

COUNTY OF TULARE
RESOURCE MANAGEMENT AGENCY



5961 South Mooney Boulevard
Visalia, CA 93277

Deer Creek Rock SMARA Permit
Amendment

Draft Environmental Impact Report

November, 2014

Prepared by

County of Tulare Resource Management Agency
Planning Branch
Environmental Planning Division

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Appendices

Appendix A: Notice of Preparation and Agency Comment Letters

Notice of Preparation

Agency Comment Letters

- San Joaquin Valley Air Pollution Control District, September 9, 2014
- Department of Transportation, District 6, September 5, 2014

Appendix B: Air Quality & Greenhouse Gas

First Carbon Solutions, Air Quality and Greenhouse Gas Analysis Report. November 17, 2014.

Appendix C: Health Risk Assessment

Vista Environmental, Health Risk Assessment. November 20, 2014

Appendix D: Biological Resources

Live Oak Associates, Inc. Biotic Evaluation. August 6, 2014.

Appendix E: Cultural Resources

Sierra Valley Cultural Planning, Cultural Resources Assessment. September 2014.

Appendix F: Noise

VRPA Technologies, Inc. Noise Study Report. September, 2014.

Appendix G: Traffic

VRPA Technologies, Inc. Traffic Impact Study Report. September, 2014.

Executive Summary

This Draft Environmental Impact Report (DEIR) concludes that the proposed expansion for the Deer Creek Rock Project (“Project or proposed Project”), Permit and Reclamation Plan (PMR) 14-002 as an amendment to PMR 01-001, PMR 09-002, and PSP 01-055(ZA) to allow for expanded operations at this site, ***will not result in a substantial adverse impact on the environment.***

The EIR has been prepared consistent with the California Environmental Quality Act (CEQA). Its intent is 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 EIR, in its entirety, addresses and discloses potential environmental effects associated with construction and operation of the proposed Project, including direct, indirect, and cumulative impacts in the following resource areas:

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

Although the Mandatory Findings of Significance is not a resource per se, it is required as it essentially provides a summary conclusion of the Project’s potential on Long Term Impacts, Cumulative Impacts, and Impacts to Species, Impacts to Historical Resources, and Impacts on Human Beings. It is at this discussion where the EIR concludes that there are no significant adverse environmental impacts from this Project.

The California Environmental Quality Act (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 EIR (State of California Clearinghouse # 2014081023) has been prepared by Tulare County in accordance with CEQA Guidelines §15120 through §15131 and §15161 regulating EIRs to evaluate the environmental consequences of the Amendment to the Deer Creek Rock Mining Permit, to discuss alternatives to the proposed Project, and to propose mitigation measures that will offset, minimize or avoid identified significant environmental impacts. This document focuses on issues determined to be potentially significant as discussed in the Initial Study and the public scoping process completed for this project, as well as comments received on the Notice of Preparation (NOP) circulated by Tulare County on August 7, 2014.

PROJECT DESCRIPTION

The Applicant, Deer Creek Rock Co., Inc., currently operates a rock and gravel surface mining operation on 98 acres, as permitted by PMR 01-001, PMR 09-002, and PSP 01-055 (ZA). The permit amendments requested by PMR 14-002 will:

- Increase annual production by 450,000 tons per year (from a maximum of 500,000 tons per year to a maximum of 950,000 tons per year).
- Increase truck hauling by 176 round trips per day (from a maximum of 200 round trips per day to a maximum of 376 round trips per day).
- Result in no increase in the maximum depth of the mine, as expansion will occur laterally within the existing mining footprint.
- Allow consistency between PMR 01-001, PMR 09-002, and PSP 01-055(ZA).
- Result in no change to the estimated total rock production of 15,000,000 tons of rock material during the estimated 50 years of operation.
- Result in no change to the approved reclamation plan.

PROJECT LOCATION

The existing 98 acre proposed Project site is part of a 118 acre property at 27671 Avenue 120/Road 27, Porterville, CA 93257. The site is located south of Deer Creek Drive, approximately 1/3 mile east of Avenue 120 and Road 272, and includes Assessor Parcel Numbers 305-190-018 and 305-190-020. The site is 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"

PROJECT ELEMENTS

As noted earlier, the current operation is excavating and transporting between 400,000 to 500,000 tons of aggregate annually, and the Applicant is requesting to increase its excavating and transporting operations to 950,000 tons of aggregate annually. The proposed Project will result in an increase of heavy-duty truck trips from the operation to a maximum of 42,300 trips per year (from the currently permitted 22,500 trips per year). Daily trips are anticipated to increase from 200 to 375 round-trips which is an increase from 22,500 to 42,300 annual round-trips. This will require approximately seven additional employees. 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 from 400,000 to 500,000 tons of aggregate annually to 950,000 tons of aggregate annually through lateral expansion of the excavating site within the existing, approved site.. All 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)). As such, the proposed expansion will not result in an increase to the depth of the mine. Proposed operation will continue 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 and AE-10 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.

PROJECT OBJECTIVES & BENEFITS

Project Objectives

The following objectives have been proposed by the Project proponent, as presented in the “Project Description”.

Objective 1: Increase Aggregate Production

Tulare County Objectives

The Project’s purpose is consistent with a summary of key Tulare County General Plan Policies as stated below:

Key General Plan Policies

ERM-2.1 Conserve Mineral Deposits - The County will encourage the conservation of identified and/or potential mineral deposits, recognizing the need for identifying, permitting, and maintaining a 50 year supply of locally available PCC grade aggregate.

ERM-2.2 Recognize Mineral Deposits - The County will recognize as a part of the General Plan those areas of identified and/or potential mineral deposits.

