe Hidalgo was signed annexing California from Mexico. This treaty recognized the right of California Native Americans "to occupy their lands until voluntary relinquishment". The policy at this time until 1878 was to

recognize the tribes as nations and to enter into treaties with them as such (Robinson 1979:13, 14; Cossley-Batt 1928:133-141 Rawls 1984:148).

Accordingly, when California became a part of the Union, three commissioners were appointed, under the provisions of the Act of September 30, 1850, to affect a just settlement with the California Indians. Redick McKee, G. W. Barbour, and O. M. Wozencraft, representing the United States, proceeded to negotiate with the headmen of California tribes. Between March 19, 1851, and January 7, 1852 they met 402 tribal heads…and entered into eighteen treaties. [Robinson 1979:14]

None of these were ratified. By signing the treaties, the tribes agreed to move to areas in reserve. These areas were contested by whites in the area, this and failure of Indians to present claims for their property in front of the Land Commissioners resulted in the loss of future claims for the property and these lands reverted to public domain (Robinson 1979:15,16). The Native American village community was thought to be the result of pressure from influx of Spanish, Mexican and Caucasian immigrants (Heizer 1971:376). "[12]

Records Search Results and Native American Consultation

"Correspondence with the Native American Heritage Commission (NAHC) was conducted as part of the AB 52 process by Tulare County Resource Management Agency (see Appendix "C"). The results of the NAHC search on February 27, 2019 indicated that a sacred site or an area of significance was within the proposed project area. In an e-mail dated April 3, 2019, a list of tribal representatives was provided to Culturescape by Live Oak Associates, with the suggestion that the Tule River Indian Tribe be contacted for more information. Shana Powers of the Santa Rosa Tachi Yokuts Tribe requested County consultation as per AB 52. The County suggested April 19, 23 and 25, 2019 as tentative days for a meeting, however, no response was given as of May 6, 2019. A telephone call was made to the Tule River Tribe on April 30 for information about the area. Kerri Vera, Environmental Director thought that this might pertain to another project, she was provided with my e-mail to send her a map, but no response was received as of May 6, 2019. On May 6, 2019 a call was placed to Shana Powers of the Santa Rosa Rancheria Tachi Yokuts Tribe for information regarding the area. She was concerned that buried deposits may be present. She was given my contact information to submit information regarding known Tribal Cultural Properties in the area. No further calls were received as of the time of this report.

A records search conducted by the Southern San Joaquin Valley Information Center (SSJVIC) resulted in no previously reported cultural resources within the project area (see Appendix "C"). The search located two previous cultural studies within the project area, TU-01335, a phase I survey in 2008 for Garden Grove Estates, located at the northwest, and TU-01336 that took place in 2009 for a 29-acre expansion of the Deer Creek Quarry. A third study, TU-01602 was conducted approximately ½ mile to the southeast for the replacement of thirteen Southern California Edison power poles. No cultural resources were located during these studies within the proposed project

[12] *"Twenty Acre Expansion of the Deer Creek Rock Company Porterville, Tulare County, California"* Pages 6 through 9. June 2019 Prepared by Culturescape and included in Appendix "C" of this SEIR.

or within ½ mile radius of the property. There are no resources that are listed in the National Register of Historic Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

No prehistoric cultural artifacts were observed during the survey. Visibility varied from very good within a developed lemon grove to very poor in the open grazing land that predominates the north half of the property. Wild oats, ruderal grasses and forbs dominated the landscape and offered less than 10% ground visibility."[13]

REGULATORY SETTING

Federal Agencies & Regulations

The National Historic Preservation Act

"With passage of the National Historic Preservation Act (NHPA) in 1966, Congress made the federal government a full partner and a leader in historic preservation. While Congress recognized that national goals for historic preservation could best be achieved by supporting the drive, enthusiasm, and wishes of local citizens and communities, it understood that the federal government must set an example through enlightened policies and practices.

In the words of the NHPA, the federal government's role is to "provide leadership" for preservation, "contribute to" and "give maximum encouragement" to preservation, and "foster conditions under which our modern society and our prehistoric and historic resources can exist in productive harmony." Indeed, an underlying motivation for passage of the NHPA was to transform the federal government from an agent of indifference, frequently responsible for needless loss of historic resources, to a facilitator, an agent of thoughtful change, and a responsible steward for future generations.

Section 106 of the NHPA requires that federal agencies take into account the effects of their actions on historic properties and give the ACHP an opportunity to comment on any effects. The ACHP has issued regulations that guide how agencies should fulfill this responsibility."[14]

State Agencies & Regulations

California State Office of Historic Preservation (OHP)

The California State Office of Historic Preservation (OHP) is responsible for administering federally and state mandated historic preservation programs to further the identification, evaluation, registration and protection of California's irreplaceable archaeological and historical resources under the direction of the State Historic Preservation Officer (SHPO), appointed by the

[13] Ibid.

[14] Advisory Council on Historic Preservation. National Historic Preservation Act. Accessed August 2019 at: https://www.achp.gov/preservation-legislation.

governor, and the State Historical Resources Commission, a nine-member state review board appointed by the governor.[15]

"The California State Office of Historic Preservation (OHP) is responsible for administering federally and state mandated historic preservation programs to further the identification, evaluation, registration and protection of California's irreplaceable archaeological and historical resources under the direction of the State Historic Preservation Officer (SHPO), a gubernatorial appointee, and the State Historical Resources Commission. OHP's responsibilities include: Identifying, evaluating, and registering historic properties; Ensuring compliance with federal and state regulatory obligations; Encouraging the adoption of economic incentives programs designed to benefit property owners; Encouraging economic revitalization by promoting a historic preservation ethic through preservation education and public awareness and, most significantly, by demonstrating leadership and stewardship for historic preservation in California."[16]

"The California Historical Resources Information System (CHRIS) consists of the California Office of Historic Preservation (OHP), nine Information Centers (ICs), and the State Historical Resources Commission (SHRC). The OHP administers and coordinates the CHRIS and presents proposed CHRIS policies to the SHRC, which approves these polices in public meetings. The CHRIS Inventory includes the State Historic Resources Inventory maintained by the OHP as defined in California Public Resources Code § 5020.1(p), and the larger number of resource records and research reports managed under contract by the nine ICs."[17]

"The CHRIS Information Centers (ICs) are located on California State University and University of Califoria campuses in regions throughout the state. The nine ICs provide historical resources information, generally on a fee-for-service basis, to local governments, state and federal agencies, Native American tribes, and individuals with responsibilities under the National Environmental Policy Act, the National Historic Preservation Act, and the California Environmental Quality Act (CEQA), as well as to the general public. Currently, the OHP and the ICs each maintain separate parts of the CHRIS Inventory. The OHP's portion of the Inventory is forwarded to the ICs according to their county-based service areas so that it can be accessed by CHRIS users. It is statewide in scope, but primarily includes information that has been submitted directly to the OHP. Each of the ICs maintains a part of the CHRIS Inventory that although it is geographically limited to that IC's service area, includes both information forwarded from the OHP and information that has been submitted directly to that IC by users of the CHRIS. These different parts of the CHRIS Inventory are a combination of paper documents and maps and digital files (whether submitted digitally or converted to that format by the CHRIS). The collective information managed electronically in the CHRIS Inventory is generally referred to as the CHRIS Database."[18] Tulare, Fresno, Kern, Kings and Madera counties are served by the Southern San Joaquin Valley Historical

[15] California State Parks. Office of Historic Preservation. Accessed August 2019 at: http://ohp.parks.ca.gov/?page_id=1066,

[16] California State Parks. Office of Historic Preservation. Mission and Responsibilities. Accessed August 2019 at: http://ohp.parks.ca.gov/?page_id=1066

[17] California State Parks. California Office of Historic Preservation. California Historical Resources Information System. Accessed August 2019 at: http://ohp.parks.ca.gov/?page_id=1068.

[18] California State Parks. California Office of Historic Preservation. About the CHRIS Information Centers. Accessed August 2019 at: http://ohp.parks.ca.gov/?page_id=28730.

Resources Information Center (Center), located at California State University, Bakersfield, in Bakersfield, CA. The Center provides information on known historic and cultural resources to governments, institutions and individuals.[19]

A historical resource may be eligible for inclusion in the California Register of Historical Resources (CRHR) if it meets the following four Criteria for Designation:

> "Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States (Criterion 1).
>
> Associated with the lives of persons important to local, California or national history (Criterion 2).
>
> Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values (Criterion 3).
>
> Has yielded, or may be likely to yield, information important in prehistory or local, California or national history (Criterion 4)."[20]

Tribal Consultation Requirements: SB 18 (Burton, 2004) [21]

On September 29, 2004, Governor Schwarzenegger signed Senate Bill 18, Tribal Consultation Guidelines, into law. This bill amended Section 815.3 of the Civil Code, to amend Sections 65040.2, 65092, 65351, 65352, and 65560 of, and to add Sections 65352.3, 65352.4, and 65562.2 to, the Government Code, relating to traditional tribal cultural Places. SB 18, enacted March 1, 2005, creates a mechanism for California Native American Tribes to identify culturally significant sites that are located within public or private lands within the city or county's jurisdiction. SB 18 requires cities and counties to contact, and offer to consult with, California Native American Tribes before adopting or amending a General Plan, a Specific Plan, or when designating land as Open Space, for the purpose of protecting Native American Cultural Places (PRC 5097.9 and 5097.993). The Native American Heritage Commission (NAHC) provides local governments with a consultation list of tribal governments with traditional lands or cultural places located within the Project Area of Potential Effect. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe.

Tribal Consultation Requirements: AB 52 (Gatto, 2014)[22]

[19] California State Parks. California Office of Historic Preservation. Information Centers Locations and Contacts. Accessed August 2019 at: http://ohp.parks.ca.gov/pages/1068/files/IC_Roster_03-22-2019.pdf.
[20] California State Parks. Office of Historic Preservation. California Register of Historical Resources. Accessed August 2019 at: http://www.ohp.parks.ca.gov/?page_id=21238.
[21] Senate Bill No. 18, Chapter 905, http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200320040SB18 accessed May 2019.
[22] Assembly Bill No. 52, Chapter 532, http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140AB52, accessed May 2019.

This bill was approved by Governor Brown on September 25, 2014 and became effective July 1, 2015. This bill amended Section 5097.94 of, and to add Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3 to, the Public Resources Code, relating to Native Americans. The bill specifies that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource, as defined, is a project that may have a significant effect on the environment. This bill requires a lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated (can be a tribe anywhere within the State of California) with the geographic area of the proposed project, if the tribe requested to the lead agency, in writing, to be informed by the lead agency of proposed projects in that geographic area and the tribe requests consultation, prior to determining whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project.

As shown in the NAHC website, "In 1976, the California State Government passed AB 4239, establishing the Native American Heritage Commission (NAHC) as the primary government agency responsible for identifying and cataloging Native American cultural resources. Up until this point, there had been little government participation in the protection of California's cultural resources. As such, one of the NAHC's primary duties, as stated in AB 4239, was to prevent irreparable damage to designated sacred sites, as well as to prevent interference with the expression of Native American religion in California.

Furthermore, the bill authorized the Commission to act in order to prevent damage to and insure Native American access to sacred sites. Moreover, the Commission could request that the court issue an injunction for the site, unless it found evidence that public interest and necessity required otherwise.

In addition, the bill authorized the commission to prepare an inventory of Native American sacred sites located on public lands and required the commission to review current administrative and statutory protections accorded to such sites.

In 1982, legislation was passed authorizing the Commission to identify a Most Likely Descendant (MLD) when Native American human remains were discovered any place other than a dedicated cemetery. MLDs were granted the legal authority to make recommendations regarding the treatment and disposition of the discovered remains. These recommendations, although they cannot halt work on the project site, give MLDs a means by which to ensure that the Native American human remains are treated in the appropriate manner.

Today, the NAHC provides protection to Native American human burials and skeletal remains from vandalism and inadvertent destruction. It also provides a legal means by which Native American descendants can make known their concerns regarding the need for sensitive treatment and disposition of Native American burials, skeletal remains, and items associated with Native American burials."[23]

[23] Native American Heritage Commission. About the Native American Heritage Commission, http://nahc.ca.gov/about/. Accessed May 2019.

CEQA Guidelines: Archaeological Resources

Section 15064.5(c) of CEQA Guidelines provides specific guidance on the treatment of archaeological resources as noted below.

"(1) When a Project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subdivision (a).

(2) If a lead agency determines that the archaeological site is an historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, and this section, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.

(3) If an archaeological site does not meet the criteria defined in subdivision (a), but does meet the definition of a unique archeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c–f) do not apply to surveys and site evaluation activities intended to determine whether the Project location contains unique archaeological resources.

(4) If an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the Project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process."[24]

CEQA Guidelines: Human Remains

Public Resources Code Sections 5097.94 and 5097.98 provide guidance on the disposition of Native American burials (human remains), and fall within the jurisdiction of the Native American Heritage Commission:

"(d) When an initial study identifies the existence of, or the probable likelihood, of Native American human remains within the Project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission as provided in Public Resources Code Section 5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any Items associated with Native American burials with the appropriate Native Americans as identified by the Native American Heritage Commission. Action implementing such an agreement is exempt from:

(1) The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (Health and Safety Code Section 7050.5).

[24] CEQA Guidelines, Section 15064.5(c).

(2) The requirements of CEQA and the Coastal Act."[25]

"(e) In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:

(1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

(A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and

(B) If the coroner determines the remains to be Native American:

1. The coroner shall contact the Native American Heritage Commission within 24 hours.

2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.

3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or

(2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

(A) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.

(B) The descendant identified fails to make a recommendation; or

(C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner."[26]

"(f) As part of the objectives, criteria, and procedures required by Section 21082 of the Public Resources Code, a lead agency should make provisions for historical or unique archaeological resources accidentally discovered during construction. These provisions should include an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or

[25] Ibid. Section 15064.5(d).
[26] Ibid. Section 15064.5(e).

appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place."[27]

Local Policy & Regulations

Tulare County General Plan Policies

The Tulare County General Plan has a number of policies that apply to projects within the County of Tulare.[28] General Plan policies that relate to the proposed Project are listed below.

ERM-6.1 Evaluation of Cultural and Archaeological Resources - The County shall participate in and support efforts to identify its significant cultural and archaeological resources using appropriate State and Federal standards.

ERM-6.2 Protection of Resources with Potential State or Federal Designations - The County shall protect cultural and archaeological sites with demonstrated potential for placement on the National Register of Historic Places and/or inclusion in the California State Office of Historic Preservation's California Points of Interest and California Inventory of Historic Resources. Such sites may be of Statewide or local significance and have anthropological, cultural, military, political, architectural, economic, scientific, religious, or other values as determined by a qualified archaeological professional.

ERM-6.3 Alteration of Sites with Identified Cultural Resources - When planning any development or alteration of a site with identified cultural or archaeological resources, consideration should be given to ways of protecting the resources. Development can be permitted in these areas only after a site specific investigation has been conducted pursuant to CEQA to define the extent and value of resource, and Mitigation Measures proposed for any impacts the development may have on the resource.

ERM-6.4 Mitigation - If preservation of cultural resources is not feasible, every effort shall be made to mitigate impacts, including relocation of structures, adaptive reuse, preservation of facades, and thorough documentation and archival of records.

ERM-6.9 Confidentiality of Archaeological Sites - The County shall, within its power, maintain confidentiality regarding the locations of archaeological sites in order to preserve and protect these resources from vandalism and the unauthorized removal of artifacts.

ERM-6.10 Grading Cultural Resources Sites - The County shall ensure all grading activities conform to the County's Grading Ordinance and California Code of Regulations, Title 20, § 2501 et. seq.

IMPACT EVALUATION

[27] Ibid. Section 15064.5(f).
[28] Tulare County General Plan 2030 Update, Part 1 – Goals and Policies Report.

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) 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)?

Project Impact Analysis: ***Less Than Significant Impact With Mitigation***

A resource may be listed as an historical resource in the California Register if it meets any of the following National Register of Historic Places criteria: Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; is associated with the lives of persons important in our past; embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; has yielded, or may be likely to yield, information important in prehistory or history.[29]

The proposed Project will result in no impact upon known sites 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). As noted earlier, consultants Culturescape completed a cultural resources study, including a records search and survey which is included in Appendix "C" of this Subsequent Environmental Impact Report (SEIR). A detailed review of potential impacts is provided in the following analysis. Culturescape conducted a records search of site files and maps by the Southern San Joaquin Valley Archaeological Information Center, California State University, Bakersfield. A Sacred Lands File Request was also submitted to the Native American Heritage Commission (NAHC). Letters and follow-up phone calls were made to tribal organizations on the NAHC contact list, to determine whether tribal cultural resources were known in or near the Project. These investigations determined no previously reported cultural resources within the project area and two previous cultural studies within the area; one study was conducted in 2009 on a previous 29-acre expansion of the Deer Creek Quarry. "No cultural resources were located during these studies within the proposed project or within ½ mile radius of the property. There are no resources that are listed in the National Register of Historic Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks."[30] Although no historical, cultural, or tribal cultural resources were identified in the cultural study, it is possible that subsurface discoveries could occur. Also, as responses were received from the tribes that were notified in compliance with AB 52

[29] California Legislative Information. Public Resources Code – PRC 5024.1. accessed May 2019 at: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=5024.1.

[30] "Twenty Acre Expansion of the Deer Creek Rock Company Porterville, Tulare County, California" Page i. June 2019 Prepared by Culturescape and included in Appendix "C" of this SEIR.

requirements, however unlikely, it is not anticipated that Native American tribal cultural resources or remains will be found at any site within the Project planning area. As such, ***Mitigation Measures 4.10-1*** and ***4.10-2*** (which are identical to Mitigation Measures 4.3-1 and 4.3-3) are included in the unlikely event that Native American remains or tribal cultural resources are unearthed during any ground disturbance activities. These measure require that all work will immediately halt and the NAHC will be contacted to assess the findings and make appropriate mitigation recommendations. Therefore, there will be a ***Less Than Significant Cumulative Impacts With Mitigation*** related to this Checklist Item.