ERM-2.5 Resources Development - The County will promote the responsible development of identified and/or potential mineral deposits.

ERM-2.8 Minimize Hazards and Nuisances - The County will minimize the hazards and nuisances to persons and properties in the area during extraction, processing, and reclamation operations.

ERM-2.10 Incompatible Development - Proposed incompatible land uses in the County shall not be on lands containing or adjacent to identified mineral deposits, or along key access roads, unless adequate mitigation measures are adopted or a statement of overriding considerations stating public benefits and overriding reasons for permitting the proposed use are adopted.

ERM-2.13 SMARA Requirements - All surface mines in the County, unless otherwise exempted, shall be subject to reclamation plans that meet SMARA requirements. Reclamation procedures shall restore the site for future beneficial use of the land consistent with the Tulare County General Plan, subsequent to the completion of surface mining activities. Mine reclamation costs shall be borne by the mine operator, and guaranteed by financial assurances set aside for restoration procedures.

It should be noted that each resource section of Chapter 3 contains a list of applicable General Plan policies and all one hundred fifty-one (151) Policies are listed in Chapter 7.

Project Benefits Statement

The Project will provide the following public and private benefits to Tulare County:

- 1) Business: Additional Sales Tax Revenue;
- 2) Increase availability of granite aggregate and concrete to meet construction-related need; and
- 3) Result in the availability of material to increase roadway concrete asphalt production.

SUMMARY OF CHAPTERS

Chapter 1 Introduction

The County of Tulare is proposing the Deer Creek Rock Project application Surface Mining Permit and Reclamation Plan (PMR) 14-002 as an amendment to PMR 01-001, PMR 09-002, and PSP 01-55(ZA) to allow for expanded operations at this site. The Applicant requests modification of the current permit conditions to: (1) allow the expansion of production for the hard rock mine and asphalt concrete drum mix plant from 500,000 tons per year to 950,000 tons per year, (2) affirm the operating hours are from 7:00 a.m. to 6:00 p.m. Monday through Friday, with an allowance to work on weekends to meet utility demands and state and local government paving requirements, and (3) increase heavy duty diesel haul truck trips per day from 100 to 187.5 (or from 200 to 375 round-trips per day). The proposed Project site is located in Section 21 of Township 22 South, Range 28 East, MDB&M and includes Assessor Parcel Numbers 305-190-018 and 305-190-020. The site is zoned AE-10 and AE-40 (Exclusive Agriculture, 10 and 40- acre minimum, respectively), which allows surface mining with the approval of a surface mining permit and reclamation plan).

Local Regulatory Context: The Tulare County General Plan Update 2030 was adopted on August 28, 2012. As part of the General Plan an EIR and background report were prepared. The General Plan background report contained contextual environmental analysis for the General Plan. The Housing Element for 2009-2014 was adopted on May 8, 2012, and certified by State of California Department of Housing and Community Development on June 1, 2012.

Identification of Potentially Significant Impacts: Indicates that the EIR must identify potentially significant impacts consistent with CEQA Guidelines Section 15002 (h).

Consideration of Significant Impacts: Indicates that the EIR must consider significant impacts consistent with CEQA Guidelines Section 15126.2.

Mitigation Measures: Indicates that the EIR is required to contain mitigation measures consistent with CEQA Guidelines Section 15126.4.

Environmental Review Process: Summarizes steps taken prior to release of the draft EIR such as the Notice of Preparation, Scoping Meeting, and comments received from persons and/or agencies in response to the Notice of Preparation.

Chapter 2 Project Description, Objectives, and Environmental Setting

The Applicant, Deer Creek Rock Co, Inc., requests amendment of the current permit conditions to increase annual mining production, increase truck hauling, and to allow consistency between PMR 01-001, PMR 09-002, and PSP 01-055(ZA). The site is zoned AE-10 and AE-40 (Exclusive Agriculture, 10 and 40 acre minimum, respectively), which allows surface mining with the approval of a surface mining permit and reclamation plan. The Project site is not located on Williamson Act-contracted land.

In summary, Chapter 2 contains the following:

- **Project Location:** South of Deer Creek Drive, approximately 1/3 mile east of Avenue 120 and Road 272, southeast of the City of Porterville, in Tulare County, California. The Project site encompasses Assessor Parcel Numbers 305-190-018 and 305-190-020.
- **Vicinity of Project Site:** southeast Tulare County, as shown in Figure 2-1.
- **Surrounding Land Uses:** Predominantly Agriculture.
- **Project Setting:** Describes the proposed use, summary of facilities of the Project, construction at the site, operational parameters, and a detailed description of the Project.
- **Regulatory Setting:** Applicable statutes, rules, regulations, standards, policies, etc. of the County of Tulare, local or special districts, utilities, and State and Federal governments.
- **Project Objectives:** (See page ES-3 and Chapter 2, pages 2-1 and 2-2)

Chapter 3 Impact Analysis of Resources

The CEQA Guidelines include a Checklist of resources that must be addressed in an EIR. These resources are listed on page ES-1. There are 17 specific Resources and Mandatory Findings of Significance discussed in detail in Chapter 3. The Resources are discussed in separate sections of Chapter 3 and each section is structured as follows:

- **Summary of Findings;**
- **Introduction, including Thresholds of Significance;**
- **Environmental Settings;**
- **Regulatory Settings** such as applicable Federal, State, and Local laws, statutes, rules, regulations, and policies;
- **Impact Evaluation** including Project Impacts, Cumulative Impacts, Mitigation Measures, and Conclusion;

- Definitions and Acronyms; and
- References.