Cumulative Impact Analysis: ***Less Than Significant Impact With Mitigation***

As previously discussed, based on the analysis noted earlier, impacts to Tribal Cultural Resources will be reduced to a level of ***Less Than Significant Project-specific and Cumulative Impacts With Mitigation*** with the implementation of ***Mitigation Measures 4.10-1*** and ***4.10-2***.

Mitigation Measure(s): ***See Mitigation Measure 4.10-1 and 4.10-2***

Measure 4.10-1. In the event that archaeological or paleontological resources are discovered during site excavation, the County shall require that grading and construction work on the project site be immediately suspended until the significance of the features can be determined by a qualified archaeologist or paleontologist. In this event, the property owner shall retain a qualified archaeologist/paleontologist to make recommendations for measures necessary to protect any site determined to contain or constitute an historical resource, a unique archaeological resource, or a unique paleontological resource or to undertake data recover, excavation analysis, and curation of archaeological or paleontological materials. County staff shall consider such recommendations and implement them where they are feasible in light of Project design as previously approved by the County.

4.10-2. Consistent with Section 7050.5 of the California Health and Safety Code and (CEQA Guidelines) Section 15064.5, if human remains of Native American origin are discovered during Project construction, it is necessary to comply with State laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American Heritage Commission (Public Resources Code Sec. 5097). In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:

1. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:
    a. The Tulare County Coroner/Sheriff must be contacted to determine that no investigation of the cause of death is required; and
    b. If the coroner determines the remains to be Native American:

i. The coroner shall contact the Native American Heritage Commission within 24 hours.
ii. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
iii. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code section 5097.98, or

2. Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.
   a. The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.
   b. The descendant fails to make a recommendation; or
   c. The landowner or his authorized representative rejects the recommendation of the descendent.

Therefore, as noted earlier, in the unlikely event that Tribal Cultural Resources are discovered, implementation of ***Mitigation Measures 4.10-1*** and ***4.10-2*** would result in ***Less Than Significant Project-specific With Mitigation*** because of this Project.

Conclusion: ***Less Than Significant Impact With Mitigation***

As previously discussed, based on the analysis noted earlier, impacts to Tribal Cultural Resources will be reduced to a level of ***Less Than Significant Project-specific and Cumulative Impacts With Mitigation*** with the implementation of ***Mitigation Measures 4.10-1*** and ***4.10-2***.

b) 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe?

Project Impact Analysis: ***Less Than Significant Impact With Mitigation***

See earlier discussion at Item a).

Cumulative Impact Analysis: ***Less Than Significant Impact With Mitigation***

See earlier discussion at Item a).

Mitigation Measure(s): ***See Mitigation Measures 4.10-1 and 4.10-2***

See earlier discussion at Item a).

Conclusion: ***Less Than Significant Impact With Mitigation***

See earlier discussion at Item a).

ACRONYMS

CEQA	California Environmental Quality Act
CHRIS	California Historic Resources Information System
CRHR	California Register of Historical Resources
HABS/HAER	Historic American Building Survey/Historic American Engineering Record
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act of 1966
OHP	California State Office of Historic Preservation
SHPO	State Historic Preservation Officers

REFERENCES

Advisory Council on Historic Preservation. Accessed August 2019 at: https://www.achp.gov/preservation-legislation.

California Government Code. Title 7. Planning and Land Use. Division 1 Planning and Zoning. Chapter 3 Local Planning. Article 6. Preparation, Adoption, and Amendment of the General Plan. Section 65352.3 Accessed August 2019 at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=65352.3.&lawCode=GOV.

California Natural Resources Agency Title 14 California Code of Regulations. Chapter 3. Guidelines for Implementation of the California Environmental Quality Act. Sections 15064.5 (a), 15064.5 (b), 15064.5 (c), 15064.5(d), 15064.5 (e), Section 15064.5(f) http://resources.ca.gov/ceqa/guidelines/art5.html.

California Public Resources Code. Division 13. Chapter 2.6. Section 21084.1. Accessed August 2019 at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=21084.1.

California State Parks. Office of Historic Preservation. California Register of Historical Resources. Accessed August 2019 at: http://www.ohp.parks.ca.gov/?page_id=21238.

California State Parks. Office of Historic Preservation. Mission and Responsibilities. Accessed August 2019 at: http://ohp.parks.ca.gov/?page_id=1066.

California Office of Historic Preservation. California Historical Resources Information System. Accessed August 2019 at: http://ohp.parks.ca.gov/?page_id=1068.

California State Parks. California Office of Historic Preservation. About the CHRIS Information Centers. Accessed August 2019 at: http://ohp.parks.ca.gov/?page_id=28730.

California State Parks. California Office of Historic Preservation. Information Centers Locations and Contacts. Accessed August 2019 at: http://ohp.parks.ca.gov/pages/1068/files/IC_Roster_03-22-2019.pdf.

"Cultural Resources Assessment, Deer Creek Rock Company, Surface Mining Permit Amendment, Northern Foot of Tennessee Ridge, Five Miles Southeast of Porterville, Tulare County, California (APN 305-190-021)". Prepared by Sierra Valley Cultural Planning. September 2014 and is included as Appendix "D" of the Deer Creek Rock SMARA Permit Amendment DEIR (SCH No. 20144081023). November 2014. Certified and adopted by the Tulare County Planning Commission on March 11, 2015. Resolution No. 9055. See: https://tularecounty.ca.gov/rma/index.cfm/projects/planning-projects/applicant-projects/deer-creek/deir-deer-creek-mine-pmr-14-002/.

California Legislative Information. Senate Bill No. 18. Chapter 905. http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200320040SB18. Accessed August 2019.

Society for California Archaeology. Chronological and Cultural Units. A Glossary of Proper Names in California History. Accessed August 2019 at: https://scahome.org/about-ca-archaeology/glossary-of-terms/chronological-and-cultural-units/

"Twenty Acre Expansion of the Deer Creek Rock Company Porterville, Tulare County, California" Page i. June 2019 Prepared by Culturescape and included in Appendix "C" of this SEIR.

Tulare County General Plan 2030 Update Background Report. February 2010. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/Appendix%20B%20-%20Background%20Report.pdf.

Tulare County General Plan Update 2030. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/

30CFR PART 800 – Protection of Historic Properties (incorporating amendments effective August 5, 2004). Accessed August 2019 at: https://www.achp.gov/sites/default/files/regulations/2017-02/regs-rev04.pdf.

Wildfire
Chapter 4.11

SUMMARY OF FINDINGS

The proposed Project will result in ***No Impact*** related to Wildfire. A detailed review of potential impacts is provided in the following analysis.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

As contained in the Proposed Updates to the CEQA Guidelines (finalized in November 2018), "Senate Bill 1241 (Kehoe, 2012) requires the Office of Planning and Research, the Natural Resources Agency, and CalFire to develop "amendments to the initial study checklist of the [CEQA Guidelines] for the inclusion of questions related to fire hazard impacts for projects located on lands classified as state responsibility areas, as defined in section 4102, and on lands classified as very high fire hazard severity zones, as defined in subdivision (i) of section 51177 of the Government Code." (Pub. Resources Code, § 21084.01 (emphasis added).)"[1]

At section 15126.2, the CEQA Guidelines state, "(a) The Significant Environmental Effects of the Proposed Project. An EIR shall identify and focus on the significant effects of the proposed project on the environment. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the project might cause or risk exacerbating by bringing development and people into the area affected. For example, the EIR should evaluate any potentially significant direct, indirect, or cumulative environmental impacts of locating development in areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas), including both short-

[1] Governor's Office of Planning and Research. Proposed Updates to the CEQA Guidelines. Final. November 2017. Page 36. Accessed at: http://opr.ca.gov/docs/20171127_Comprehensive_CEQA_Guidelines_Package_Nov_2017.pdf

term and long-term conditions, as identified in authoritative hazard maps, risk assessments or in land use plans, addressing such hazards areas."[2]

To provide an explanation on why it determined that analyzing potential impacts resulting from wildfire, the California Natural Resources Agency ("Natural Resources Agency" or "Agency) provided a document titled the *"Final Statement of Reasons For Regulation Action Amendments to the State CEQA Guidelines"* ("Final Statement of Reasons"). The amendments address legislative changes to the California Environmental Quality Act (CEQA), clarify certain portions of the existing CEQA Guidelines, and update the CEQA Guidelines to be consistent with recent court decisions. As noted in the Final Statement of Reasons, "The CEQA Guidelines are unique among administrative regulations. They provide a carefully organized, step-by-step guide to the environmental review process. As a result, rather than turning to the statute and case law, many agency staff and planners look to the CEQA Guidelines as a comprehensive source of information regarding CEQA's requirements."[3]

In the Final Statement of Reasons document, specifically at "12. CEQA Requires Analysis of the Potential Impacts Associated with Wildfire", the Agency writes, "Some comments suggested that the Agency should not include questions in Appendix G related to wildfire. In part, those comments suggested that the California Supreme Court's decision in CBIA v. BAAQMD (2015) 62 Cal.4th 369 precludes the analysis of such hazards on proposed projects. The Agency disagrees. In that decision, the Court held that "agencies subject to CEQA *generally* are not required to analyze the impact of existing environmental conditions on a project's future users or residents." (*Id*. at p. 377 (emphasis added).) The Court's opinion also included a significant caveat: "[w]hen a proposed project risks exacerbating those environmental hazards or conditions that already exist an agency must analyze the potential impact of such hazards on future residents or users." (*Id*., at p. 377.)

In this context, an effect that a project "risks exacerbating" is similar to an "indirect" effect. Describing "indirect effects," the CEQA Guidelines state: "If a direct physical change in the environment in turn causes another change in the environment, then the other change is an indirect physical change in the environment." (CEQA Guidelines, § 15064, (d)(2).) Just as with indirect effects, a lead agency should confine its analysis of exacerbating effects to those that are reasonably foreseeable. (*Id*. at subdivision (d)(3).)

In the context of wildfire, it is clear that development may exacerbate wildfire risks. OPR's General Plan Guidelines, for example, includes an extensive discussion of the interaction between development and wildfire risk areas, including the "wildland-urban interface." While wildfire risk already exists in such areas, bringing development to those areas makes the risk worse, and not just for fire risk. Recent research explains:

[2] Governor's Office of Planning and Research Final Adopted Text for Revisions to the CEQA Guidelines. 2018 Page 30. Accessed in June 2018 at: http://resources.ca.gov/ceqa/docs/2018_CEQA_FINAL_TEXT_122818.pdf

[3] California Natural Resources Agency Final Statement of Reasons For Regulation Action Amendments to the State CEQA Guideline OAL Notice File No. Z-2018-0116-12. November 2018. Page 2. Accessed in June 2018 at: http://resources.ca.gov/ceqa/docs/2018_CEQA_Final_Statement_of%20Reasons_111218.pdf.

> The close proximity of houses and wildland vegetation does more than increase fire risk. As houses are built in the WUI, native vegetation is lost and fragmented; landscaping introduces nonnative species and soils are disturbed, causing nonnatives to spread; pets kill large quantities of wildlife; and zoonotic disease, such as Lyme disease, are transmitted.

(Radeloff, et al., "Rapid growth of the US wildland-urban interface raises wildfire risk," PROC NATL ACAD SCI USA (March 27, 2018) 115 (13) 3314-3319 [citations omitted].) Not all development types are likely to create the same risks, however:

> The recognition that homes are vulnerable to wildfire in the wildland-urban interface (WUI) has been established for decades… Analysis of hundreds of homes that burned in southern California the last decade showed that housing arrangement and location strongly influence fire risk, particularly through housing density and spacing, location along the perimeter of development, slope, and fire history. Although high-density structure-to-structure loss can occur, structures in areas with low-to-intermediate housing density were most likely to burn, potentially due to intermingling with wildland vegetation or difficulty of firefighter access. Fire frequency also tends to be highest at low to intermediate housing density, at least in regions where humans are the primary cause of ignitions.

(Syphard AD, Bar Massada A, Butsic V, Keeley JE (2013) "Land Use Planning and Wildfire: Development Policies Influence Future Probability of Housing Loss." PLoS ONE 8(8): e71708. https://doi.org/10.1371/journal.pone.0071708 [citations omitted].) In other words, low-density, leapfrog development may create higher fire risk than high-density, infill development.

> "Notably, Senate Bill 1241 (Kehoe, 2012) specifically required the Agency to update Appendix G with questions related to wildfire risk. One could view wildfire as a specific legislatively-created exception to the general rule the Court described in the CBIA decision, though the Court did not specifically analyze its provisions. In any event, the Agency drafted the questions in the new wildfire section to focus on the effects of new projects in creating or exacerbating wildfire risks."[4]

Thereafter, the CEQA Checklist was updated to include questions related to fire hazard impacts for projects located in or near state responsibility areas or lands classified as very high fire hazard severity zones. The Wildfire section addresses factors that could expose people or structures to fire or post-fire flooding or landslides, risk or impair emergency response, or require installation of infrastructure that could exacerbate fire risk.

<u>CEQA Thresholds of Significance</u>

- Impair an adopted emergency response plan or emergency evacuation plan.

[4] Ibid. 86 and 87.

- Exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
- 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.
- 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

ENVIRONMENTAL SETTING

"A wildfire is an uncontrolled fire spreading through vegetative fuels. Wildfires can be caused by human activities (such as arson or campfires) or by natural events (such as lightning). Wildfires often occur in forests or other areas with ample vegetation. Wildfires differ from other fires due to their large size, the speed at which the fires can spread, and the ability of the fire to change direction unexpectedly and to jump gaps, such as roads, rivers, and fire breaks. In areas where structures and other human development meet or intermingle with wildland or vegetative fuels (referred to as the wildland urban interface or WUI), wildfires can cause significant property damage and present extreme threats to public health and safety. The following three factors contribute significantly to wildfire behavior and can be used to identify wildfire hazard areas.

Topography: As slope increases, the rate of wildfire spread increases. South-facing slopes are also subject to more solar radiation, making them drier and thereby intensifying wildfire behavior. However, ridgetops may mark the end of wildfire spread because fire spreads more slowly or may even be unable to spread downhill.

Fuel: The type and condition of vegetation plays a significant role in the occurrence and spread of wildfires. Certain types of plants are more susceptible to burning or will burn with greater intensity, and non-native plants may be more susceptible to burning than native species. Dense or overgrown vegetation increases the amount of fuel load. The ratio of living to dead plant matter is also important. The risk of fire increases significantly during periods of prolonged drought, as the moisture content of both living and dead plant matter decreases; or when a disease or infestation has caused widespread damage. The fuel's continuity, both horizontally and vertically, is also an important factor.

Weather: The most variable factor affecting the behavior of wildfires is weather. Temperature, humidity, wind, and lightning can affect chances for ignition and spread of fire. Extreme weather, such as high temperatures and low humidity, can lead to extreme wildfire activity. By contrast, cooling and higher humidity often signal reduced wildfire occurrence and easier containment. Years of precipitation followed by warmer years tend to encourage more widespread fires and longer burn periods. Also, since the mid-1980s, earlier snowmelt and associated warming due to global climate change has been associated with longer and more severe wildfire seasons in the western U.S.

Wildfires can have serious effects on the local environment, beyond the removal of vegetation. Soil exposed to intense heat may lose its capability to absorb moisture and support life. Exposed

soils erode quickly and enhance siltation of rivers and streams, thereby enhancing flood potential, harming aquatic life, and degrading water quality. Lands stripped of vegetation are also subject to increased debris flow hazards, as described above. Wildfires can also greatly affect the air quality of the surrounding area.

History: Historical information between 1910 and 2014 indicates that 610 wildfires occurred in the County which burned approximately 1,328,000 acres during this 104-year time period. The following causes represent approximately 95% of the 610 recorded wildfires (approximately 1.3 million acres), and are included as follows: miscellaneous 36% (532,800 acres); lightning 27% (309,000 acres); unknown or unidentified 14% (97,000 acres); arson 8% (63,300 acres); equipment use 5% (43,500 acres); smoking 3% (53,400 acres); and campfires 2% (184,600 acres). The remaining causes which include escaped prescribed burns, debris, vehicles, structures, power-lines, railroads and playing with fire account for the remaining 5% (44,400 acres) of the recorded wildfires. Appendix C [of the Tulare County 2017 Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHMP)] lists documented fires over 1000 acres that have burned in the County since 1985.

Location: Public Resources Code 4201-4204 and Government Code 51175-89 directed CAL FIRE to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. These zones are referred to as fire hazard severity zones and represented as very high, high and moderate. Specifically, the maps were created using data and models describing development patterns, potential fuels over a 30- to 50-year time horizon, expected fire behavior and expected burn probabilities. The maps are divided into local responsibility areas and State responsibility areas.

Local responsibility areas generally include incorporated cities, cultivated agriculture lands and portions of the desert. Local responsibility area fire protection is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract to the local government. The fire hazard severity zones for the area of local responsibility in the County are shown on Figure B-4 (Appendix B, Hazard Figures [in the MJLHMP]). Fire severity zones are depicted for the Cities of Porterville and Woodlake in Figures B-13 and B-20 (Appendix B, Hazard Figures MJLHMP).

State responsibility area is a legal term defining the area where the State has financial responsibility for wildfire protection. Incorporated cities and Federal ownership are not included. The prevention and suppression of fires in all areas that are not State responsibility areas are primarily the responsibility of local or Federal agencies.

The portion of the County that transitions from the valley floor into the foothills and mountains is characterized by high to very high threat of wildfire; this includes the cities of Porterville and Woodlake, the jurisdiction of Tulare County Office of Education (TCOE), the Tule River Tribe Reservation and areas of the County unincorporated. Steeper terrain in these areas increases the threat of wildfire. The western portion of the County has little or no threat of wildfire. The risk of wildfire increases where human access exists in high fire hazard severity zones, such as the Sierra

Nevada Mountains and foothills, because of a greater chance for human carelessness and because of historic and current fire management practices.

Impact of Climate Change: Climate and weather have long been acknowledged as playing key roles in wildfire activity, and global warming is expected to exacerbate fire impacts on natural and urban ecosystems. Predicting future fire regimes requires an understanding of how temperature and precipitation interact to control fire activity.[7] Since 2012, record drought and record temperatures, have weakened trees throughout California, resulting in millions of acres of failing forestland that then become vulnerable to disease and infestation. Infestations, such as those caused by native bark beetles, have caused tree mortality of epidemic proportions. The scale of tree mortality in California contributes to significantly increased wildfire risks, and presents life safety risks due to falling trees that can injure or kill people. The immediate consequence of tree mortality on California forestlands increases the potential for wildfires, further spread of forest insect tree damage, threats to critical public safety infrastructure from falling trees, reduced forest carbon stocks, loss of commercial timber values to landowners, and diminished wildlife habitat. Due to these increased risks, the County proclaimed states of emergency for tree mortality.

In addition, and in response to the millions of dead trees, a State of Emergency Proclamation was issued by the Governor. A Tree Mortality Task Force, comprised of State and Federal agencies led by CAL FIRE, Cal OES and the Governor's office has identified six counties as high hazard zones due to dead and dying trees and the hazards, this tree mortality presents. The 10 counties include: Amadore, Calaveras, El Dorado, Fresno, Kern, Madera, Mariposa, Placer, Tulare, and Tuolumne. Both the State's and the County's Tree Mortality Task Forces are structured as a Multi-Agency Coordination Group and meet monthly to exchange information and updates among stakeholders. Participants are encouraged to discuss needs and concerns, and leverage each other's subject matter expertise and resources to further response efforts.

Extent: CAL FIRE has classified 22% of the County as high wildfire hazard areas and an additional 27% as very high wildfire hazard areas. These areas are primarily in the foothills and mountain regions in the eastern portion of the County and to a large extent on National Forest or National Park land. Figure B- [in the MJLHMP] depicts the fire severity rating for areas of the County.

Probability of Future Events: Based on historical events, on average, slightly more than on wildfire of over 1000 acres burns within the County each year. Therefore, it is highly likely that a wildfire event will occur within the calendar year impacting the County. Wildfire events have a greater than 1 in 1-year (100%) chance of occurring."[5]

While the Project's location is located in a moderately fire hazard risk area, "according to the Fire Hazard Severity Zones in SRA map"[6], wildfire risk as it is not within a fire hazard severity zone (as identified by CalFire), lacks slope/terrain conducive to wildfire spread, lacks vegetation which would fuel wildfire (i.e., dense vegetation consisting of shrubs and bushes, dead or dying trees

[5] Tulare County 2017 Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHMP). March 2018. Pages 70-72. Accessed August 2019 at: http://oes.tularecounty.ca.gov/oes/index.cfm/mitigation/tulare-county-mjlhmp/.

[6] Fire Hazard Severity Zones in SRA, https://frap.fire.ca.gov/media/6238/fhszs_map54.pdf, accessed August 2019.

caused by drought or pest infestation (i.e., bark beetle), and is surrounded by predominantly agriculturally productive lands to the south.

REGULATORY SETTING

Federal Agencies & Regulations

None that apply to this Project.

State Agencies & Regulations

Senate Bill 1241 (Kehoe, 2012)

"Wildfire: Senate Bill 1241 (Kehoe, 2012) required the Office of Planning and Research, the Natural Resources Agency, and CalFire to develop "amendments to the initial study checklist of the [CEQA Guidelines] for the inclusion of questions related to fire hazard impacts for projects located on lands classified as state responsibility areas, as defined in section 4102, and on lands classified as very high fire hazard severity zones, as defined in subdivision (i) of section 51177 of the Government Code." (Pub. Resources Code, § 21083.01 (emphasis added).) The Agency added several questions addressing this issue. Notably, while SB 1241 required the questions to address specific locations, it did not necessarily limit the analysis to those locations, and so the Agency posed the questions for projects located within "or near" those zones. Lead agencies will be best placed to determine precisely where such analysis is needed outside of the specified zones."[7]

"The safety elements of local general plans will also describe potential hazards, including: "any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence; liquefaction; and other seismic hazards …, and other geologic hazards known to the legislative body; flooding; and wildland and urban fires." (Gov. Code § 65302(g)(1).) Hazards associated with flooding, wildfire and climate change require special consideration. (Id. at subd. (g)(2)-(g)(4).) Lead agencies must "discuss any inconsistencies between the proposed project and applicable general plans" related to a project's potential environmental impacts in a project's environmental review. (State CEQA Guidelines § 15125(d).) Local governments may regulate land use to protect public health and welfare pursuant to their police power. (Cal. Const., art. XI, § 7; California Building Industry Assn. v. City of San Jose (2015) 61 Cal. 4th 435, 455 ("so long as a land use restriction or regulation bears a reasonable relationship to the public welfare, the restriction or regulation is constitutionally permissible").)"[8]

CAL FIRE - Tulare Unit Strategic Fire Plan[9]

[7] California Natural Resources Agency Final Statement of Reasons For Regulation Action Amendments to the State CEQA Guideline OAL Notice File No. Z-2018-0116-12. November 2018. Page 2. Accessed in August 2019 at: http://resources.ca.gov/ceqa/docs/2018_CEQA_Final_Statement_of%20Reasons_111218.pdf.

[8] Ibid. 38 and 39.

[9] CAL FIRE. Tulare Unit Strategic Fire Plan. Last Update 26 February 2015. http://cdfdata.fire.ca.gov/pub/fireplan/fpupload/fpppdf1556.pdf. Accessed June 2019.

As summarized in the 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHMP), "The Plan is a local road map to create and maintain defensible landscapes in order to protect vital assets. It seeks to reduce firefighting cost and property loss, increase public and firefighter safety, minimize wildfire risk to communities and contribute to ecosystem health. The Plan identifies pre-suppression projects including opportunities for reducing structural ignitability, and the identification of potential fuel reduction projects and techniques for minimizing those risks. The central goals that are critical to reducing and preventing the impacts of fire revolve around both suppression efforts and fire prevention efforts. The MJLHMP fire hazard analysis and fire related mitigation measures will be provided to Cal Fire to support the Tulare Unit Strategic Fire Plan."[10]

Cal Fire publishes Fire Hazard Severity Zone Maps for all regions in California, which can be found at CAL FIRE's Fire Resource Assessment Program (FRAP) website currently at: https://osfm.fire.ca.gov/media/6636/fhszs_map.pdf.[11] The fire hazard measurement used as the basis for these maps includes the speed at which a wildfire moves, the amount of heat the fire produces, and most importantly, the burning fire brands that the fire sends ahead of the flaming front. Lead agencies and project proponents can review the Cal Fire maps to determine whether a given project site will be subject to the new CEQA wildfire impacts analysis.

Local Policy & Regulations

Tulare County Health and Safety Element

During the update of the Health and Safety Element (H&S Element), the County was compelled to comply with AB 162 (regarding flooding) and SB 5 (flood hazard mapping). Wildfire can directly impact contribute to potential flooding opportunities as vegetation that would otherwise provide soil stability could be removed to the extent that exposed soil is vulnerable to land- or mudslides. Such events could subsequently damage/destroy structures (such as buildings), roadways, telecommunications towers, utility lines, etc., or result in land- or mudslide debris (e.g., vegetation, soil, destroyed structures, etc.) entering watercourses such as streams, rivers, lakes, etc. which could damage/destroy habitat, water quality, bridges, shorelines, etc.

As such, the Health and Safety Element addresses AB 162 and SB 5 by including Policies (Section 10.5 Flood Hazards and 10.6 Wildland Fire Hazards) and Implementation Measures in section 10.10. It also contains the following narrative: "Assembly Bill 162 (AB 162), adopted in 2007, amended Government Code Section 65302(d)(3) and (g)(2)) to require cities and counties to identify information regarding flood hazards upon revision of the jurisdiction's housing element on or after January 1, 2009. The requirements of Government Code Section 65302 (d)(3) and (g)(2)(A) are addressed in this General Plan Update as follows: Figure 10-1 (Flood Hazards and Faults [in the H&S Element]) displays information based on historic and current data regarding flood waters.

[10] 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Section 3. Page 15. Accessed in June 2019 at: https://oes.tularecounty.ca.gov/oes/index.cfm/mitigation/tulare-county-mjlhmp/

[11] CAL FIRE California Fire Hazard Severity In State Responsibilities Areas. Accessed August 2019 at: https://osfm.fire.ca.gov/media/6636/fhszs_map.pdf

Figure 10-1 [in the H&S Element] shows:

1) The flood hazard zones (i.e. 100 and 500 Year Flood Zones) from the National Flood Insurance Rate maps published by Federal Emergency Management Agency (FEMA);
2) The dam failure inundation maps prepared pursuant to Section 8589.5 that are available from California Emergency Management Agency;
3) The California Department of Water Resources (DWR) Awareness Floodplain Mapping Program maps.

Figure 10-2 (Fire Threat [in the H&S Element]) shows:

1) Data on areas vulnerable to wildfire; and,
2) Urban development boundaries, hamlet development boundaries, and mountain service centers where existing and planned development will occur including structures, roads, utilities, and essential public facilities.

Used in conjunction, Figures 10-1 and 10-2 [in the H&S Element] show areas where FEMA flood zones and fire threats overlap to identify areas vulnerable to flooding after wildfires; The Figures also show where flood hazard zones are within these urban boundaries."[12]

Tulare County General Plan Policies

The Tulare County General Plan has a number of policies that apply to projects within County of Tulare. General Plan policies that relate to the proposed Project are listed below.

HS-6.1 New Building Fire Hazards - The County shall ensure that all building permits in urban areas, as well as areas with potential for wildland fires, are reviewed by the County Fire Chief.

HS-6.5 Fire Risk Recommendations - The County shall encourage the County Fire Chief to make recommendations to property owners regarding hazards associated with the use of materials, types of structures, location of structures and subdivisions, road widths, location of fire hydrants, water supply, and other important considerations regarding fire hazard that may be technically feasible but not included in present ordinances or policies.

HS-6.7 Water Supply System - The County shall require that water supply systems be adequate to serve the size and configuration of land developments, including satisfying fire flow requirements. Standards as set forth in the subdivision ordinance shall be maintained and improved as necessary.

HS-6.8 Private Water Supply - The County shall require separately developed dwellings with individual private water supply to provide an acceptable guaranteed minimum supply of water for fire safety, in addition to the amount required for domestic needs.

[12] Tulare County Health and Safety Element Goals and Policies Report. Page 10-3. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/pdf

HS-7.1 Coordinate Emergency Response - Services with Government Agencies - The County shall coordinate emergency response with local, State, and Federal governmental agencies, community organizations, volunteer agencies, and other response partners during emergencies or disasters utilizing SEMS and NIMS.

HS-7.2 Mutual Aid Agreement - The County shall participate in established local, State, and Federal mutual aid systems. Where necessary and appropriate, the County shall enter into agreements to ensure the effective provision of emergency services, such as mass care, heavy rescue, hazardous materials, or other specialized function.

IMPACT EVALUATION

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?

Project Impact Analysis: ***Less Than Significant Impact***

As noted earlier, the Project is an expansion of the existing Deer Creek Mine. The Project is located in a moderate fire risk area classified as moderate fire hazard severity zone. It is located on the Valley floor in a predominantly rural, agricultural area. The proposed Project area is composed primarily of Cibo-Rock outcrop complex with 15 to 50% slopes. As such, it would result in ***Less Than Significant Impact*** to this resource item.

Cumulative Impact Analysis: ***No Impact***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or the Tulare County 2030 General Plan EIR. With ***No Project-specific Impact***, ***No Cumulative Impact*** will also occur.

Mitigation: ***None Required.***

Conclusion: ***No Impact***

As noted earlier, implementation of the proposed Project will result in ***No Impact*** to this Checklist Item.

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?

Project Impact Analysis: ***No Impact***

As noted earlier, the Project is an expansion of the existing Deer Creek Mine. Due to the nature of the Project, it would not exacerbate wildfire risks and not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. As noted in Item a), above, the Project is located in a moderate fire risk area classified as moderate fire hazard severity zone. It is located on the Valley floor in a predominantly rural, agricultural area. The proposed Project area is composed primarily of Cibo-Rock outcrop complex with 15 to 50% slopes. As such, it would result in ***No Impact*** to this resource item.

Cumulative Impact Analysis: ***No Impact***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or the Tulare County 2030 General Plan EIR. With ***No Project-specific Impact***, ***No Cumulative Impact*** will also occur.

Mitigation: ***None Required***

Conclusion: ***No Impact***

As noted earlier, implementation of the proposed Project will result in ***No Impact*** to this Checklist Item.

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?

Project Impact Analysis: ***No Impact***

As noted earlier, the Project is an expansion of the existing Deer Creek Mine. Due to the nature of the Project, it would not 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. As specified in Project's application, the Project would provide its own infrastructure (e.g., electricity connection to SCE, wells, propane gas, etc.). As such, it would result in ***No Impact*** to this resource item.

Cumulative Impact Analysis: ***No Impact***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or the Tulare County 2030 General Plan EIR. With ***No Project-specific Impact***, ***No Cumulative Impact*** will also occur.

Mitigation: ***None Required.***

Conclusion: ***No Impact***

As noted earlier, implementation of the proposed Project will result in ***No Impact*** to this Checklist Item.

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?

Project Impact Analysis: ***Less Than Significant Impact***

As noted earlier, the Project is an expansion of the existing Deer Creek Mine. Due to the nature of the Project, it would not 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 Project is located on solid rock formation, as such it is not at risk from landslides or post-fire slope instability. As noted in Hydrology and Water Quality Chapter, the Project site has been designed to capture, store and dispose of surface runoff in a manner which will not result in flooding on or off site. The project application also shows that there are detention basins on site. Therefore, the Project would result in ***Less Than Significant Impact*** to this resource item.

Cumulative Impact Analysis: ***No Impact***

The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and/or the Tulare County 2030 General Plan EIR. With No Project-specific Impact, No Cumulative Impact will also occur.

Mitigation: ***None Required.***

Conclusion: ***No Impact***

As noted earlier, implementation of the proposed Project will result in ***No Impact*** to this Checklist Item.

DEFINITIONS/ACRONYMS

Definitions

Abbreviations and Acronyms

California Natural Resources Agency	California Natural Resources Agency or Agency
CBIA v. BAAQMD	California Building Industry Association versus Bay Area Air Quality Management District
CAL FIRE	California Department of Forestry and Fire Protection
H&S Element	Health and Safety Element
MJLHMP	Multi-Jurisdictional Local Hazard Mitigation Plan
TCOE	Tulare County Office of Education
SB 1241	Senate Bill 1241 (Kehoe, 2012)
WUI	Wildland-Urban Interface

REFERENCES

CAL FIRE. Tulare Unit Strategic Fire Plan. Last Update 26 February 2015. Accessed June 2019 at: http://cdfdata.fire.ca.gov/pub/fireplan/fpupload/fpppdf1556.pdf.

CAL FIRE California Fire Hazard Severity Zone Map Update Project. Accessed June 2019 at: https://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones_maps

California Natural Resources Agency Final Statement of Reasons For Regulation Action Amendments to the State CEQA Guideline OAL Notice File No. Z-2018-0116-12. November 2018. Page 2. Accessed in June 2019 at: http://resources.ca.gov/ceqa/docs/2018_CEQA_Final_Statement_of%20Reasons_111218.pdf.

Governor's Office of Planning and Research. Proposed Updates to the CEQA Guidelines. Final. November 2017. Page 36. Accessed at: http://opr.ca.gov/docs/20171127_Comprehensive_CEQA_Guidelines_Package_Nov_2017.pdf

Governor's Office of Planning and Research Final Adopted Text for Revisions to the CEQA Guidelines. 2018 Page 30. Accessed in June 2018 at: http://resources.ca.gov/ceqa/docs/2018_CEQA_FINAL_TEXT_122818.pdf

Tulare County 2017 Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHMP). March 2018. Pages 69-73. Accessed at: http://oes.tularecounty.ca.gov/oes/index.cfm/mitigation/tulare-county-mjlhmp/.

Tulare County General Plan 2030 Update August 2012. http://generalplan.co.tulare.ca.us/. Accessed May 2019.

Tulare County General Plan 2030 Update Background Report, February 2010. Accessed June 2019 at: http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/Appendix%20B%20-%20Background%20Report.pdf.

Tulare County General Plan 2030 Update Recirculated Draft Environmental Impact Report (RDEIR), February 2010. Accessed June 2019 at: http://generalplan.co.tulare.ca.us/documents/generalplan2010/RecirculatedDraftEIR.pdf

Tulare County Health and Safety Element Goals and Policies Report. Page 10-3. Accessed June 2019 at: http://generalplan.co.tulare.ca.us/documents/GP/002Board%20of%20Supervisors%20Materials/001BOS%20Agenda%20Items%20-%20Public%20Hearing%20August,%2028%202012/008Attachment%20G.%20Public%20Comment,%20%20Staff%20Matrix,%20and%20Responses/004Item%204.%20GPU%20AMUS/17-CHP%2010%20Health%20&%20Safety.pdf.

CHAPTER 5
GROWTH-INDUCING IMPACTS

According to State CEQA Guidelines Section 15126.2(e), evaluation of growth-inducing impacts should "[d]iscuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."

Generally, growth inducing impacts are a result of very large businesses or very large housing developments. A large influx of jobs or people would require additional services which could potentially induce growth related impacts. The proposed Project involves an expansion of an existing mining facility. Although the production of minerals and resources support growth, this production does not induce growth. Additionally, the proposed Project is estimated to result in up to three (3) new jobs, most of which are low skill jobs and would be available to any able bodied person. As these jobs will not require high skilled labor, the new employees are anticipated to be current, local area residents. As further noted in **Table 5-1**, the proposed Project will not significantly induce growth and the Project will have a ***Less Than Significant Impact***.

Table 5-1. Growth Impacts

Potential Growth Inducing Impacts	Discussion
Economic/Population Growth	The proposed Project will result in up to 3 new jobs, which will result in increased economic growth. Although the proposed Project will result in an economic benefit for Tulare County, the proposed Project will not induce substantial growth.
Foster the Construction of Additional Housing	As new employees are anticipated to be current, local residents the proposed Project will not result in a need for additional housing.
Other Activities	Tulare County currently has the supply for 21-31 years, or 41% of the aggregate demand for the next 50 years. As such, the Project will support growth consistent with the growth projections evaluated in the General Plan. As such, the Project will not facilitate other activities that would induce growth or other activities that could have a significant effect on the environment.