Some resources required expertise to evaluate the Project's potential for impacts. As such, qualified experts prepared studies, evaluations, assessments, modeling, etc. (studies) to quantify and/or qualify potential resource impacts. The studies are contained in Appendices "A" through "F". Among the studies were air quality (Appendix "B"), biological (Appendix "C"), cultural (that is, archaeological, historical, and cultural resources; Appendix "D"), greenhouse gas emissions (Appendix "B"), noise (Appendix "E"), and traffic (Appendix "F").

Chapter 4 Summary of Cumulative Impacts

A critically important component of an EIR is the Cumulative Impacts discussion. Chapter 4 discusses a Cumulative Impact Analysis under CEQA. Including Past, Present, Probable Future Projects; and a Summary of Cumulative Impacts. Whereas a project in and of itself may not result in an adverse environmental impact, its cumulative effects may. Therefore the CEQA Guidelines require a discussion of cumulative impacts per Section 15130. The Discussion of Cumulative Impacts defines cumulative impacts per Section 15355 - "Cumulative impacts" refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

With the exception of Air Quality, Greenhouse Gas Emissions, Biological, and Hydrological Resources, Chapter 4 defines Tulare County as the geographic extent of the impact analysis. The geographic area is considered the appropriate extent because:

- 1) The proposed Project is geographically located in Tulare County and the County of Tulare is the Lead Agency; and
- 2) Tulare County General Plan policies apply to the proposed Project.

The basis for the other Resource-specific cumulative impact analyses includes:

- Land Use Impacts are based on the County of Tulare 2030 General Plan;
- Air Quality and Green House Gas Emissions are based on the San Joaquin Valley Air Basin;
- Mandatory Findings of Significance are based on the San Joaquin Valley, the state of California, and the western United States;
- Biological Resources are based on the San Joaquin Valley, the state of California, and the western United States; and
- Hydrology is based on the Tulare County, the Tulare Lake Basin, and, the Tule Lake Sub-basin aquifers.

The Summary of Cumulative Impacts section discusses mitigable and unmitigable impacts. Checklist item criteria that would result in no impacts or less than significant impacts are discussed in the Chapter 3 and are not reiterated in Chapter 4. As noted in Chapter 4, there are no -Significant and Unavoidable Impacts; and Less Than Significant Impacts With Mitigation are summarized in Table 4-3 (Checklist Items with Less than Significant with Mitigation). There are

a number of cumulative impacts that do not need mitigation; these impacts are listed in Table 4-4 (Checklist Items with Less Than Significant Impacts). Chapter 8 contains a complete list of Mitigation Measures to be implemented as part of the proposed Project. Chapter 4 also contains a No Impacts summary in Table 4-5 (Checklist Items with No Impacts).

Chapter 5 Alternatives

CEQA Guidelines Section 15126.6 requires that a reasonable range of Alternatives to the proposed Project be discussed in the EIR. The proposed Project site is the superior location. The conclusion contained in Chapter 5 is based on the criteria established for the site, an evaluation of a reasonable potential site, and the four reasonable Alternatives. The four Alternatives evaluated are:

- Alternative 1: No Project
- Alternative 2: Alternative Site (Project located on another parcel)
- Alternative 3: Reduced Yearly Tonnage
- Alternative 4: Reduced Depth

The proposed Alternatives were analyzed based on five evaluation criteria which include each of the objectives of the Project and the assessment of the potential environmental impacts. Each Alternative considered did not meet all the evaluation criteria, as identified in Table 5-2 (Alternatives Evaluation), contained in Chapter 5. The following is a summary of the Alternatives:

Alternative 1: No Project

This Alternative by definition would not meet the objectives of the proposed Project.

Alternative 2: Alternative Site (Project located on another parcel)

An Alternative Site would have to be similar in quality and quantity of rock material. It would also entail acquisition of an Alternative Site. An Alternative Site has the potential to create the same or more impacts (for example, aesthetics, conversion of agricultural land, air quality, biological, cultural, traffic, etc.) at another site which would subsequently be converted into an active mining operation. The Applicant would have to (i) initiate a new County of Tulare entitlement process (i.e., Special Use Permit and SMARA Permit), (ii) re-initiate the environmental review process, (iii) receive new permits from other local agencies (i.e., Valley Air District or Water Quality Control Board), (iv) obtain new mining and reclamation permits from the state Department of Conservation and Division of Mines, and (v) obtain site control. Lastly, an Alternative Site may not comply with the Tulare County General Plan Policies outlined in Chapter 3.11 Mineral Resources.

Alternative 3: Reduced Yearly Tonnage

One potential alternative is to allow a Reduced Yearly Tonnage increase. This Alternative would increase the amount of time required to mine the site to the proposed depth. Reclamation would

occur later than proposed. Also, the availability of construction material derived from the operation would be reduced resulting in (i) potential shortages of material needed to complete construction-related projects, (ii) increased construction-related costs due to delays in delivering material, and (iii) delays in completing construction-related projects.

Alternative 4: Reduced Depth

One potential alternative is a Reduced Depth of the proposed Project. This alternative would result in a lower total amount of material mined at the site. Reduced Depth would also be compounded by reduced yearly tonnage and the potential impacts described in Alternative 3.

As discussed in Alternatives 1 through 5, each of the Alternatives could result in more adverse environmental impacts as specified on the CEQA resources checklist. Therefore, the proposed Project is the environmentally superior alternative.

Chapter 6 Economic, Social, & Growth Inducing Impacts

This Chapter discusses the Economic, Social, and Growth Inducing effects of the Project. It contains Table 6-1 which provides the CEQA requirements and a summary of the impact analysis as follows:

- Economic Effects - The proposed Project will not result in negative impacts to the region. It may result in an increase in economic benefits to the region since the Project consists of the quarrying of aggregates for road base and concrete mixing. That will meet demand.
- Social Effects - The Project will not result in a disproportionate effect on minority populations, low income populations, or Native Americans. The proposed Project would not create nor pose any adverse environmental justice issues.
- Growth Inducing Effects - The Project will not result in significant growth inducing impacts, as it will not result in significant new permanent jobs. Therefore, the Project does not need to rely on the available housing stock to accommodate permanent employees associated with the Project. The Project will not result in new housing; therefore growth inducing impacts will be less than significant.

The overall conclusion contained in Chapter 6 is implementation of the proposed Project will result in ***Less Than Significant*** environmental impacts, either individually or cumulatively, caused by either economic, social, or growth inducing effects.

Chapter 7 Unmitigable Impacts

This discussion provides determinations consistent with CEQA Guidelines Sections 15126.2 (b) Environmental Effects That Cannot Be Avoided, 15126.2 (c) Irreversible Impacts, and Statement of Overriding Considerations.

This Project will not result in significant and unavoidable impacts. All impacts have been found to be less than significant, or have been mitigated to a level considered less than significant. Further, the resources committed to the Project are standard resources necessary for the operation of the proposed increase to total annual tonnage and associated heavy-duty truck trips of the existing operation. Lastly, based on the analysis contained in the No Environmental Impacts That Cannot Be Avoided and the No Irreversible Impact sections contained in Chapter 7, a Statement of Overriding Considerations is not necessary. The Project's merits and objectives are discussed in the Project Description and are found to be consistent with the intent of the County of Tulare and its 2030 General Plan. Thus, the Project's benefits would outweigh any unavoidable and unmitigable impacts to warrant a Statement of Overriding Considerations.

Chapter 8 Mitigation Monitoring and Reporting Program

A summary of the Mitigation Monitoring and Reporting Program is contained at the end of this Executive Summary and in its entirety in Chapter 8. CEQA Section 21081.6 requires adoption of a reporting or monitoring program for those measures placed on a project to mitigate or avoid adverse effects on the environment. The mitigation monitoring and reporting program is required to ensure compliance during a project's implementation. Consistent with CEQA requirements, the Mitigation Monitoring and Reporting Program contained in this EIR include 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 to whom and when compliance will be reported.
- **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.

Chapter 9 EIR Preparation

Key persons from the County of Tulare and the consulting firms that contributed to preparation of the Draft Environmental Impact Report (Draft EIR) are identified.

The sitting Tulare County Planning Commission, Tulare County Resource Management Agency Director (Michael C. Spata), Planning Branch Director (Michael Washam), Chief Environmental Planner (Hector Guerra), and Environmental Planning Division staff (Richard Walker, Planner IV; Susan Simon, Planner III; Chuck Przyblyski, Planner III) are noted.

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This EIR could not have been accomplished without the expertise of the consulting firms Crawford & Bowen Planning, Inc (aided in preparation of Draft EIR), First Carbon Solutions (prepared the Air Quality and Greenhouse Gas Analysis Report), VRPA Technologies, Inc. (prepared the Traffic Impact Study and Noise Study), Sierra Valley Cultural Planning (prepared the Cultural Resources Assessment), and Live Oak Associates, Inc. (prepared the Biotic Evaluation). The technical studies to support the analyses are contained herein as Appendices “B”-“F”.

SUMMARY OF POTENTIAL IMPACTS & MITIGATION MEASURES

Table ES-1
Mitigation Monitoring Reporting Program Summary

Mitigation Measure #	Mitigation Measure	Timing of Compliance
Aesthetics		
1-1	The Project site has an existing berm and shall continue to have and maintain an 8-foot berm along the entire edge of the project site (not including location of the driveway).	Ongoing monitoring during operations
Air Quality		
3-1	The following air pollution control measures shall be implemented to reduce emissions from off-road equipment: <ul style="list-style-type: none">• Idling times shall be minimized either by shutting equipment off when not in use or 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 for construction workers at all access points.• All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. Maintain maintenance records onsite and all equipment shall be checked by a certified visible emissions evaluator.	Approval of permit amendment
3-2	The following air pollution control measures shall be implemented to reduce emissions from trucks operating on the Project site: <ul style="list-style-type: none">• Minimize truck idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of the California Code of Regulations). Post signs in areas where trucks will park instructing drivers to shut off engines unless in an active queue.	Approval of permit amendment

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3-3	By the year 2018 or prior to increasing production by 400,000 tons of additional material, the applicant shall ensure that the fleet average NO _x emissions meet the 2019 standard of 3.5 grams of NO _x per brake-horsepower hour.	Approval of permit amendment
3-4	By the year 2019 or prior to increasing production by 450,000 tons of additional material, the applicant shall ensure that the fleet average NO _x emissions meet the 2020 standard of 2.3 grams of NO _x per brake-horsepower hour.	Approval of permit amendment
Cultural Resources		
5-1	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.	Ongoing monitoring during subsurface excavation
5-2	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.	Ongoing monitoring during subsurface excavation

5-3	<p>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:</p> <ol style="list-style-type: none">1. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:<ol style="list-style-type: none">a. The Tulare County Coroner/Sheriff must be contacted to determine that no investigation of the cause of death is required; andb. If the coroner determines the remains to be Native American:<ol style="list-style-type: none">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, or2. 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.<ol style="list-style-type: none">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	
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	c. The landowner or his authorized representative rejects the recommendation of the descendent.	
Hydrology		
8-1	No truck maintenance or washing shall occur at the site. Heavy equipment maintenance (such as a loader) will occur on a concrete surface or at an offsite location. If such a surface is unavailable or impractical, a drop cloth or other impermeable surface shall be utilized to prevent surface waste discharge that would contribute to soil and groundwater contamination, with any spills immediately cleaned up.	Ongoing
Noise		
12-1	Provide all hearing protection measures outlined in MSHA's Noise Standard Actions required by Mine Operators	Prior to Issuance of Permit Renewal