CHAPTER 6
ALTERNATIVES

INTRODUCTION

CEQA requires an EIR to consider a reasonable range of feasible alternatives to the project, or to the location of the project, that could feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and to evaluate the comparative merits of the alternatives (CEQA Guidelines, Section 15126.6[a]). Additionally, Section 15126.6(b) of the CEQA Guidelines requires consideration of alternatives that could reduce to a less-than-significant level or eliminate any significant adverse environmental effects of the proposed project, including alternatives that may be more costly or could otherwise impede to some degree the attainment of the proposed project's objectives that would meet most or all of its objectives while reducing or avoiding one or more of its significant impacts (State CEQA Guidelines Section 15126.6).

It is important to understand, however, that the mere inclusion of an alternative in an EIR does not constitute definitive evidence that the alternative is in fact "feasible." The ultimate decision regarding the feasibility of alternatives lies with the ultimate decision-maker for a project, which in this case is the County of Tulare Board of Supervisors. Such determinations are to be made in statutorily mandated findings addressing potentially feasible means of reducing the severity of significant environmental effects. One finding that is permissible, if supported by substantial evidence, is that "specific economic, legal, social, technological, or other considerations . . . make infeasible the . . . alternatives identified" in the EIR (Pub. Resources Code, § 21081, subd. [a]; see also CEQA Guidelines, § 15901, subd. [a]). CEQA Guidelines section 15364 defines "feasible" to mean "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." In deciding whether an alternative is feasible or infeasible, a decision-making body may consider the stated project objectives in an EIR, and may balance any relevant economic, environmental, social, and technological factors. (See City of Del Mar v. City of San Diego (1982) 133 Cal.App.3d 410, 417; Sequoyah Hills Homeowners Assn. v. City of Oakland (1993) 23 Cal.App.4th 704, 715.)

The range of alternatives must include a "no-project" alternative, which describes the future if the proposed project were not adopted. However, the no-project alternative is not required to meet any of the project objectives or reduce any of its significant impacts (State CEQA Guidelines Section 15126.6). Alternatives may be analyzed at a lesser level of detail than the project itself, but there must be sufficient detail to allow the impacts of the alternatives to be compared with the project and each other.

According to State CEQA Guidelines Section 15162(a), a supplemental EIR is not required to consider new alternatives or reconsider the alternatives discussed in the original EIR unless new

information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified shows either of the following:

- Alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the alternative.
- Alternatives that are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant impacts on the environment, but the project proponents decline to adopt the alternative.

The alternatives discussion (Chapter 5 Alternatives) contained in the existing Project's adopted/certified EIR (SCH No. 2014081023) via Planning Commission Resolution No. 9055 approved on March 11, 2015, is incorporated herein in its entirety.

FACTORS CONSIDERED IN ANALYSIS OF ALTERNATIVES

In this Alternatives analysis the following criteria will be used:

Evaluation Criteria 1: Project Specific Elements

- Allow consistency between PMR 01-001, PMR 09-002, PSP 01-055(ZA), and PMR 14-002;
- Result in approximately 20-acre expansion upon land used for grazing through the use of a lot line adjustment toward the east and southeast;
- Increase annual production by 500,000 tons per year (from a maximum of 1,000,000 tons per year to a maximum of 1,500,000 tons per year);
- Increase truck hauling by 224 round trips per day (from a maximum of 376 round trips per day to a maximum of 600 round trips per day);
- Increase permitted transport to a maximum of 60,000 trips per year (from the currently permitted 42,300 trips per year, an increase of 17,700 trips per year).
- An increase of approximately three (3) additional employees, resulting in a workforce of approximately 30 employees (20 in first shift and 10 in second shift);
- Allow operating hours from 6:00 A.M. to 6:00 P.M. Monday through Saturday (with an allowance to work on weekends due to utility demands and state and local government paving requirements);
- Result in an increase in the maximum depth of the mine from 560' to 300' MSL;
- Result in a change to the estimated total rock production of 40,000,000 tons of rock to 75,000,000 tons of rock material during the estimated 50 years of operation; and
- Result in no change to the approved reclamation plan other than to include the expanded area.

Evaluation Criteria 2: Project Objectives

- Increase Aggregate Production and remain within an already approved site and excavation footprint;
- Increase annual production by 500,000 tons per year;
- Increase truck hauling by 224 round trips per day;
- Increase permitted transport to a maximum of 60,000 trips per year;
- An increase of approximately three (3) additional employees;
- Allow operating hours from 6:00 A.M. to 6:00 P.M. Monday through Saturday;
- Allow rock production of 75,000,000 tons of rock material during the estimated 50 years of operation;
- Increase mine depth to 300' MSL; and
- Retain approved reclamation plan other than to include the proposed expansion area.

Evaluation Criteria 3: Minimize Costs

Although there may be many theoretical alternatives, there are only a few alternatives that could potentially be implemented due to costs involved in an alternative. Considerable increases in costs can render a project alternative infeasible. Considerable costs include land acquisition costs, increased utility costs, additional costs to undertake an entitlement and environmental process, and delays in realizing the desired output potential (in this instance, an increase of tonnage mined) thus resulting in reduced availability and timeliness of availability of construction material.

Evaluation Criteria 4: Efficient Business Operations

As the proposed Project involves an expansion of an existing business, operational efficiency is a major concern in the long-term viability of the business. Operational efficiency affects both operational costs and operational effectiveness through the maximization of existing buildings and equipment. Providing alternatives that complicates business operations or makes business operations inefficient is not desirable. For instance, relocating the mining operations to another site could significantly increase vehicle miles traveled resulting in higher fuel consumption resulting in higher fuel costs, thus reducing operational efficiency.

Evaluation Criteria 5: Reduce (Lessen) Significant Impacts

Each alternative should be analyzed to assess the potential to reduce or entirely avoid significant impacts.

ALTERNATIVES CONSIDERED

In the following sections, three Alternatives are considered: **No Project Alternative (Alternative 1), Alternative Locations (Alternative 2),** and **Reduced Size (Alternative 3)**.

ALTERNATIVE 1: NO PROJECT ALTERNATIVE

Section 15126.6(e) of the CEQA Guidelines requires that an EIR evaluate and analyze the environmental impacts of the "No Project" Alternative. When the project is the revision of an existing land use or regulatory plan or policy, the no project alternative will be the continuation of the existing plan or policy into the future.

This Alternative by definition would not meet the objectives of the proposed Project. In this case, the No Project alternative retains the status quo, that is, there would be no changes to the currently existing operations as follows:

- Retain operations on the existing 98 acre mining operation;
- Retain annual production of 1,000,000 tons per year;
- Retain e truck hauling to a maximum of 376 round trips per day;
- Retain maximum of 42,300 truck trips per year ;
- Retain existing number of 27 employees;
- Retain existing operating hours from 7:00 A.M. to 6:00 P.M. Monday through Saturday (with an allowance to work on weekends due to utility demands and state and local government paving requirements);
- Retain existing maximum depth of the mine;
- Retain estimated total rock production of 40,000,000 tons of rock material during the estimated 50 years of operation;
- Retain maximum mine depth at 560' MSL; and
- Retain existing approved reclamation plan.

The No Project Alternative would not achieve other Project objectives such as minimizing costs or business operations efficiency as there would be no change in the existing operations. The No Project Alternative would reduce adverse impacts to one resource, Transportation. Other potential impacts (as discussed in the Environmental Impacts of the No Project Alternative, below) would be minimized or avoided.

ABILITY TO MEET PROJECT OBJECTIVES – NO PROJECT ALTERNATIVE

The No Project Alternative, as applicable to this draft Supplemental EIR, would meet the project objectives of the original Deer Creek EIR (SCH No. 2014081023) as it would not result in any physical (i.e., operational) changes in the environment of the existing operation. No increases in rock production would translate into no changes to the mining operation area, rock production, number of daily or annual truck trips, employment levels, hours/days of operation, depth of the mine, or approved reclamation plan.

There is no evidence that would indicate that the No Project Alternative is now feasible given the Project objectives noted earlier. As such, the No Project Alternative is infeasible as it would not achieve any of the Project objectives.

ENVIRONMENTAL IMPACTS OF THE NO PROJECT ALTERNATIVE

Only one of the proposed additions changes the conclusions regarding the No Project Alternative analysis as contained in the original, existing Deer Creek EIR (SCH No. 2014081023). Despite the proposed changes, only the Transportation resource will result in a measureable change. As indicated in Chapter 4.9, Transportation, impacts to this resource would be reduced to less than significant with mitigation. Impacts to the other resources discussed in the draft SEIR (i.e., air quality, biology, cultural, energy, geology/soils, greenhouse gas emissions, hydrology/water quality, noise, tribal cultural resources, and wildfire) will either be minimized or avoided to less than significant levels through the use of mitigation measures, project design features, conditions of approval, and/or other agencies' orders, permits, regulations, requirements, rules, standards, thresholds, etc.

The environmental impacts of the No Project Alternative are summarized below:

Air Quality: The No Project Alternative would result in no changes to the conclusions reached in the EIR (SCH No. 2014081023) adopted/certified for the existing operation as no increases in rock production would translate into no changes to the mining operation area, rock production, or number of daily or annual truck trips (i.e., vehicle trips) thereby resulting in no changes to impacts to the Air Quality resource.

Biological Resources: The No-Project Alternative would result in no changes to the conclusions reached in the EIR (SCH No. 2014081023) adopted/certified for the existing operation as the proposed 20 acre expansion would not be realized, thereby avoiding any disturbance to lands (e.g., biotic habitats, plants, animals, etc.) that are not currently actively mined. As such, no changes to impacts on Biological resources would occur.

Cultural Resources: The No Project Alternative would result in no changes to the conclusions reached in the EIR (SCH No. 2014081023) adopted/certified for the existing operation as the proposed 20 acre expansion would not be realized, thereby avoiding any disturbance to lands which may contain cultural resources that are not currently actively mined. As such, no changes to impacts on Cultural resources would occur.

Energy: The No Project Alternative would result in no changes to the conclusions reached in the EIR (SCH No. 2014081023) adopted/certified for the existing operation as the proposed 20 acre expansion would not be realized, thereby avoiding any additional consumption of energy (i.e., gasoline, diesel fuel, electricity, natural/liquefied natural gas, etc.). As such, no changes to Energy impacts would occur.

Geology/Soils: The No Project Alternative would result in no changes to the conclusions reached in the EIR (SCH No. 2014081023) adopted/certified for the existing operation as the proposed 20 acre expansion would not be realized, thereby avoiding any disturbance to lands which could impact geology/soils. As such, no changes to impacts on Geology/Soils would occur.

Greenhouse Gas Emissions: The No Project Alternative would result in no changes to the conclusions reached in the EIR (SCH No. 2014081023) adopted/certified for the existing operation as the proposed 20 acre expansion would not be realized and no increases in rock production would translate into no changes to the mining operation area, rock production, or number of daily or annual truck trips (i.e., vehicle trips) which would otherwise directly contribute to greenhouse gas emissions. Absent any of these changes, it would not be possible for the Project to exceed greenhouse gas emissions thresholds identified in Tulare County's adopted Climate Action Plan. As such, no changes to impacts on Greenhouse Gas Emissions would occur.

Hydrology/Water Quality: The No Project Alternative would result in no changes to the conclusions reached in the EIR (SCH No. 2014081023) adopted/certified for the existing operation as the proposed 20 acre expansion would not be realized, thereby avoiding any disturbance to lands which could impact hydrology/water quality that are not currently actively mined. As such, no changes to impacts on Hydrology/Water Quality would occur.

Noise: The No Project Alternative would result in no changes to the conclusions reached in the EIR adopted/certified for the existing operation as no increases in rock production would translate into no changes to the mining operation area, rock production, or number of daily or annual truck trips (i.e., vehicle trips) thereby resulting in no changes to impacts caused by noise generation. Absent any of these changes, it would not be possible for the Project to exceed the Tulare County's Land Use Compatibility for Community Noise Environments criteria. The No Project Alternative would not result in a significant impact at sensitive receptors in the study area. Noise from on-site operations would also not be realized as noise generating activities (e.g., blasting, extraction, crushing, loading, etc.) would not occur beyond existing levels. As such, the Project would not result in a significant unavoidable impact. Therefore, no changes to impacts to the Noise resource would occur.

Transportation/Traffic: The No Project Alternative would result in a change to the conclusions reached in the EIR adopted/certified for the existing operation as increases in rock production would translate into changes to the mining operation area, rock production, or number of daily or annual truck trips (i.e., vehicle trips) thereby resulting in changes to transportation/traffic impacts. However, as discussed in Chapter 4.9 Transportation, Mitigation Measures 4.9-1 and an Equitable Fair Share Responsibility Estimate would mitigate impacts to this resource to less than significant..

Tribal Cultural Resources: The No Project Alternative would result in no changes to the Cultural Resources (which included Tribal Cultural Resources) conclusions reached in the EIR (SCH No. 2014081023) adopted/certified for the existing operation as the proposed 20 acre expansion would not be realized, thereby avoiding any disturbance to lands which could impact tribal cultural resources. Therefore, no changes to impacts on Tribal Cultural Resources would occur.

Wildfire: The No Project Alternative will result in no impact related to Wildfire. The previous EIR adopted/certified for the existing Project (SCH No. 2014081023) was not required to address the Wildfire Resource. However, this draft SEIR includes a review of potential wildfire impacts which is provided in the analysis contained in Chapter 4.11Wildfire. As noted in Chapter 4.11, the proposed Project is an expansion of the existing Deer Creek Mine. The Project is located in a

moderate fire risk area classified as moderate fire hazard severity zone. It is located on the Valley floor in a predominantly rural, agricultural area. Due to the nature of the Project, it would not exacerbate wildfire risks and not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. The No Project Alternative would render the Wildfire analysis moot as there would be no expansion of the site (nor any increases in mine depth, material to be extracted, processed, or subsequently transported) resulting in no increase in wildfire risks. Therefore, the Project would result in no impact to this resource.

ALTERNATIVE 2: ALTERNATIVE LOCATIONS

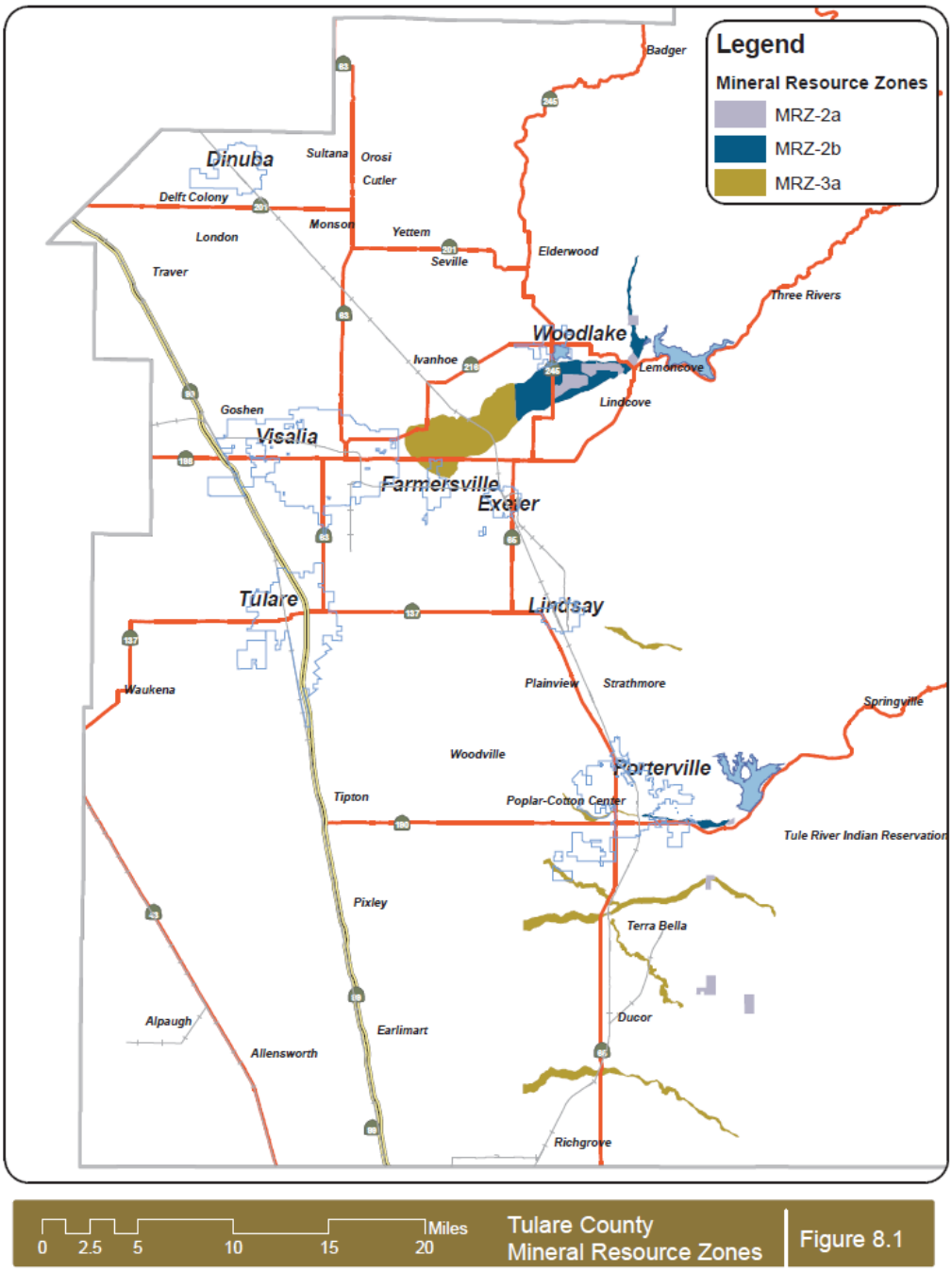
Section 15126.6(f)(2) Alternative locations of the CEQA Guidelines requires that when an EIR evaluate and analyzes alternative locations, the lead agency should weight three factors (1) Key question; that is, the first step in analysis is whether any of the significant effects of the project would be avoided or substantially lessened if the project is sited at another location. "Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR." [1]; (2) None Feasible; that is, "if the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion, and should include the reasons in the EIR. For example, in some cases there may be no feasible alternative locations for a geothermal plant or mining project which must be in close proximity to natural resources at a given location."[2]; and (3) Limited new analysis needed; that is, "Where a previous document has sufficiently analyzed a range of reasonable alternative locations and environmental impacts for projects with the same basic purpose, the lead agency should review the previous document The EIR may rely on the previous document to help it assess the feasibility of potential project alternatives to the extent the circumstances remain substantially the same as they relate to the alternative"[3].