INTRODUCTION

Chapter 1

PROJECT SUMMARY

The County of Tulare is proposing the Deer Creek Rock Project application Surface Mining Permit and Reclamation Plan (PMR) 14-002 as an amendment to PMR 01-001, PMR 09-002, and PSP 01-055(ZA) to allow for expanded operations at this site. The Applicant requests modification of the current permit conditions to: (1) allow the expansion of production for the hard rock mine and asphalt concrete drum mix plant from 500,000 tons per year to 950,000 tons per year, (2) affirm the operating hours are from 7:00 a.m. to 6:00 p.m. Monday through Friday, with an allowance to work on weekends due to utility demands and state and local government paving requirements, and (3) increase heavy duty diesel haul truck trips per day from 100 to 187.5 (from 200 to 375 round-trips). The proposed Project site is located in Section 21 of Township 22 South, Range 28 East, MDB&M and includes Assessor Parcel Numbers 305-190-018 and 305-190-020. The site is zoned AE-10 and AE-40 (Exclusive Agriculture, 10 and 40-acre minimum, respectively), which allows surface mining with the approval of a surface mining permit and reclamation plan).

LOCAL REGULATORY CONTEXT

The Tulare County General Plan Update 2030 was adopted on August 28, 2012. As part of the General Plan an EIR was prepared as was a background report. The General Plan background report contained contextual environmental analysis for the General Plan. The Housing Element for 2009-2014 was adopted on May 8, 2012, and certified by State of California Department of Housing and Community Development on June 1, 2012.

SCOPE AND METHODOLOGY

The County of Tulare has determined that a project level EIR fulfills the requirements of CEQA and is the appropriate level evaluation to address the potential environmental impacts of the proposed project. A project level EIR is described in Section 15161 of the State CEQA Guidelines as one that examines the environmental impacts of a specific development project. A project level EIR must examine all phases of the project, including planning, construction, and operation.

This document addresses environmental impacts to the level that they can be assessed without undue speculation (CEQA Guidelines Section 15145). This *Draft Environmental Impact Report (DEIR)* acknowledges this uncertainty and incorporates these realities into the methodology to evaluate the environmental effects of the Plan, given its long term planning horizon. The degree of specificity in an EIR corresponds to the degree of specificity of the underlying activity being

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evaluated (CEQA Guidelines Section 15146). Also, the adequacy of an EIR is determined in terms of what is reasonably feasible, in light of factors such as the magnitude of the project at issue, the severity of its likely environmental impacts, and the geographic scope of the project (CEQA Guidelines Sections 15151 and 15204(a)).

CEQA Guidelines Section 15002 (a) specifies that, “[t]he basic purposes of CEQA are to:

- (1) Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities.
- (2) Identify ways that environmental damage can be avoided or significantly reduced.
- (3) Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- (4) Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.”¹

CEQA Guidelines Section 15002 (f) specifies that, “[a]n environmental impact report (EIR) is the public document used by the governmental agency to analyze the significant environmental effects of a proposed project, to identify alternatives, and to disclose possible ways to reduce or avoid the possible environmental damage... An EIR is prepared when the public agency finds substantial evidence that the project may have a significant effect on the environment... When the agency finds that there is no substantial evidence that a project may have a significant environmental effect, the agency will prepare a “Negative Declaration” instead of an EIR...”²

Pursuant to CEQA Guidelines Section 15021 Duty to Minimize Environmental Damage and Balance Competing Public Objectives:

- “(a) CEQA establishes a duty for public agencies to avoid or minimize environmental damage where feasible.
- (1) In regulating public or private activities, agencies are required to give major consideration to preventing environmental damage.
 - (2) A public agency should not approve a project as proposed if there are feasible alternatives or mitigation measures available that would substantially lessen any significant effects that the project would have on the environment.
- (b) In deciding whether changes in a project are feasible, an agency may consider specific economic, environmental, legal, social, and technological factors.
- (c) The duty to prevent or minimize environmental damage is implemented through the findings required by Section 15091.
- (d) CEQA recognizes that in determining whether and how a project should be approved, a public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social factors and in particular the goal of providing a decent home and satisfying living environment for every Californian. An agency shall prepare a statement of overriding considerations as described in Section 15093 to reflect

¹ CEQA Guidelines, Section 15002 (a)

² Ibid., Section 15002 (f)

the ultimate balancing of competing public objectives when the agency decides to approve a project that will cause one or more significant effects on the environment.”³

IDENTIFICATION OF POTENTIALLY SIGNIFICANT IMPACTS

CEQA Guidelines Section 15002 (h) addresses potentially significant impacts, to wit, “CEQA requires more than merely preparing environmental documents. The EIR by itself does not control the way in which a project can be built or carried out. Rather, when an EIR shows that a project could cause substantial adverse changes in the environment, the governmental agency must respond to the information by one or more of the following methods:

- (1) Changing a proposed project;
- (2) Imposing conditions on the approval of the project;
- (3) Adopting plans or ordinances to control a broader class of projects to avoid the adverse changes;
- (4) Choosing an alternative way of meeting the same need;
- (5) Disapproving the project;
- (6) Finding that changes in, or alterations, the project are not feasible.
- (7) Finding that the unavoidable, significant environmental damage is acceptable as provided in Section 15093.”⁴ (See Chapter 7)

This *Draft EIR* identifies potentially significant impacts that would be anticipated to result from implementation of the proposed Project. Significant impacts are defined as a “substantial or potentially substantial, adverse change in the environment” (Public Resources Code Section 21068). Significant impacts must be determined by applying explicit significance criteria to compare the future Plan conditions to the existing environmental setting (CEQA Guidelines Section 15126.2(a)).

The existing setting is described in detail in each resource section of Chapter 3 of this document and represents the most recent, reliable, and representative data to describe current regional conditions. The criteria for determining significance are also included in each resource section in Chapter 3 of this document.

CONSIDERATION OF SIGNIFICANT IMPACTS

Pursuant to CEQA Guidelines Section 15126.2, “[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

³ Ibid., Section 15021

⁴ 2013 CEQA Guidelines, Section 15002 (h)

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.”⁵

MITIGATION MEASURES

CEQA Guidelines Section 15126.4 specifies that:

- “(1) An EIR shall describe feasible measures which could minimize significant adverse impacts, including where relevant, inefficient and unnecessary consumption of energy.
 - (A) The discussion of mitigation measures shall distinguish between the measures which are proposed by project proponents to be included in the project and other measures proposed by the lead, responsible or trustee agency or other persons which are not included but the lead agency determines could reasonably be expected to reduce adverse impacts if required as conditions of approving the project. This discussion shall identify mitigation measures for each significant environmental effect identified in the EIR.
 - (B) Where several measures are available to mitigate an impact, each should be discussed and the basis for selecting a particular measure should be identified. Formulation of mitigation measures should not be deferred until some future time. However, 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.
 - (C) Energy conservation measures, as well as other appropriate mitigation measures, shall be discussed when relevant. Examples of energy conservation measures are provided in Appendix F.
 - (D) If a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed but in less detail than the significant effects of the project as proposed. (*Stevens v. City of Glendale* (1981) 125 Cal.App.3d 986.)
- (2) Mitigation measures must be fully enforceable through permit conditions, agreements, or other legally-binding instruments. In the case of the adoption of a plan, policy, regulation, or other public project, mitigation measures can be incorporated into the plan, policy, regulation, or project design.
- (3) Mitigation measures are not required for effects which are not found to be significant.
- (4) Mitigation measures must be consistent with all applicable constitutional requirements, including the following:

⁵ 2013 CEQA Guidelines, Section 15126.2

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- (A) There must be an essential nexus (i.e. connection) between the mitigation measure and a legitimate governmental interest. *Nollan v. California Coastal Commission*, 483 U.S. 825 (1987); and
- (B) The mitigation measure must be “roughly proportional” to the impacts of the project. *Dolan v. City of Tigard*, 512 U.S. 374 (1994). Where the mitigation measure is an ad hoc exaction, it must be “roughly proportional” to the impacts of the project. *Ehrlich v. City of Culver City* (1996) 12 Cal.4th 854.
- (5) If the lead agency determines that a mitigation measure cannot be legally imposed, the measure need not be proposed or analyzed. Instead, the EIR may simply reference that fact and briefly explain the reasons underlying the lead agency's determination.”⁶

ORGANIZATION OF THE EIR

Executive Summary

The Executive Summary Chapter summarizes the analysis in this Draft Environmental Impact Report.

CHAPTER 1

Provides a brief introduction to the Environmental Analysis required by the California Environmental Quality Act (CEQA).

CHAPTER 2

Describes the proposed Project. The chapter also includes the objectives of the proposed Project. The environmental setting is described and the regulatory context within which the proposed Project is evaluated is outlined.

CHAPTER 3

Includes the Environmental Analysis in response to each Checklist item. Within each analysis the following is included:

Summary of Findings

Each chapter notes a summary of findings.

Introduction

Each chapter will begin with a summary of impacts, pertinent CEQA requirements, applicable definitions and/or acronyms, and thresholds of significance.

⁶ 2013 CEQA Guidelines, Section 15126.4

Environmental Setting

Each environmental factor analysis in Chapter 3 will outline the environmental setting for each environmental factor. In addition, methodology is explained when complex analysis is required.

Regulatory Setting

Each environmental factor analysis in Chapter 3 will outline the regulatory setting for that resource.

Project Impact Analysis

Each evaluation criteria will be reviewed for potential Project-specific impacts.

Cumulative Impact Analysis

Each evaluation criteria will be reviewed for potential cumulative impacts.

Mitigation Measures

Mitigation Measures will be proposed as deemed applicable.

Conclusion

Each conclusion will outline whether recommended mitigation measures will, based on the impact evaluation criteria, substantially reduce or eliminate potentially significant environmental impacts. If impacts cannot be mitigated, unavoidable significant impacts will be identified.

Definitions/Acronyms

Some sub-chapters of Chapter 3 will have appropriate definitions and/or acronyms.

References

Reference documents used in each chapter are listed at the end of each sub-chapter.

CHAPTER 4

Summarizes the cumulative impacts addressed in Chapter 3.

CHAPTER 5

Describes and evaluates alternatives to the proposed Project. The proposed Project is compared to each alternative, and the potential environmental impacts of each are analyzed.

CHAPTER 6

Evaluates or describes CEQA-required subject areas: Economic Effects, Social Effects, and Growth Inducement.

CHAPTER 7

Evaluates or describes CEQA-required subject areas: Environmental Effects That Cannot be Avoided, Irreversible Impacts, and Statement of Overriding Considerations.

CHAPTER 8

Provides a Mitigation Monitoring and Reporting Program that summarizes the environmental issues, the significant mitigation measures, and the agency or agencies responsible for monitoring and reporting on the implementation of the mitigation measures.

CHAPTER 9

Outlines persons preparing the EIR and sources utilized in the Analysis.