ABILITY TO MEET PROJECT OBJECTIVES – ALTERNATIVE 2

Alternative 2, as applied to this Supplemental EIR, would not meet the Project objectives. An Alternative Site would have to be similar in quality and quantity of rock material. It would also entail acquisition of an Alternative Site. Further, the Applicant would have to initiate a new County of Tulare entitlement process (for example, a Special Use Permit and SMARA Permit), re-initiate the environmental review process, receive new permits from other local agencies (for example, San Joaquin Valley Air Pollution Control District or Regional Water Quality Control Board), and receive state new mining and reclamation permits from the California Department of Conservation, Division of Mines. Lastly, an Alternative Site may not be able to conform to the Tulare County General Plan Policies outlined in Chapter 3.11 Mineral Resources. **Figure 5-1** Mineral Resource Zones shows the locations of known mineral zones within Tulare County; as evident, the mineral zones are limited to very specific locations.

[1] CEQA Guidelines. Section 15126.6(f)(2)(A).
[2] Ibid. Section 15126.6(f)(2)(B).
[3] Op. Cit. Section 15126.6(f)(2)(C).

Figure 5-1
Mineral Resource Zones[4]



To conclude, there is no evidence that would indicate that Alternative 2 is feasible. For the reasons stated above, Alternative 2 remains infeasible.

[4] Tulare County General Plan 2030 Update accessed November 2019 at: http://generalplan.co.tulare.ca.us/documents.html, then locate "Part I Goals and Policies Report, Component 8", click it and go to Figure 8-1 after Page 8-21.

ENVIRONMENTAL IMPACTS OF ALTERNATIVE 2

Environmental impacts at an Alternative site remain unknown until a comprehensive investigation (including applicable resource studies such as air quality, biological, cultural/tribal cultural, hydrologic, geologic, traffic, etc.) is completed. However, as noted above, due to the nature of very limited mineral zones, and the reason stated earlier, it is not feasible for the Applicant to propose an alternative site. An alternative site may be closer to one market area, but subsequently farther to another market area resulting in varying levels of air quality emissions, energy, greenhouse gases emissions, and traffic distribution. As such, it would be speculative at best to determine environmental impacts as some may be similar, greater, or less to air quality, energy, greenhouse gases, and traffic.

Therefore, consistent with CEQA Section 15126.6(f)(2)(B), the limited availability of the mineral resource extracted by the existing and proposed expansion Project renders an alternative site infeasible.

ALTERNATIVE 3: REDUCED SIZE

Alternative 3, Reduced Size, would result in a smaller increase to the expansion area, reduced mine depth, and smaller changes to the annual/life-span tonnage of material extracted, processed, transported off-site, and accompanying daily/annual truck trips. Alternative 3 is a combination of Alternatives 3 (Reduced Yearly Tonnage) and 4 (Reduced Mining Depth) analyzed in the existing Project EIR and includes a reduced expansion area.

ABILITY TO MEET PROJECT OBJECTIVES – ALTERNATIVE 3

Alternative 3, as applied to this Supplemental EIR, would <u>not</u> meet the project objectives to:

- Increase Aggregate Production by expanding an already approved site and excavation footprint;
- Increase the mine's depth;
- Increase annual production by 500,000 tons per year;
- Increase truck daily and annual hauling transporting of mined materials;
- Increase number of employees;
- Allow operating hours from 6:00 A.M. to 6:00 P.M. Monday through Saturday; or
- Allow rock production of 75,000,000 tons of rock material during the estimated 50 years of operation;

Importantly, Alternative 3 would significantly impact operational efficiency as the proposed Project involves an expansion of an existing business. Operational efficiency is a major concern in the long-term viability of the business. Operational efficiency affects both operational costs and operational effectiveness through the maximization of existing buildings and equipment. Providing alternatives that complicates business operations or makes business operations

inefficient is not desirable. For instance, reducing the expansion area and depth for the mining operations would significantly reduce extraction of rock material. This Alternative would increase the amount of time required to mine the site to the proposed depth and would result in a lower total amount of material mined at the site. Reclamation would occur later than proposed as the site would not reach its projected lifespan until a later year than estimated. Also, the availability of construction material derived from the operation would be reduced resulting in potential shortages of material needed to complete construction-related projects, increased construction-related costs due to delays in delivering material, and delays in completing construction-related projects. An increase in vehicle miles traveled would result in higher fuel consumption subsequently resulting in higher fuel costs, thus reducing operational efficiency.

To conclude, there is no evidence that would indicate that Alternative 3 is feasible. For the reasons stated above, Alternative 3 remains infeasible.

ENVIRONMENTAL IMPACTS OF ALTERNATIVE 3

The environmental impacts of the Reduced Size Alternative are summarized below:

Air Quality: The Reduced Size Alternative would result in changes to the conclusions reached in the EIR (SCH No. 2014081023) adopted/certified for the existing operation as the proposed Project would result in increases in rock production which would subsequently translate into changes to the mining operation area, rock production, or number of daily or annual truck trips (i.e., vehicle trips) thereby likely resulting in increased impacts to the Air Quality resource. However, as noted in Chapter 4.1 Air Quality (and supported by the GHG study included in Appendix “A”) , even if the proposed expansion is realized, there would be a less than significant impact with mitigation to air quality.

Biological Resources: The Reduced Size Alternative would result in changes to the conclusions reached in the EIR (SCH No. 2014081023) adopted/certified for the existing operation even if the proposed 20 acre expansion is not realized. An increase beyond the existing operations would result in disturbance to lands (e.g., biotic habitats, plants, animals, etc.) that are not currently actively mined. As such, changes to impacts of Biological resources would occur. However, as noted in Chapter 4.2 Biological Resources (and supported by the Biological study included in Appendix “B”), even if the proposed expansion is realized, there would be a less than significant impact with mitigation to biological resources.

Cultural Resources: The Reduced Size Alternative would result in reduced changes to the conclusions reached in the EIR (SCH No. 2014081023) adopted/certified for the existing operation even if the proposed 20 acre expansion is not realized. An increase beyond the existing operations could result in disturbance to lands which may contain cultural resources that are not currently actively mined. As such, changes to impacts of Cultural resources would occur. However, as noted in Chapter 4.3 Cultural Resources (and supported by the Cultural study included in Appendix “C”), even if the proposed expansion is realized, there would be a less than significant impact with mitigation to cultural resources.

Energy: The Reduced Size Alternative would result in reduced changes to the conclusions reached in the EIR (SCH No. 2014081023) adopted/certified for the existing operation even if the proposed 20 acre expansion is not realized. An increase beyond the existing operations would result in additional consumption of energy (i.e., gasoline, diesel fuel, electricity, natural/liquefied natural gas, etc.). As such, changes to Energy impacts would occur. However, as noted in Chapter 4.4 Energy, even if the proposed expansion is realized, there would be a less than significant impact to the energy resource.

Geology/Soils: The Reduced Size Alternative would result in reduced changes to the conclusions reached in the EIR (SCH No. 2014081023) adopted/certified for the existing operation even if the proposed 20 acre expansion is not be realized. An increase beyond the existing operations could impact geology/soils. As such, changes to impacts of Geology/Soils would occur. However, as noted in Chapter 4.5 Geology/Soils (and supported by the Geological study included in Appendix "D"), even if the proposed expansion is realized, there would be a less than significant impact to geology/soils.

Greenhouse Gas Emissions: The Reduced Size Alternative would result in changes to the conclusions reached in the EIR (SCH No. 2014081023) adopted/certified for the existing operation even if the proposed 20 acre expansion is not realized. An increases in rock production would translate into changes to the mining operation area, rock production, or number of daily or annual truck trips (i.e., vehicle trips) which directly contribute to greenhouse gas emissions. However, the Reduced Size Alternative would not likely exceed greenhouse gas emissions thresholds identified in Tulare County's adopted Climate Action Plan. As such, changes to impacts of Greenhouse Gas Emissions would occur. However, as noted in Chapter 4.6 Greenhouse Gas Emission (and supported by the GHG study included in Appendix "A"), even if the proposed expansion is realized, there would be a less than significant impact to greenhouse gas emissions.

Hydrology/Water Quality: The Reduced Size Alternative would result in changes to the conclusions reached in the EIR (SCH No. 2014081023) adopted/certified for the existing operation even if the proposed 20 acre expansion is not be realized. An increase beyond the existing operations could impact hydrology/water quality. As such, changes to impacts of hydrology/water quality would occur. However, as noted in Chapter 4.7 Hydrology/Water Quality (and supported by the Hydrology study included in Appendix "E"), even if the proposed expansion is realized, there would be a less than significant impact to hydrology/water quality.

Noise: The Reduced Size Alternative would result in changes to the conclusions reached in the EIR (SCH No. 2014081023) adopted/certified for the existing operation as increases in rock production would translate into changes to the mining operation area, rock production, or number of daily or annual truck trips (i.e., vehicle trips) thereby resulting in changes to impacts caused by noise generation. However, because of the Project's remoteness, it remains unlikely that the Project's noise generation would exceed the Tulare County's Land Use Compatibility for Community Noise Environments criteria. The Reduced Size Alternative would not result in a significant impact at sensitive receptors in the study area. Noise from on-site operations would also not be realized as noise generating activities (e.g., blasting, extraction, crushing, loading, etc.) would not occur beyond existing levels. As such, the Project would not result in a significant

unavoidable impact. Lastly, as noted in Chapter 4.8 Noise and as supported in the Noise Study Report (see Appendix "F"), even if the proposed expansion is realized, there would be a less than significant impact to noise.

Transportation/Traffic: The Reduced Size Alternative would result in minor changes to the conclusions reached in the EIR (SCH No. 2014081023) adopted/certified for the existing operation as increases in rock production would translate into changes to the mining operation area, rock production, or number of daily or annual truck trips thereby resulting in changes to transportation/traffic impacts. An increase beyond the existing operations would impact transportation/traffic. As such, changes to impacts addressed in the existing Project's EIR would occur. However, as noted in Chapter 4.7 Transportation/Traffic (and supported by the Traffic study included in Appendix "G"), even if the proposed expansion is realized, there would be a less than significant impact with mitigation to transportation/traffic.

Tribal Cultural Resources: The Reduced Size Alternative would result in reduced changes to the conclusions reached in the EIR (SCH No. 2014081023) adopted/certified for the existing operation even if the proposed 20 acre expansion is not realized. An increase beyond the existing operations could result in disturbance to lands which may contain tribal cultural resources in areas not currently actively mined. As such, changes to impacts of Tribal Cultural Resources would occur. However, as noted in Chapter 4.10 Cultural Resources (and supported by the GHG study included in Appendix "C"), even if the proposed expansion is realized, there would be a less than significant impact with mitigation to cultural resources.

Wildfire: The Reduced Size Alternative would result in no impact related to Wildfire. A detailed review of potential impacts is provided in the analysis contained in Chapter 4.11 Wildfire. As noted in Chapter 4.11, the Project is an expansion of the existing Deer Creek Mine; as such, the analysis contained in Chapter 4.11 remains applicable to a Reduced Size alternative. The Project, regardless of present, proposed expansion, or reduced size, would remain in a moderate fire risk area classified as moderate fire hazard severity zone. However, due to the nature of the Project, it would not exacerbate wildfire risks and not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, even if the Reduced Size Alternative is realized, the Project would result in no impact to this resource.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires an EIR to examine a range of feasible alternatives to the project. State CEQA Guidelines Section 15126.6(e)(2) requires that the EIR identify which alternative is the environmentally superior alternative. If the no-project alternative is the environmentally superior alternative, CEQA requires an EIR to identify which of the other alternatives is environmentally superior. Although an environmentally superior alternative must be identified, the County is not legally obligated to choose that alternative. As long as all of the impacts of project implementation are disclosed, the County may move forward with implementation of any of the alternatives.

As described earlier, the analysis contained in Alternative 1 No Project, Alternative 2 Reduced Size, and Alternative 3 Alternative Locations, discuss the anticipated impacts resulting from implementation of the Alternatives compared to those identified for the proposed Project. In summary, the environmentally superior alternative for this Project would be the No Project Alternative; however, consistent with CEQA Guidelines Section 15126.6(e)(2), the Reduced Size Alternative would be the Superior Alternative for the reasons stated in the Reduced Size Alternative discussion, above. Alternative 3 is not feasible for the reasons stated in the Alternative Locations discussion, above. As such, it does not meet the standard of a Superior Alternative. Therefore, Alternative 2 would be the environmentally superior alternative.

CHAPTER 7
SIGNIFICANT UNAVOIDABLE IMPACTS

Pursuant to State CEQA Guidelines Section 15126.2(c), an EIR shall include a discussion of significant environmental effects which cannot be avoided if the proposed project is implemented. This discussion should "[d]escribe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described."

The Project will not result in any Significant Unavoidable Impacts. As noted earlier, the Project consists of a ±20-acre expansion to the footprint and operations of the existing and currently operational Deer Creek Mine facility. On March 11, 2015, an EIR (SCH No. 2014081023) was certified and adopted for the current operations permitted under PMR 14-002 via Planning Commission Resolution No. 9055. The permit amendments requested in this Project (PMR 19-001) will result in an approximately 20-acre expansion of the existing ±110-acre facility, would allow a 500,000 ton per year increase in aggregate production, and result in a 35 million ton increase in the estimated total rock production during the estimated 50 years of operation. Other than the inclusion of the ±20-acre expansion area, the Project will result in no changes to the approved reclamation plan. This proposed expansion would increase the maximum excavation depth, increase in annual aggregate production, and increase in annual truck trips.

This Project is consistent with and will result in no impacts beyond those previously discussed in the EIR (SCH No. 2014081023) prepared for PMR 14-002 (which is incorporated herein by reference, including CEQA Findings of Fact and Mitigation Monitoring and Reporting Program) regarding the following resource areas: Aesthetics, Agriculture and Forestry Resources; Hazards/Hazardous Materials; Land Use/Planning; Mineral Resources; Population/Housing; Public Services; Recreation; and Utilities/Service Systems.

As this Project consists of expansion-related activities which were not known at the time of adoption of the EIR (SCH No. 2014081023) for PMR 14-002, and new information has become available, this Subsequent EIR (SEIR) has been prepared to address the potential impacts in the following resource areas:

Air Quality
Biological Resources
Cultural Resources
Energy;
Geology/Soils
Greenhouse Gas Emissions
Hydrology/Water Quality
Noise
Transportation
Tribal Cultural Resources
Wildfire

Air Quality: The proposed Project will result in a ***Less Than Significant With Mitigation*** to Air Quality. The impact determinations in Chapter 4.1 Air Quality are based upon information obtained from the references listed at the end of Chapter 4.1 and in the "*Air Quality and Greenhouse Gas Analysis Report Deer Creek Mine Expansion Project Tulare County, California."* (AQ-GHG Report) prepared by consultant Mitchell Air Quality Consulting for this Project (which is included in Appendix "A" of this draft SEIR). Compliance with ***Mitigation Measures 4.1-1*** through ***4.1-5*** would reduce the impact to less than significant; as such, the Project would not result in a significant unavoidable impact.

Biological Resources: The proposed Project will result in a ***Less Than Significant Impact With Mitigation*** to Biological Resources. A detailed review of potential impacts is provided in the analysis contained in Chapter 4.2 Biological Resources and in the "*Biotic Evaluation Deer Creek Rock Mine Expansion Project Tulare County, California*" (BE) prepared by consultants Live Oak Associates, Inc. (LOA), which is included in Appendix "B" of this draft SEIR. The BE included a reconnaissance-level biological field survey for biotic habitats, the plants and animals occurring in those habitats, and significant habitat values that may be protected by state and federal law. Compliance with ***Mitigation Measures 4.2-1*** through ***4.2-3*** would reduce the impact to less than significant; as such, the Project would not result in a significant unavoidable impact.

Cultural Resources: The proposed Project will result in a ***Less Than Significant Impact With Mitigation*** to Cultural Resources. A detailed review of potential impacts is provided in the analysis contained in Chapter 4.3 Cultural Resources and in the study *"Twenty Acre Expansion of the Deer Creek Rock Company Porterville, Tulare County, California"* (Cultural Study) prepared by consultant Culturescape which is included in Appendix "C" of this draft SEIR. Research consisted of a records search of recorded historical and archaeological sites and maps of the affected area by personnel at the Southern San Joaquin Information Center (SSJVIC), located at California State University, Bakersfield, California. The efforts also included contact with Native American Heritage Commission which conducted a Sacred Lands File Search and provided a list of tribal contacts, and correspondence with representatives of affected tribes, a literature review of historic and archaeological data pertaining to the area in question, and a field survey. Compliance with ***Mitigation Measures 4.3-1*** and ***4.3-3*** would reduce the impact to less than significant; as such, the Project would not result in a significant unavoidable impact.

Energy: The proposed Project will result in a less than significant impact related to Energy. The impact determinations in Chapter 4.4 Energy are based upon information obtained from the references listed at the end of Chapter 4.4 and in the *"Air Quality and Greenhouse Gas Analysis Report Deer Creek Mine Expansion Project Tulare County, California."* (AQ-GHG Report) prepared by consultant Mitchell Air Quality Consulting for this Project (which is included in Appendix "A" of this draft SEIR). As such, the Project would not result in a significant unavoidable impact.

Geology/Soils: The proposed Project will result in a ***Less Than Significant Impact With Mitigation*** to Geology and Soils. A detailed review of potential impacts is provided in the analysis contained in Chapter 4.5 Geology and Soils. *"The Hydrology and Water Quality Report for Deer Creek Mine Expansion (PMR 19-001) Project"* report prepared by consultant Mason

GeoScience, and the *"Custom Soil Resource Report for Tulare County, California, Central Part"* by the USDA NRCS (included in Appendix "E" of this document) are used as the basis for determining this Project will result in a less than significant impact with mitigation. Compliance with ***Mitigation Measures 4.5-1*** would reduce the impact to less than significant; as such, the Project would not result in a significant unavoidable impact.

Greenhouse Gas Emissions: The proposed Project will result in a less than significant impact related to Greenhouse Gases. The impact determinations in Chapter 4.6 Greenhouse Gases are based upon information obtained from the references listed at the end of Chapter 4.6 and in the *"Air Quality and Greenhouse Gas Analysis Report Deer Creek Mine Expansion Project Tulare County, California."* (AQ-GHG Report) prepared by consultant Mitchell Air Quality Consulting for this Project (which is included in Appendix "A" of this draft SEIR). As such, the Project would not result in a significant unavoidable impact.

Hydrology/Water Quality: The proposed Project will result in a *less than significant impact* related to Hydrology and Water Quality. A detailed review of potential impacts is provided in the analysis contained in Chapter 4.7 Hydrology and Water Quality. *"The Hydrology and Water Quality Report for Deer Creek Mine Expansion (PMR 19-001) Project"* report prepared by consultant Mason GeoScience, is included in Appendix "E" of this draft SEIR which is used as the basis for determining this Project will result in less than significant impact. The Project Site, including the proposed expansion area, currently implements an existing Regional Water Quality Control Board approved Stormwater Pollution Prevention Plan (SWPPP) requirements, facility information, Best Management Practices (BMP), BMP implementation, and a monitoring implementation plan. As such, the Project would not result in a significant unavoidable impact.

Noise: The proposed Project will result in a *less than significant impact* related to the Noise Resource. A detailed review of potential impacts is provided in the analysis contained in Chapter 4.8 Noise. The *"Deer Creek Rock Co., Inc. Expansion Project Noise Study Report"* (NSR) prepared by consultant VRPA Technologies, Inc., (and is included as Appendix "F" of this draft SEIR) is used as the basis for determining that this Project will result in less than significant impact. Results of the analysis contained in the NSR indicate that none of the sensitive receivers will exceed the Tulare County's Land Use Compatibility for Community Noise Environments criteria for the Existing Plus Project, Near-Term, and Cumulative Year 2040 scenarios. As a result, Project traffic will not create a significant impact at sensitive receptors in the study area. Further, the NSR also concludes that noise levels experienced at the nearest residence as a result of the Project is approximately 73 dBA, if all equipment is operating at the same time in the same activity area. Therefore, on-site operations from the Project have a less than significant impact on the nearest residence south of the Property's boundary considering Tulare County's Land Use Compatibility for Community Noise Environments (which established a standard of 75bBA as "Normally Unacceptable"). As such, the Project would not result in a significant unavoidable impact.

Transportation/Traffic: The proposed Project will result in a ***Less Than Significant Impact With Mitigation*** related to Transportation and Traffic. A detailed review of potential impacts is provided in the analysis contained in Chapter 4.9 Transportation. *"The Deer Creek Rock Co.,*

Inc. Expansion Project Traffic Impact Study" (TIS) report prepared by consultant VRPA Technologies, Inc. (and included as Appendix "G" of this draft SEIR), is used as the basis for determining that this Project will result in a less than significant impact with mitigation. Compliance with ***Mitigation Measure 4.9-1*** and contribution to an ***Equitable Fair Share Responsibility*** would reduce the impact to less than significant; as such, the Project would not result in a significant unavoidable impact.

Tribal Cultural Resources: The proposed Project will result in a ***Less Than Significant Impact With Mitigation*** related to Tribal Cultural Resources. A detailed review of potential impacts is provided in the analysis contained in Chapter 4.10 Tribal Cultural Resources. A detailed review of potential impacts is provided in the analysis contained in Chapter 4.10 Tribal Cultural Resources. The *"Cultural Resources Assessment, Deer Creek Rock Company, Surface Mining Permit Amendment, Northern Foot of Tennessee Ridge, Five Miles Southeast of Porterville, Tulare County, California (APN 305-190-021)"* prepared by consultants Culturescape (and is included in Appendix "C" of this draft SEIR), is used as the basis for determining this Project will result in less than significant impact with mitigation. Research consisted of a records search of recorded historical and archaeological sites and maps of the affected area by personnel at the Southern San Joaquin Information Center (SSJVIC), located at California State University, Bakersfield, California. The efforts also included contact with Native American Heritage Commission which conducted a Sacred Lands File Search and provided a list of tribal contacts, and correspondence with representatives of affected tribes, a literature review of historic and archaeological data pertaining to the area in question, and a field survey. Compliance with ***Mitigation Measures 4.10-1*** and ***4.10-3*** would reduce the impact to less than significant; as such, the Project would not result in a significant unavoidable impact.

Wildfire: The proposed Project will result in no impact related to Wildfire. A detailed review of potential impacts is provided in the analysis contained in Chapter 4.11Wildfire. As noted in Chapter 4.11, the Project is an expansion of the existing Deer Creek Mine. The Project is located in a moderate fire risk area classified as moderate fire hazard severity zone. It is located on the Valley floor in a predominantly rural, agricultural area. Due to the nature of the Project, it would not exacerbate wildfire risks and not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, the Project would result in impact to this resource; as such, the Project would not result in a significant unavoidable impact.

CONCLUSION

As previously noted, this SEIR includes its own impact evaluations for the proposed Project and as discussed in various sections of Chapter 4 has concluded the Project will result in no significant Project-specific or cumulative adverse impacts. Where applicable, Mitigation Measures have been incorporated into this Project and included in the Mitigation Monitoring and Reporting Program (MMRP) to reduce any potentially significant impacts to a level of insignificance. Furthermore, mitigation measures adopted for PMR 14-002 will continue to be applicable to this Project (PMR 19-001) and made conditions of approval. As such, the Project will not result in any Significant Unavoidable Impacts and is consistent with the conclusions made in the previously adopted EIR (SCH No. 2014081023) in 2014. Some resource issues

sections (i.e., Energy, Tribal Cultural Resources, and Wildfire) were not discussed in the previously adopted EIR (SCH No. 2014081023) as they were not required until 2015 (or later) are discussed in this draft SEIR and will not result in significant Project-specific or cumulative adverse impacts.

CHAPTER 8
SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Pursuant to State CEQA Guidelines Section 15126.2(d), an EIR shall include a discussion of significant irreversible environmental changes which cannot be avoided if the proposed project is implemented. Section 15126.2(c) of the State CEQA Guidelines provides the following direction for the discussion of irreversible changes:

> "Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvements which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to ensure that current consumption is justified."

As noted earlier, the Project consists of a ±20-acre expansion to the footprint and operations of the existing and currently operational Deer Creek Mine facility. On March 11, 2015, an EIR (SCH No. 2014081023) was certified and adopted for the current operations permitted under PMR 14-002 via Planning Commission Resolution No. 9055. The permit amendments requested by this Project (PMR 19-001) will result in an approximately 20-acre expansion of the existing ±110-acre facility, would allow a 500,000 ton per year increase in aggregate production, and result in a 35 million ton increase in the estimated total rock production during the estimated 50 years of operation. Other than the inclusion of the ±20-acre expansion area, the Project will result in no changes to the approved reclamation plan. As this Project consists of expansion-related activities which were not known at the time of adoption of the EIR for PMR 14-002, and new information has become available, this draft Subsequent EIR (draft Subsequent EIR, draft SEIR, or SEIR) has been prepared to address the potential impacts resulting from the proposed Project.

This Project is consistent with and will result in no impacts beyond was is discussed in the EIR prepared for PMR 14-002 (which is incorporated herein by reference, including CEQA Findings of Fact and Mitigation Monitoring and Reporting Program) regarding the following resource areas: Aesthetics, Agriculture and Forestry Resources; Hazards/Hazardous Materials; Land Use/Planning; Mineral Resources; Population/Housing; Public Services; Recreation; and Utilities/Service Systems. As such, this SEIR addresses only those potential Project-related impacts in the following resource areas: Air Quality; Biological Resources; Cultural Resources; Energy; Geology/Soils; Greenhouse Gas Emissions; Hydrology/Water Quality; Noise, Transportation; Tribal Cultural Resources; and Wildfire.

Air Quality: As concluded in Chapter 4.1 Air Quality, the Project will not result in significant irreversible environmental changes. This determination is supported by information contained in Chapter 4.1 and in the *"Air Quality and Greenhouse Gas Analysis Report Deer Creek Mine Expansion Project Tulare County, California."* (AQ-GHG Report) prepared by consultants Mitchell Air Quality Consulting for this Project (which is included in Appendix "A" of this draft SEIR). This information was used as the basis to determine that the Project would result in a less than significant impact through implementation and compliance with ***Mitigation Measures 4.1-1*** through ***4.1-5*** (as shown in Chapter 4.1). As such, the Project would not result in significant irreversible environmental changes.

Biological Resources: As concluded in Chapter 4.2 Biological Resources, the Project will not result in significant irreversible environmental changes. This determination is supported by information contained in Chapter 4.2 and in the *"Biotic Evaluation Deer Creek Rock Mine Expansion Project Tulare County, California"* (BE) prepared by consultants Live Oak Associates, Inc. (LOA), (which is included in Appendix "B" of this draft SEIR). This information was used as the basis to determine that the Project would result in a less than significant impact through implementation and compliance with ***Mitigation Measures 4.2-1*** through ***4.2-3*** (as shown in Chapter 4.2). As such, the Project would not result in significant irreversible environmental changes.

Cultural Resources: As concluded in Chapter 4.3 Cultural Resources, the Project will not result in significant irreversible environmental changes. This determination is supported by information contained in Chapter 4.3 and in the *"Twenty Acre Expansion of the Deer Creek Rock Company Porterville, Tulare County, California"* (Cultural Study) prepared by consultants Culturescape (which is included in Appendix "C" of this draft SEIR). As noted in the Cultural Study, research consisted of a records search of recorded historical and archaeological sites and maps of the affected area by personnel at the Southern San Joaquin Information Center (located at California State University, Bakersfield, California), contact with Native American Heritage Commission (which conducted a Sacred Lands File Search and provided a list of tribal contacts), correspondence with representatives of affected tribes, a literature review of historic and archaeological data pertaining to the area in question, and a field survey. This information was used as the basis to determine that the Project would result in a less than significant impact through implementation and compliance with ***Mitigation Measures 4.3-1*** and ***4.3-2*** (as shown in Chapter 4.3). As such, the Project would not result in significant irreversible environmental changes.

Energy: As concluded in Chapter 4.4 Energy, the Project will not result in significant irreversible environmental changes. This determination is supported by information contained in Chapter 4.6 and in the *"Air Quality and Greenhouse Gas Analysis Report Deer Creek Mine Expansion Project Tulare County, California."* (AQ-GHG Report) prepared by consultants Mitchell Air Quality Consulting for this Project (which is included in Appendix "A" of this draft SEIR). This information was used as the basis to determine that the Project would not result in significant irreversible environmental changes.

Geology/Soils: As concluded in Chapter 4.5 Geology and Soils, the Project will not result in significant irreversible environmental changes. This determination is supported by information contained in Chapter 4.5 and in the *"The Hydrology and Water Quality Report for Deer Creek Mine Expansion (PMR 19-001) Project"* (BE) prepared by consultants Mason GeoScience, and the *"Custom Soil Resource Report for Tulare County, California, Central Part"* by the USDA NRCS (both are included in Appendix "E" of this draft SEIR). This information was used as the basis to determine that the Project would result in a less than significant impact through implementation and compliance with ***Mitigation Measure 4.5-1*** (as shown in Chapter 4.5). Therefore, the Project would not result in significant irreversible environmental changes.

Greenhouse Gas Emissions: As concluded in Chapter 4.6 Greenhouse Gases, the Project will not result in significant irreversible environmental changes. This determination is supported by information contained in Chapter 4.6 and in the *"Air Quality and Greenhouse Gas Analysis Report Deer Creek Mine Expansion Project Tulare County, California."* (AQ-GHG Report) prepared by consultants Mitchell Air Quality Consulting for this Project (which is included in Appendix "A" of this draft SEIR). This information was used as the basis to determine that the Project would not result in significant irreversible environmental changes.

Hydrology/Water Quality: As concluded in Chapter 4.7 Hydrology and Water Quality, the Project will not result in significant irreversible environmental changes. This determination is supported by information contained in Chapter 4.7 and in *"The Hydrology and Water Quality Report for Deer Creek Mine Expansion (PMR 19-001) Project"* report prepared by consultants Mason GeoScience (which is included in Appendix "E" of this draft SEIR). Further, the Project Site, including the proposed expansion area, currently implements an existing Regional Water Quality Control Board approved Stormwater Pollution Prevention Plan requirements, facility information, implementation of Best Management Practices, and a monitoring implementation plan. As such, the Project would not result in significant irreversible environmental changes.

Noise: As concluded in Chapter 4.8 Noise, the Project will not result in significant irreversible environmental changes. This determination is supported by information contained in Chapter 4.7 and in *"Deer Creek Rock Co., Inc. Expansion Project Noise Study Report"* (NSR) prepared by consultants VRPA Technologies, Inc. (which is included in Appendix "F" of this draft SEIR). Results of the analysis contained in the NSR indicate that none of the sensitive receivers will exceed the Tulare County's Land Use Compatibility for Community Noise Environments criteria for the Existing Plus Project, Near-Term, and Cumulative Year 2040 scenarios. Project traffic will not create a significant impact at sensitive receptors in the study area nor will the nearest residence experience noise levels experienced above County noise thresholds as a result of the Project. As such, the Project would not result in significant irreversible environmental changes.

Transportation: As concluded in Chapter 4.9 Transportation, the Project will not result in significant irreversible environmental changes. This determination is supported by information contained in Chapter 4.9 and in *"The Deer Creek Rock Co., Inc. Expansion Project Traffic Impact Study"* (TIS) report prepared by consultants VRPA Technologies, Inc. (and included as Appendix "G" of this draft SEIR). This information was used as the basis to determine that the Project would result in a less than significant impact through implementation and compliance with ***Mitigation Measure 4.9-1*** (as shown in Chapter 4.9) and contribution to an Equitable Fair Share Responsibility. Therefore, the Project would not result in significant irreversible environmental changes.

Tribal Cultural Resources: As concluded in Chapter 4.10 Tribal Cultural Resources, the Project will not result in significant irreversible environmental changes. This determination is supported by information contained in Chapter 4.10 and in *"Cultural Resources Assessment, Deer Creek Rock Company, Surface Mining Permit Amendment, Northern Foot of Tennessee Ridge, Five Miles Southeast of Porterville, Tulare County, California (APN 305-190-021)"* (TIS) report prepared by consultants Culturescape (and included as Appendix "C" of this draft SEIR). As noted in the Cultural Study, research consisted of a records search of recorded historical and archaeological sites and maps of the affected area by personnel at the Southern San Joaquin Information Center (located at California State University, Bakersfield, California), contact with Native American Heritage Commission (which conducted a Sacred Lands File Search and provided a list of tribal contacts), correspondence with representatives of affected tribes, a literature review of historic and archaeological data pertaining to the area in question, and a field survey. This information was used as the basis to determine that the Project would result in a less than significant impact through implementation and compliance with ***Mitigation Measures 4.3-1*** and ***4.3-2*** (as shown in Chapter 4.3). Therefore, the Project would not result in significant irreversible environmental changes.

Wildfire: The proposed Project will result in no impact related to Wildfire. A detailed review of potential impacts is provided in the analysis contained in Chapter 4.11Wildfire. As noted in Chapter 4.11, the Project is an expansion of the existing Deer Creek Mine. The Project is located in a moderate fire risk area classified as moderate fire hazard severity zone. It is located on the Valley floor in a predominantly rural, agricultural area. Due to the nature of the Project, it would not exacerbate wildfire risks and not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, the Project would not result in significant irreversible environmental changes.

As previously noted, this SEIR includes its own impact evaluations for the proposed Project and has concluded (as discussed in Chapter 3) that the Project will result in no significant Project-specific or cumulative adverse impacts. Mitigation measures have been incorporated into this Project and included in the Mitigation Monitoring and Reporting Program (MMRP) to reduce any potentially significant impacts to a level of insignificance. Furthermore, mitigation measures adopted for PMR 14-002 will continue to be applicable to this Project (PMR 19-001) and made conditions of approval. Pursuant to the Reclamation Plan for the facility, the Project site will be

reclaimed to agricultural uses upon completion of the Project. As such, the Project will not result in any Significant Irreversible Environmental Changes and is consistent with the conclusions made in the previously adopted final EIR (SCH No. 2014081023).

Mitigation Monitoring Reporting Program Chapter 9

This Mitigation Monitoring and Reporting Program (MMRP) has been prepared in compliance with State law and the draft Supplemental Environmental Impact Report (draft SEIR) (State Clearinghouse No. 2019049052) prepared for the Project by the County of Tulare. The MMRP lists mitigation measures recommended in the draft EIR for the proposed Project and identifies monitoring and reporting requirements.

The California Environmental Quality Act (CEQA) Section 21081.6 requires the Lead Agency decision making body is going to approve a project and certify the EIR that it also adopt a reporting or monitoring program for those measures recommended to mitigate or avoid significant/adverse effects of the environment identified in the EIR[1] The law states that the reporting or monitoring program shall be designed to ensure compliance during project implementation. The Mitigation Monitoring and Reporting Program contains the following elements:

- **Action and Procedure.** The mitigation measures are recorded with the action and procedure necessary to ensure compliance. In some instances, one action may be used to verify implementation of several mitigation measures.

- **Compliance and Verification.** A procedure for compliance and verification has been outlined for each action necessary. This procedure designates who will take action, what action will be taken and when and by whom and compliance will be monitored and reported and to whom it will be report. As necessary the reporting should indicate any follow-up actions that might be necessary if the reporting notes the impact has not been mitigated..

- **Flexibility.** The program has been designed to be flexible. As monitoring progresses, changes to compliance procedures may be necessary based upon recommendations by those responsible for the Mitigation Monitoring and Reporting Program. As changes are made, new monitoring compliance procedures and records will be developed and incorporated into the program.

Table 9-1 presents the Mitigation Measures identified for the proposed Project in this EIR. Each Mitigation Measure is identified by the impact number. For example, 4-1 would be the first Mitigation Measure identified in the Biological analysis of the Draft EIR.

The first column of Table 9-1 identifies the Mitigation Measure. The second column, entitled "Monitoring Timing/Frequency," identifies the time the Mitigation Measure should be initiated and the frequency of the monitoring that should take place to assure the mitigation is being or has been implemented to achieve the desired outcome or performance standard. The

[1] Public Resource Code §21081.6

third column, “Action Indicating Compliance,” identifies the requirements of compliance with the Mitigation Measure. The fourth column, “Monitoring Agency,” names the party ultimately responsible for ensuring that the Mitigation Measure is implemented. The fifth column, “Person/Agency Conducting Monitoring/Reporting” names the party/agency/entity responsible for verification that the Mitigation Measure has been implemented. The last three columns will be used by the Lead Agency (County of Tulare) to ensure that individual Mitigation Measures have been complied with and monitored.

Table 9-1
Mitigation Monitoring Reporting Program

Mitigation Measure		**Monitoring Timing/ Frequency**	**Action Indicating Compliance**	**Monitoring Agency**	**Person conducting Monitoring / Reporting**	***Verification of Compliance***		
						Initials	**Date**	***Remarks***
Air Quality								
4.1-1	The following air pollution control measure shall be implemented to reduce emissions from off-road equipment: Idling times shall be minimized either by shutting equipment off when not in use or by reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of the California Code of Regulations). Clear signage shall be provided where clearly visible to equipment users.	Approval of permit amendment	Verification by County of incorporation of project design features and/or conditions of approval.	County of Tulare Planning Department; San Joaquin Valley Air Pollution Control District	County of Tulare Planning Department; San Joaquin Valley Air Pollution Control District			
4.1-2	Prior to increasing production beyond 395,000 tons per year of additional material, but less than 500,000 tons of material, the applicant shall ensure that the off-road equipment fleet meets EPA Tier 4 Interim or Tier 4 NOx emissions standards. If the increase in production to 500,000 tons per year is deferred until 2025, compliance only with the ARB In-Use Off-Road Diesel-Fueled Fleet regulation is required to increase throughput by 500,000 tons per year (1,300,000 tons per year).	Approval of permit amendment	Verification by County of incorporation of project design features and/or conditions of approval.	County of Tulare Planning Department; San Joaquin Valley Air Pollution Control District	County of Tulare Planning Department; San Joaquin Valley Air Pollution Control District			
4.1-3	Prior to increasing production by 700,000 tons per year to the 1,500,000 tons per year permit limit in the year 2025 or later, the applicant shall ensure that the off-road equipment fleet	Approval of permit amendment	Verification by County of incorporation of project design	County of Tulare Planning Department;	County of Tulare Planning Department; San Joaquin			

Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Person conducting Monitoring / Reporting	*Verification of Compliance*		
						Initials	Date	*Remarks*
	meets EPA Tier 4 Interim or Tier 4 NOx emissions standards.		features and/or conditions of approval.	San Joaquin Valley Air Pollution Control District	Valley Air Pollution Control District			
4.4-4	Prior to reaching the maximum throughput increase of 700,000 tons per year or the 1,500,000 tons permit limit, the operator shall pave at least 0.20 mile of unpaved access road starting from the site entrance on Deer Creek Road.	Approval of permit amendment	Verification by County of incorporation of project design features and/or conditions of approval.	County of Tulare Planning Department; San Joaquin Valley Air Pollution Control District	County of Tulare Planning Department; San Joaquin Valley Air Pollution Control District			
4.5-5	Unpaved haul roads shall be controlled with the application of water as needed to reduce fugitive dust to less than 20 percent opacity. Water shall be applied three times per day to achieve a 61 percent control and the opacity limit.	Approval of permit amendment	Verification by County of incorporation of project design features and/or conditions of approval.	County of Tulare Planning Department; San Joaquin Valley Air Pollution Control District	County of Tulare Planning Department; San Joaquin Valley Air Pollution Control District			
Biology								
4.2-1	(Avoidance). In order to avoid impacts to nesting birds, construction will occur, where possible, outside the nesting season, or between September 1 and January 31	Prior to start of construction.	Retention of professional biologist.	County of Tulare Planning Department	County of Tulare Planning Department			
4.2-2	(Pre-construction Surveys). If construction must occur during the nesting season (February 1-August 31), a qualified biologist will conduct pre-construction surveys for	Prior to start of construction.	Retention of professional biologist/ongoing monitoring/ submittal of	County of Tulare Planning Department	Field survey by a qualified Biologist	.		

Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Person conducting Monitoring / Reporting	*Verification of Compliance*		
						Initials	Date	*Remarks*
	active bird nests within 10 days of the onset of project initiation. Nest surveys will encompass the project site and adjacent lands within 250 feet for migratory birds and 500 feet for raptors. Inaccessible portions of the survey area will be scanned with binoculars or spotting scope, as appropriate. If no active nests are found within the survey area, no further mitigation is required.		Report of Findings, if applicable					
4.2-3	(Establish Buffers). If active nests are found within the survey area, a qualified biologist will establish appropriate no-disturbance buffers based on species tolerance of human disturbance, baseline levels of disturbance, and barriers that may separate the nest from construction disturbance. These buffers will remain in place until the breeding season has ended or until the qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.	Prior to construction-related activities.	Retention of professional biologist/ongoing monitoring/ submittal of Report of Findings, if applicable	County of Tulare Planning Department	Qualified biologist.			
Cultural Resources								
4.3-1	In the event that archaeological or paleontological resources are discovered during site excavation, the County shall require that grading and construction work on the project site be immediately suspended until the significance of the features can be determined by a qualified archaeologist or paleontologist. In this event, the property owner shall retain a qualified	Ongoing monitoring during subsurface excavation	Retention of professional paleontologist/ ongoing monitoring/ submittal of Report of Findings, if applicable	County of Tulare Planning and Public Works Department	County of Tulare Planning Department and if necessary a professional paleontologist			

Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Person conducting Monitoring / Reporting	*Verification of Compliance*		
						Initials	Date	*Remarks*
	archaeologist/paleontologist to make recommendations for measures necessary to protect any site determined to contain or constitute an historical resource, a unique archaeological resource, or a unique paleontological resource or to undertake data recover, excavation analysis, and curation of archaeological or paleontological materials. County staff shall consider such recommendations and implement them where they are feasible in light of Project design as previously approved by the County.							
4.3-2	The property owner shall avoid and minimize impacts to paleontological resources. If a potentially significant paleontological resource is encountered during ground disturbing activities, all construction within a 100-foot radius of the find shall immediately cease until a qualified paleontologist determines whether the resources requires further study. The owner shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. The paleontologist shall notify the Tulare County Resource Management Agency and the project proponent of the procedures that must be followed before construction is allowed to resume at the location of the find. If the find is determined to be significant and the Tulare County Resource Management Agency determines avoidance is not feasible, the paleontologist shall design and implement a data recovery plan consistent with applicable	Ongoing monitoring during subsurface excavation	Retention of professional paleontologist/ ongoing monitoring/ submittal of Report of Findings, if applicable	County of Tulare Planning and Public Works Department	County of Tulare Planning Department and if necessary a professional paleontologist			

Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Person conducting Monitoring / Reporting	*Verification of Compliance*		
						Initials	Date	*Remarks*
	standards. The plan shall be submitted to the Tulare County Resource Management Agency for review and approval. Upon approval, the plan shall be incorporated into the project.							
4.3-2	Consistent with Section 7050.5 of the California Health and Safety Code and (CEQA Guidelines) Section 15064.5, if human remains of Native American origin are discovered during project construction, it is necessary to comply with State laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American Heritage Commission (Public Resources Code Sec. 5097). In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken: 1. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until: a. The Tulare County Coroner/Sheriff must be contacted to determine that no investigation of the cause of death is required; and b. If the coroner determines the remains to be Native American: i. The coroner shall contact the Native American Heritage Commission within 24 hours.	Ongoing monitoring during subsurface excavation	Retention of professional paleontologist/ ongoing monitoring/ submittal of Report of Findings, if applicable	County of Tulare Planning and Public Works Department	County of Tulare Planning Department			

Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Person conducting Monitoring / Reporting	*Verification of Compliance*		
						Initials	Date	*Remarks*
	ii. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American. iii. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code section 5097.98, or 2. Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. a. The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission. b. The descendant fails to make a recommendation; or							

Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Person conducting Monitoring / Reporting	*Verification of Compliance*		
						Initials	Date	*Remarks*
	c. The landowner or his authorized representative rejects the recommendation of the descendent.							
Geology and Soils *(Paleontological resources)*								
4.5-1	The property owner shall avoid and minimize impacts to paleontological resources. If a potentially significant paleontological resource is encountered during ground disturbing activities, all construction within a 100-foot radius of the find shall immediately cease until a qualified paleontologist determines whether the resources requires further study. The owner shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. The paleontologist shall notify the Tulare County Resource Management Agency and the project proponent of the procedures that must be followed before construction is allowed to resume at the location of the find. If the find is determined to be significant and the Tulare County Resource Management Agency determines avoidance is not feasible, the paleontologist shall design and implement a data recovery plan consistent with applicable standards. The plan shall be submitted to the Tulare County Resource Management Agency for review and approval. Upon approval, the plan shall be incorporated into the project.	Ongoing monitoring during subsurface excavation	Retention of professional paleontologist/ ongoing monitoring/ submittal of Report of Findings, if applicable	County of Tulare Planning and Public Works Department	County of Tulare Planning Department			
Transportation								
4.9-1	Equitable Fair-Share Responsibility – "The proposed Project will be required to contribute	Ongoing	TBD	County of Tulare	County of Tulare Planning			

Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitoring Agency	Person conducting Monitoring / Reporting	*Verification of Compliance*		
						Initials	Date	*Remarks*
	a fair-share towards the costs of improvements that are identified for the Cumulative Year 2040 scenarios. The intent of determining the equitable responsibility for the improvements identified above for the Cumulative Year 2040 scenarios, is to provide a starting point for early discussions to address traffic mitigation equitability and to calculate the equitable share for mitigating traffic impacts. According to the Caltrans "Guide for the Preparation of Traffic Impact Studies," the intent of determining the equitable responsibility for mitigation measures is to provide a starting point for early discussions to address traffic mitigation equitability and to calculate the equitable share for mitigation traffic impacts. The formula used to calculate the equitable share responsibility to the study area is as follows: Equitable Share = (Project Trips)/(Future Year Plus Approved Project Traffic - Existing Traffic)			Planning Department	Department			
Tribal Cultural Resources								
4.10-1	See Mitigation Measure 4.3-1							
4.10-2	See Mitigation Measure 4.3-3							

REPORT PREPARATION
CHAPTER 10

INTRODUCTION

Key persons from the County of Tulare and the consulting firms that contributed to preparation of the draft Subsequent Environmental Impact Report (draft SEIR) are identified below:

THE COUNTY OF TULARE

This Supplemental EIR has been prepared for:

Tulare County Resource Management Agency (RMA)
5961 South Mooney Boulevard
Visalia, CA 93277
(559) 624-7000

Tulare County Board of Supervisors

- Kuyler Crocker (Chairman) – District 1
- Pete Vander Poel (Vice-Chairman) – District 2
- Amy Shuklian – District 3
- Eddie Valero – District 4
- Dennis Townsend – District 5

Tulare County Planning Commissioners:

- John Elliott, Commissioner, Three Rivers – District 1
- Gil Aguilar, Commissioner, Tulare – District 2
- Bill Whitlatch, Commissioner (Vice-Chair), Visalia – District 3
- Wayne O. Millies, Commissioner (Chair), Springville – At Large
- Maria McElroy, Commissioner, Dinuba – District 4
- Ed Dias, Commissioner, Visalia – At - Large
- Steve Pearson, Commissioner, Porterville – District 5

County Administrative Office

- Jason T. Britt, County Administrative Officer

Tulare County Resource Management Agency (RMA)

- Reed Schenke, Director
- Michael Washam, Associate Director
- Aaron Bock, Assistant Director, Economic Development and Planning
- Hector Guerra, Chief, Environmental Planning Division
- RMA Staff: Jessica Willis (Planner IV) and Cheng Chi (Planner II)

CONSULTING FIRMS

Technical documents have been prepared by:

- Culturescape – Archaeological Survey for Proposed Twenty Acre Expansion of the Deer Creek Rock Company, Porterville, Tulare County, California (See Appendix "C")

- Live Oak Associates Inc. – Biotic Evaluation, Deer Creek Rock Mine Expansion Project, Tulare County, California. May 23, 2019. (See Appendix "B")

- Mason GeoScience – Hydrology and Water Quality Report for Deer Creek Mine Expansion (PMR 19-001) Project. July 16, 2019 (See Appendix "E")

- Mitchell Air Quality Consulting – Air Quality and Greenhouse Gas Analysis Report, Deer Creek Mine Expansion Project, Tulare County, California. July 22, 2019. (See Appendix A")

- United States Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS) Custom Soil Resource Report for Tulare County, California, Central Part. July 9, 2019. (See Appendix "D")

- VRPA Technologies, Inc. – Noise Study Report, Deer Creek Rock Co., Inc. Expansion Project. April 2019. (See Appendix "F")

- VRPA Technologies, Inc. – Traffic Impact Study, Deer Creek Rock Co., Inc. Expansion Project. April 2019. (See Appendix "G")

REFERENCES CITED
CHAPTER 11

30CFR PART 800 – Protection of Historic Properties (incorporating amendments effective August 5, 2004). Accessed August 2019 at: https://www.achp.gov/sites/default/files/regulations/2017-02/regs-rev04.pdf.

Advisory Council on Historic Preservation. Accessed August 2019 at: https://www.achp.gov/preservation-legislation.

"Air Quality and Greenhouse Gas Analysis Report Deer Creek Mine Expansion Project Tulare County, California." (AQ-GHG Report) October 2019. Prepared by Mitchell Air Quality Consulting and included in Appendix "A" of this SEIR.

"*Biotic Evaluation Deer Creek Rock Mine Expansion Project Tulare County, California."* Prepared by Live Oak Associates, Inc. May 2019 and included in Appendix "B" of this SEIR.

Bookman-Edmonston Engineering Inc. Water Resources Management in the Southern San Joaquin Valley, Table A-1.

California Legislative Information. California Government Code. Title 7. Planning and Land Use. Division 1 Planning and Zoning. Chapter 3 Local Planning. Article 6. Preparation, Adoption, and Amendment of the General Plan. Section 65352.3 Accessed August 2019 at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=65352.3.&lawCode=GOV.

California Legislative Information. California Public Resources Code. Division 13. Chapter 2.6. Section 21084.1. Accessed August 2019 at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=21084.1.

California Legislative Information. State of California Public Resources Code. Division 20. California Coast Act. Chapter 3. Coastal Resources Planning and Management Policies. Article 5. Land Resources. Section 30244. Accessed August 2019 at: https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=PRC&division=20.&title=&part=&chapter=3.&article=5.

California Legislative Information. Senate Bill No. 18. Chapter 905. http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200320040SB18. Accessed August 2019.

California Natural Resources Agency. Final Statement of Reasons for Regulation Action Amendments to the State CEQA Guideline OAL Notice File No. Z-2018-0116-12. November 2018. Accessed June 2019 at: http://resources.ca.gov/ceqa/docs/2018_CEQA_Final_Statement_of%20Reasons_111218.pdf.

California Natural Resources Agency. Title 14 California Code of Regulations. Chapter 3. Guidelines for Implementation of the California Environmental Quality Act. Sections 15064.5 (a), 15064.5 (b), 15064.5 (c), 15064.5(d), 15064.5 (e), Section 15064.5(f) http://resources.ca.gov/ceqa/guidelines/art5.html.

California State Parks. California Office of Historic Preservation. About the CHRIS Information Centers. Accessed August 2019 at: http://ohp.parks.ca.gov/?page_id=28730.

California State Parks. California Office of Historic Preservation. California Historical Resources Information System. Accessed August 2019 at: http://ohp.parks.ca.gov/?page_id=1068.

California State Parks. California Office of Historic Preservation. Information Centers Locations and Contacts. Accessed August 2019 at: http://ohp.parks.ca.gov/pages/1068/files/IC_Roster_03-22-2019.pdf.

California State Parks. California Office of Historic Preservation. California Register of Historical Resources. Accessed August 2019 at: http://www.ohp.parks.ca.gov/?page_id=21238.

California State Parks. California Office of Historic Preservation. Mission and Responsibilities. Accessed August 2019 at: http://ohp.parks.ca.gov/?page_id=1066.

County of Tulare Environmental Health Division. Who Are We. Accessed July 2019 at: https://tularecountyeh.org/eh/index.cfm/about-us/who-are-we/

"Cultural Resources Assessment, Deer Creek Rock Company, Surface Mining Permit Amendment, Northern Foot of Tennessee Ridge, Five Miles Southeast of Porterville, Tulare County, California (APN 305-190-021)". Prepared by Sierra Valley Cultural Planning. September 2014 and is included as Appendix "D" of the Deer Creek Rock SMARA Permit Amendment DEIR (SCH No. 20144081023). November 2014. Certified and adopted by the Tulare County Planning Commission on March 11, 2015. Resolution No. 9055. See: https://tularecounty.ca.gov/rma/index.cfm/projects/planning-projects/applicant-projects/deer-creek/deir-deer-creek-mine-pmr-14-002/.

"Deer Creek Rock Co., Inc. Expansion Project Noise Study Report" prepared by VRPA Technologies, Inc. April 2019 and is included as Appendix "F" of this SEIR.

"*Deer Creek Rock Co., Inc. Expansion Project Traffic Impact Study*" (TIS) report prepared by consultant VRPA Technologies, Inc., is included as Appendix "G" of this document.

"Hydrology and Water Quality Report for Deer Creek Mine Expansion (PMR19-001) Project" report (Hydrology and Water Quality report). July 2019. Prepared by Mason GeoScience and included in Appendix "E" of this document.

Kern Water Bank, Habitat Conservation Plan/Natural Community Conservation Plan, Kern Water Bank Authority. October 2, 1997.

Minerals Education Coalition. Minerals Resources Database. Accessed August 2019 at https://mineralseducationcoalition.org/minerals-database/gabbro/

Recovery Plan for Upland Species of the San Joaquin Valley, California, U.S. Fish and Wildlife Service, 1998.

San Joaquin Valley Unified Air Pollution Control District. 2019 Air Monitoring Network Plan. https://valleyair.org/aqinfo/Docs/2019-Air-Monitoring-Network-Plan.pdf. Accessed July 2019.

San Joaquin Valley Air Pollution Control District, About the District. Accessed November 2019 at: http://www.valleyair.org/General_info/aboutdist.htm#Mission.
San Joaquin Valley Air Pollution Control District. Fact Sheet: Addressing Greenhouse Gas Emissions Impact under the California Environmental Quality Act (CEQA) – Stationary Source Projects. http://www.valleyair.org/Programs/CCAP/bps/Fact_Sheet_Stationary_Sources.pdf.

San Joaquin Valley Unified Air Pollution Control District. Air Quality Guidelines for General Plans. Accessed June 2019at: http://www.valleyair.org/transportation/Entire-AQGGP.pdf.

San Joaquin Valley Air Pollution Control District. Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. December 17, 2019. Accessed November 2019 at: http://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf..

San Joaquin Valley Unified Air Pollution Control District. Ambient Air Quality Standards & Valley Attainment Status. Accessed June 2019at: http://www.valleyair.org/aqinfo/attainment.htm.

San Joaquin Valley Unified Air Pollution Control District. Current District Rules and Regulations. Accessed August 2019 at: http://www.valleyair.org/rules/1ruleslist.htm.

San Joaquin Valley Air Pollution Control District. District Policy: Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency. December 17, 2009. Accessed November 2019 at: http://www.valleyair.org/Programs/CCAP/12-17-09/2%20CCAP%20-%20FINAL%20District%20Policy%20CEQA%20GHG%20-%20Dec%2017%202009.pdf.

San Joaquin Valley Unified Air Pollution Control District. Guidance for Assessing and Mitigating Air Quality Impacts. March 19, 2015. Accessed August 2019 at: http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf.

San Joaquin Valley Unified Air Pollution Control District. Ozone Plans. Accessed August 2019 at: http://www.valleyair.org/Air_Quality_Plans/Ozone_Plans.htm.

San Joaquin Valley Unified Air Pollution Control District. Particulate Matter Plans. Accessed August 2019 at: http://www.valleyair.org/Air_Quality_Plans/PM_Plans.htm.

San Joaquin Valley Unified Air Pollution Control District. Rule 9510 (Indirect Source Review). Accessed August 2019 at: http://www.valleyair.org/rules/currntrules/r9510.pdf.

Sequoia Gateway Commerce and Business Park Specific Plan DEIR (SCH No. 2015081056). Pages. 3.5-3. Prepared by Bert Verrips Environmental Consulting. September 2018. Certified and adopted by the Tulare County Board of Supervisors December 4, 2018. Resolution No. 2018-0938.

South County Detention Facility Draft Environmental Impact Report. Appendix "Historic Resource Report 1545 & 1591 South Newcomb Street, Porterville, CA" February 2013. Page 2 of Appendix C, "Paleontological Resources Assessment Report for the South County Detention Facility Project, Porterville, Tulare County, California". Appendix C. Prepared by Applied EarthWorks, Inc. February 2013. Page 2. Certified and adopted by the Tulare County Board of Supervisors June 25, 2013. Resolution No. 2013-0390.

Society for California Archaeology. Chronological and Cultural Units. A Glossary of Proper Names in California History. Accessed August 2019 at: https://scahome.org/about-ca-archaeology/glossary-of-terms/chronological-and-cultural-units/

State of California. Air Resources Board (ARB). Air Quality and Land Use Handbook: A Community Health Perspective. April 2005. Accessed August 2019 at: www.arb.ca.gov/ch/landuse.htm.

State of California. Air Resources Board (ARB). Air Quality Standards and Area Designations. http://www.arb.ca.gov/desig/desig.htm. Accessed November 2019.

State of California. Air Resources Board (ARB). Ambient Air Quality Standards. Accessed July 2019 at: https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf?_ga=2.37139495.687085110.1562705746-1292949104.1524090547.

State of California. Air Resources Board (ARB). ARB Fact Sheet: Air Pollution Sources, Effects and Control. Accessed 2019 at: http://www.arb.ca.gov/research/health/fs/fs2/fs2.htm..

State of California. California Air Resources Board (ARB). Assembly Bill 32 Overview – What Gases or Compounds are Covered Under AB 32? Accessed November 2019 at: http://www.arb.ca.gov/cc/ab32/ab32.htm.

State of California. California Air Resources Board (ARB). California State Implementation Plan (SIP) for Carbon Monoxide. Accessed November 2019 at: https://ww3.arb.ca.gov/planning/sip/co/co.htm.

State of California. Air Resources Board (ARB). Frequently Asked Questions. Airborne Toxic Control Measure for Stationary Compression Ignition Engines, Requirements for Stationary Engines Use in Non-Agricultural Applications. Accessed August 2019 at: http://www.arb.ca.gov/diesel/documents/atcmfaq.pdf.

State of California. Air Resources Board (ARB). PM-10 air monitoring data. Accessed August 2019 at: https://www.arb.ca.gov/adam/select8/sc8display.php

State of California. Air Resources Board (ARB). Stationary Source Division, Emissions Assessment Branch. Frequently Asked Questions. Airborne Toxic Control Measure For Stationary Compression Ignition Engines, Requirements for Stationary Engines Use in Non-Agricultural Applications. May 2011. Accessed August 2019 at: http://www.arb.ca.gov/diesel/documents/atcmfaq.pdf.

State of California. Air Resources Board (ARB). Top 4 Summary. Accessed August 2019 at: http://www.arb.ca.gov/adam/topfour/topfour1.php.

State of California. Business, Transportation and Housing Agency and California Environmental Protection Agency. Goods Movement Action Plan. January 2007. Accessed in August 2019 at: https://ww3.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf.

State of California. Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387. Guidelines for Implementation of the California Environmental Quality Act.

State of California. California Energy Commission. California Energy Consumption Database. Electricity Consumption by County. Energy reports accessed November 2019 at: http://ecdms.energy.ca.gov/elecbycounty.aspx

State of California. California Energy Commission. California Energy Consumption Database. Gas Consumption by County. Energy reports accessed November 2019 at: http://ecdms.energy.ca.gov/gasbycounty.aspx.

State of California. California Energy Commission. *2008 Energy Action Plan*. February 2008. Accessed November 2019 at: https://ww2.energy.ca.gov/2008publications/CEC-100-2008-001/CEC-100-2008-001.PDF

State of California. California Energy Commission. Weekly Fuels Watch Report. 2018 Weekly Fuels Watch Accessed November 2019 at: https://ww2.energy.ca.gov/almanac/petroleum_data/fuels_watch/index_cms.html

State of California. Department of Conservation, Alquist-Priolo Earthquake Fault Zone Maps. Accessed July 2019 at: http://www.quake.ca.gov/gmaps/WH/regulatorymaps.htm.

State of California. Department of Conservation. SMARA Statutes and Regulations. Accessed August 2019 at: https://www.conservation.ca.gov/dmr/lawsandregulations.

State of California. Department of Fish & Wildlife, Species of Special Concern, which can be accessed at: https://www.wildlife.ca.gov/Conservation/SSC. Accessed July 2019.

State of California. Department of Forestry & Fire Protection (CAL FIRE). California Fire Hazard Severity Zone Map Update Project. Accessed June 2019 at: https://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones_maps

State of California. Department of Forestry & Fire Protection (CAL FIRE). Tulare Unit Strategic Fire Plan. Last Update 26 February 2015. Accessed June 2019 at: http://cdfdata.fire.ca.gov/pub/fireplan/fpupload/fpppdf1556.pdf.

State of California. Department of Transportation (Caltrans). "Guide for the Preparation of Traffic Impact Studies". December 2002. Accessed August 2019. https://www.contracosta.ca.gov/DocumentCenter/View/34121/Caltrans2002-TIS-Guidelines-PDF.

State of California. Department of Transportation (Caltrans). California Transportation Quick Facts. Accessed August 2019 at: http://www.caltrans.ca.gov/drisi/library/qfco/tul/tul2017.pdf.

State of California. Department of Transportation (Caltrans). Tulare County Transportation Quick Facts. Accessed August 2019 at: http://www.caltrans.ca.gov/drisi/library/qfco/tul/tul2017.pdf

State of California. Governor's Office of Planning and Research. Final Adopted Text for Revisions to the CEQA Guidelines. 2018 Page 30. Accessed in June 2018 at: http://resources.ca.gov/ceqa/docs/2018_CEQA_FINAL_TEXT_122818.pdf

State of California. Governor's Office of Planning and Research. Proposed Updates to the CEQA Guidelines. Final. November 2017. Page 36. Accessed at: http://opr.ca.gov/docs/20171127_Comprehensive_CEQA_Guidelines_Package_Nov_2017.pdf

State of California. Natural Resources Agency. Office of Planning and Research (OPR). CEQA Guidelines CEQA Section 15126.2 (a). Accessed August 2019 at: http://resources.ca.gov/ceqa/docs/2018_CEQA_FINAL_TEXT_122818.pdf

State of California. Public Resources Code. Native American Historic Resource Protection Act Archaeological, Paleontological, and Historical Site Native American Historical, Cultural, and Sacred Sites at Section 5097.5 (a) and (b). Accessed August 2019 at: http://online.sfsu.edu/mgriffin/California%20Public%20Resources%20Code%205097.pdf.

State of California. Department of Water Resources "California Water Plan Update 2009, Tulare Lake Hydrologic Region". Page TL-60 and TL-61. Accessed July 2019 at https://water.ca.gov/Programs/California-Water-Plan/Water-Plan-Updates, then access zip file "v3_tularelake_cwp2009.pdf."

State of California. Department of Water Resources "California Water Plan Update 2013, Tulare Lake Hydrologic Region". Accessed August 2019 at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/California-Water-Plan/Docs/Update2013/Regional-Reports/Water-Plan-Update-2013-Tulare-Lake-Regional-Report.pdf

State of California. Department of Water Resources. Porter-Cologne Water Quality Control Act Summary. Accessed July 2019 at: http://ceres.ca.gov/wetlands/permitting/Porter_summary.html.

State of California. Department of Water Resources. SGMA Groundwater Management. Accessed August 2019 at: https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management

State of California. California Department of Water Resources, Water Data Library. Accessed March 2019 at: http://www.water.ca.gov/waterdatalibrary/

State of California. Department of Water Resources "Water Quality Control Plan for the Tulare Lake Basin". Third Edition. May 2018. Accessed August 2019 at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/California-Water-Plan/Docs/Update2013/Regional-Reports/Water-Plan-Update-2013-Tulare-Lake-Regional-Report.pdf

State of California. Regional Water Quality Control Board (Water Boards). California Regional Water Quality Control Board Central Valley Region. "Water Quality Control Plan for the Tulare Lake Basin Second Edition". Revised January 2015 (with Approved Amendments). Accessed July 2019 at: https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/tlbp_201501.pdf.

State of California. Regional Water Quality Control Board (Water Boards). Central Valley Water Quality Control Board. Water Quality Control Plan for the Tulare Lake Basin Third Edition. Revised May 2018 (with Approved Amendments). Accessed March 2019 at: https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/tlbp_201805.pdf.

State Water Resources Control Board. Mission Statement. Accessed July 2019 at: http://www.waterboards.ca.gov/about_us/water_boards_structure/mission.shtml

Thomas Reuters Westlaw. California Code of Regulations. § 15151. Standards for Adequacy of

an EIR. Accessed July 2019 at https://govt.westlaw.com/calregs/Document/IBF6AC5A0D48811DEBC02831C6D6C108E?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)&bhcp=1

Thomas Reuters Westlaw. California Code of Regulations. § 15162. Subsequent EIRs and Negative Declarations. Accessed July 2019 at: https://govt.westlaw.com/calregs/Document/IC1DC88F0D48811DEBC02831C6D6C108E?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)

Tulare County 2017 Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHMP). March 2018. Accessed at: http://oes.tularecounty.ca.gov/oes/index.cfm/mitigation/tulare-county-mjlhmp/.

Tulare County Association of Governments. 2011 Regional Transportation Plan Draft Subsequent EIR

Tulare County Association of Governments Regional Transportation Plan, 2018. Accessed August 2019 at: http://www.tularecog.org/RTPSCS/ActionElement.pdf.

Tulare County Association of Governments 2018 RTP. Program EIR. 2.0 Policy Element. http://www.tularecog.org/RTPSCS/PolicyElement.pdf.

Tulare County Association of Governments 2018 Regional Transportation Plan Draft EIR. Page 4.8.7. Accessed August 2019 at: http://www.tularecog.org/wp-content/uploads/2018/05/4.8-Noise.pdf

Tulare County Association of Government. E-mail received from Roberto Brady, Principal Regional Planner. August 6, 2019.

Tulare County Climate Action Plan. February 2010. Accessed November 2019 at: http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/ClimateActionPlan.pdf.

Tulare County Climate Action Plan 2018 Update. December 2018. Prepared by Mitchell Air Quality Consulting. Accessed November 2019 at: http://generalplan.co.tulare.ca.us/documents/GP/001Adopted%20Tulare%20County%20General%20Plan%20Materials/220Climate%20Action%20Plan/CLIMATE%20ACTION%20PLAN%202018%20UPDATE.pdf.

Tulare County General Plan 2030 Update, August 2012. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/.

Tulare County General Plan 2030 Update. August 2012. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/documents.html.

Tulare County General Plan 2030 Update. August 2012. Accessed May 2019. http://generalplan.co.tulare.ca.us/documents/GP/001Adopted%20Tulare%20County%20General%20Plan%20Materials/000General%20Plan%202030%20Part%20I%20and%20Part%20II/GENERAL%20PLAN%202012.pdf

Tulare County General Plan 2030 Update Background Report, February 2010. Accessed June 2019 at: http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/Appendix%20B%20-%20Background%20Report.pdf.

Tulare County General Plan 2030 Update Background Report. February 2010. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/BackgroundReport.pdf.

Tulare County General Plan 2030 Update Recirculated Draft Environmental Impact Report (RDEIR), February 2010. Accessed June 2019 at: http://generalplan.co.tulare.ca.us/documents/generalplan2010/RecirculatedDraftEIR.pdf

Tulare County General Plan 2030 Update, Recirculated Draft Environmental Impact Report (RDEIR). February 2010. Accessed August 2019 at: http://generalplan.co.tulare.ca.us/documents.html, then access by clicking "Recirculated DEIR".

Tulare County Health and Safety Element Goals and Policies Report. Accessed June 2019 at: http://generalplan.co.tulare.ca.us/documents/GP/002Board%20of%20Supervisors%20Materials/001BOS%20Agenda%20Items%20-%20Public%20Hearing%20August,%2028%202012/008Attachment%20G.%20Public%20Comment,%20%20Staff%20Matrix,%20and%20Responses/004Item%204.%20GPU%20AMUS/17-CHP%2010%20Health%20&%20Safety.pdf

"*Twenty Acre Expansion of the Deer Creek Rock Company Porterville, Tulare County, California*" June 2019 Prepared by Culturescape and included in Appendix "C" of this SEIR.

United States Army Corps of Engineers. Accessed July 2019 at: http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx

United States Department of Agriculture. Natural Resource Conservation Service. *"Custom Soil Resource Report for Tulare County, California, Central Part."* July 2019. Included in Appendix "D" of this document

United States Department of Energy. Alternative Fuels Date Center. Average Fuel Economy of Major Vehicle Categories. Accessed August 2019 at: https://afdc.energy.gov/data/10310.

United States Department of Labor. Title 30, Code of Federal Regulations. Which can be accessed at http://www.msha.gov/30CFR/62.140.htm. Accessed October 2014.

United State Environmental Protection Agency (EPA). AirNow. Air Quality Index (AQI) Basics. Accessed July 2019 at: http://www.airnow.gov/index.cfm?action=aqibasics.aqi. .

United State Environmental Protection Agency (EPA). AirNow. AQI Calculator: AQI to Concentration. Accessed July 2019 at: http://www.airnow.gov/index.cfm?action=resources.aqi_conc_calc.

United State Environmental Protection Agency (EPA). AirNow. AQI Calculator: Concentration to AQI. Accessed July 2019 at: http://www.airnow.gov/index.cfm?action=resources.conc_aqi_calc.

United State Environmental Protection Agency (EPA). Sources of Greenhouse Gas Emissions – Overview. Accessed November 2019 at: https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions.

United State Environmental Protection Agency (EPA). Summary of the Clean Water Act – Accessed July 2019 at: http://water.epa.gov/lawsregs/rulesregs/sdwa/index.cfm.

United State Environmental Protection Agency (EPA). What we do. http://www.epa.gov/aboutepa/whatwedo.html. Accessed August 2019.

United States Federal Emergency Management (FEMA) Agency. National Flood Insurance Program Summary. Accessed July 2019 at: https://www.fema.gov/nfip50

United States Federal Emergency Management Agency (FEMA). National Flood Insurance Program. Accessed July 2019 at: https://www.fema.gov/national-flood-insurance-program

United States Federal Highway Administration website, Traffic Noise Model, http://www.fhwa.dot.gov/environment/noise/traffic_noise_model/. Accessed July 2019.