APPENDICES

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

ENVIRONMENTAL REVIEW PROCESS

Pursuant to CEQA Guidelines §15082, the Notice of Preparation (NOP) for the Proposed Project was circulated for review and comment on August 7, 2014 and circulated for a 30-day comment period ending September 8, 2014. Tulare County RMA received three comments on the NOP. Comments were received from the following agencies, individuals, and/or organizations:

- San Joaquin Valley Air Pollution Control District, September 9, 2014

- Department of Transportation, District 6, September 5, 2014

A copy of the NOP is included in **Appendix “A”**, along with copies of letters received in response to the NOP.

Consistent with CEQA Guidelines Section 15103, “Responsible and Trustee Agencies, and the Office of Planning and Research shall provide a response to a Notice of Preparation to the Lead Agency within 30 days after receipt of the notice. If they fail to reply within the 30 days with either a response or a well justified request for additional time, the lead agency may assume that none of those entitles have a response to make and may ignore a late response.”⁷

A scoping meeting was duly noticed in a newspaper of general circulation and held on August 21, 2014. No comments were received during this meeting.

Section 15093 of the State CEQA Guidelines requires decision-makers to balance the benefits of a proposed project against any unavoidable adverse environmental effects of the project. If the benefits of the project outweigh the unavoidable adverse environmental effects, then the decision-makers may adopt a statement of overriding considerations, finding that the environmental effects are acceptable in light of the project’s benefits to the public.

As noted in CEQA Guidelines § 15105 (a), a Draft EIR that is submitted to the State Clearinghouse shall have a minimum review period of 45 days. This *Draft EIR* was circulated publicly for comment beginning on November 21, 2014. Following completion of the 45-day public review period ending on January 5, 2015, staff will prepare responses to comments and a *Final EIR* will be prepared. The *Final EIR* will then be forwarded to the County of Tulare Planning Commission for consideration of certification. Notwithstanding an appeal to the County of Tulare Board of Supervisors, a Notice of Determination will then be filed with the County Tulare County Clerk and also forwarded to the State of California, Office of Planning and Research.

ORGANIZATIONS AND PERSONS CONSULTED

- 1) U.S. Fish & Wildlife Service
- 2) California Department of Conservation, Division of Land Resource Protection, Office of Mine Reclamation
- 3) California Department of Fish and Wildlife Services - Region #4
- 4) California Department of Transportation (Caltrans) District 6
- 5) Central Valley Regional Water Quality Control Board – Region #5
- 6) San Joaquin Valley Unified Air Pollution Control District
- 7) Tulare County Resource Management Agency:
 - a. Planning Branch (Environmental Planning, Project Review, Building and Housing Divisions)
 - b. Public Works Branch
 - c. Tulare County Flood Control
 - d. Tulare County Fire

⁷ 2013 CEQA Guidelines, Section 15103

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- 8) Tulare County Environmental Health and Human Services Agency, Environmental Health Division
- 9) Mary Beatie: mbeatie@ppeng.com
- 10) Houston Wells: houstonwells@sbcglobal.net
- 11) Jim Oliver: joliver@wcsbg.com
- 12) Kevin Oliver: koliver@wcsbg.com
- 13) David Cruce: david@papichconstruction.com
- 14) Mitch Brown: mbci@ocsnet.net
- 15) Jason Papich: Jason@papichconstruction.com
- 16) Mark Brower: mbrower@papichconstruction.com

Project Description & Objectives

Chapter 2

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 Environmental Impact Report (EIR) 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. The proposed modifications include increasing annual production and increasing annual truck trips to accommodate the increase in production. No increase in maximum excavation depth is proposed.

PROJECT LOCATION

The existing 98 acre proposed Project site is part of a 118 acre property at 27671 Avenue 120/Road 27, Porterville, CA 93257. The site is located south of Deer Creek Drive, approximately 1/3 mile east of Avenue 120 and Road 272 (see Figure 2-1), and includes Assessor Parcel Numbers 305-190-018 and 305-190-020. The site is 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:

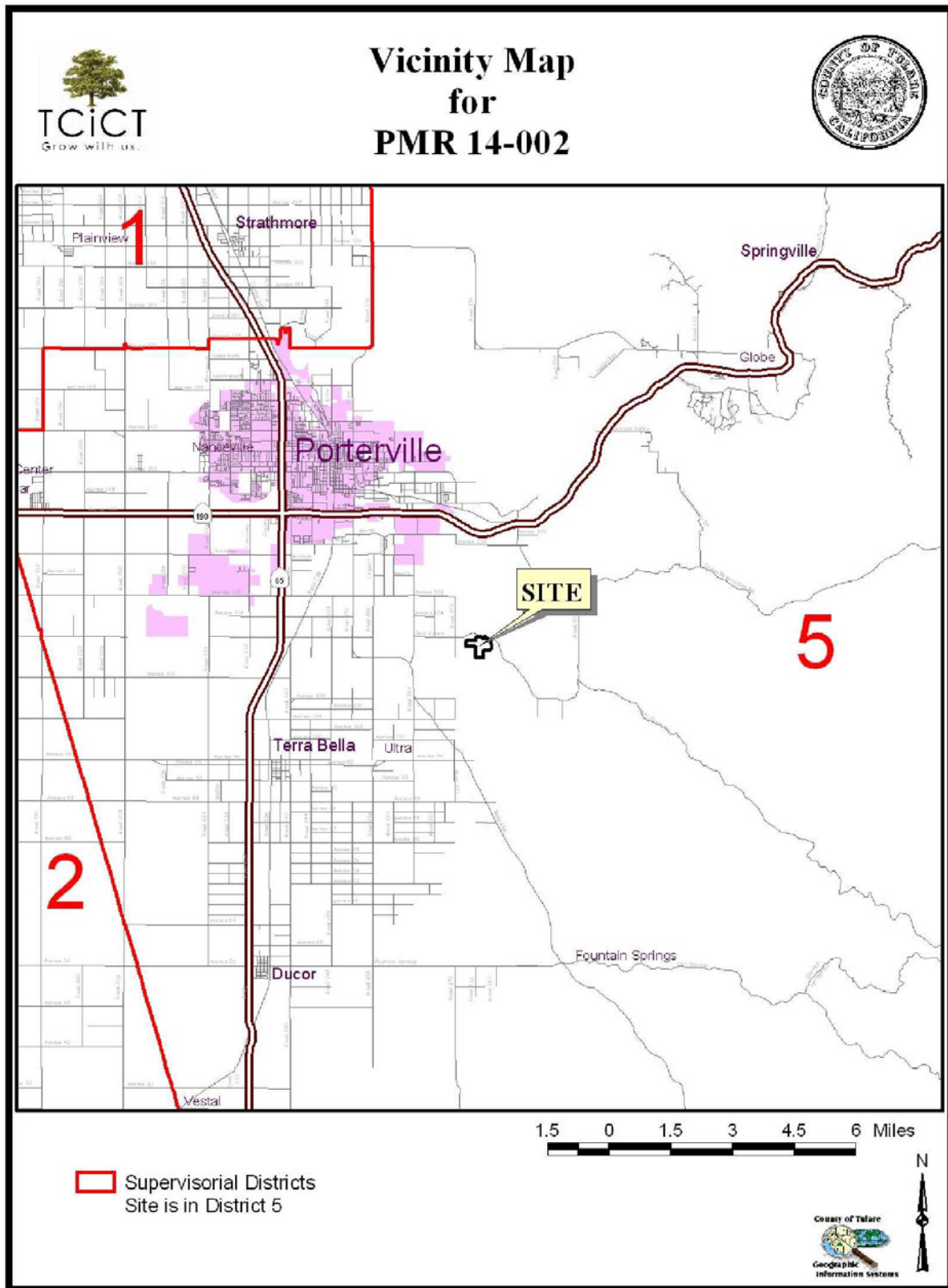
Latitude: N 36° 00' 19"
Longitude: W 118° 57' 12"

CURRENT OPERATIONS

The current operation includes a surface mining operation on 98 acres of a 118 acre site (See Figure 2-2). Aggregate materials are currently excavated and processed on-site by the Deer Creek Rock Company. Currently, maximum annual extraction does not exceed 500,000 tons and the site is allowed to be excavated to 360 feet Mean Sea Level. Common equipment used for daily operations include, but is not limited to: Excavator, Haul Truck, Rock Drill D-8 Caterpillar, Bobcat, Rock Breaker, Pick-up Trucks, 25 and 40 ton Cranes, Welders, Generators and Hand Tools.

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Figure 2-1
Vicinity Map



PROJECT DESCRIPTION

The Applicant, Deer Creek Rock Co., Inc., currently operates a rock and gravel surface mining operation on 98 acres, as permitted by PMR 01-001, PMR 09-002, and PSP 01-055 (ZA). The permit amendments requested by PMR 14-002 will:

- Increase annual production by 450,000 tons per year (from a maximum of 500,000 tons per year to a maximum of 950,000 tons per year).
- Increase truck hauling by 176 round trips per day (from a maximum of 200 round trips per day to a maximum of 376 round trips per day).
- Result in no increase in the maximum depth of the mine, as expansion will occur laterally within the existing mining footprint.
- Allow consistency between PMR 01-001, PMR 09-002, and PSP 01-055(ZA).
- Result in no change to the estimated total rock production of 15,000,000 tons of rock material during the estimated 50 years of operation.
- Result in no change to the approved reclamation plan.

As noted earlier, the current operation is transporting between 400,000 to 500,000 tons of aggregate annually, and the Applicant is requesting to increase its transporting to 950,000 tons of aggregate annually. The proposed Project will include heavy-duty truck trips from the operation be increased to a maximum of 42,300 trips per year (from the currently permitted 22,500 trips per year). There will be no change to the daily or annual trips. This will require approximately seven additional employees. The customer base from the proposed Project is anticipated to remain mostly from within Tulare County.

The Applicant is not proposing to increase production of the existing mining permit nor is any lateral or depth expansion proposed. All 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)). Proposed operation will continue 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 and AE-10 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.

VICINITY AND SURROUNDING LAND USE OF PROJECT SITE

The land uses surrounding the property are primarily agricultural. Adjacent properties to the west and east of the site are irrigated crops, including orange groves. Deer Creek is immediately north of the proposed Project site and grazing land is to the north and south. Scattered rural residences surround the area. The proposed Project site is not under a Williamson Act Contract; however, land to the west, north and east is under a Williamson Act Contract.

There is a residence east of Road 272, approximately two-tenths of a mile to the west. Approximately 1/3 of a mile from the southern boundary is a residence to the east on Avenue 120. Three residences are located at the intersection of Avenue 120 and Road 272, approximately one half mile to the west. Alta Vista Elementary School is located approximately 3.6 miles north of the proposed Project site.

ZONING AND LAND USE

The site is zoned AE-40 and AE-10 (Exclusive Agriculture, 40 acre minimum and 10 acre minimum, respectively), which allows surface mining with the approval of a surface mining permit and reclamation plan (see Figure 2-3).

Adjacent Zoning Land Uses

North	AE-40	grazing land, rural residential
East	AE-40	grazing land, rural residential
South	AE-20	grazing land, rural residential
West	AE-20	surface mining

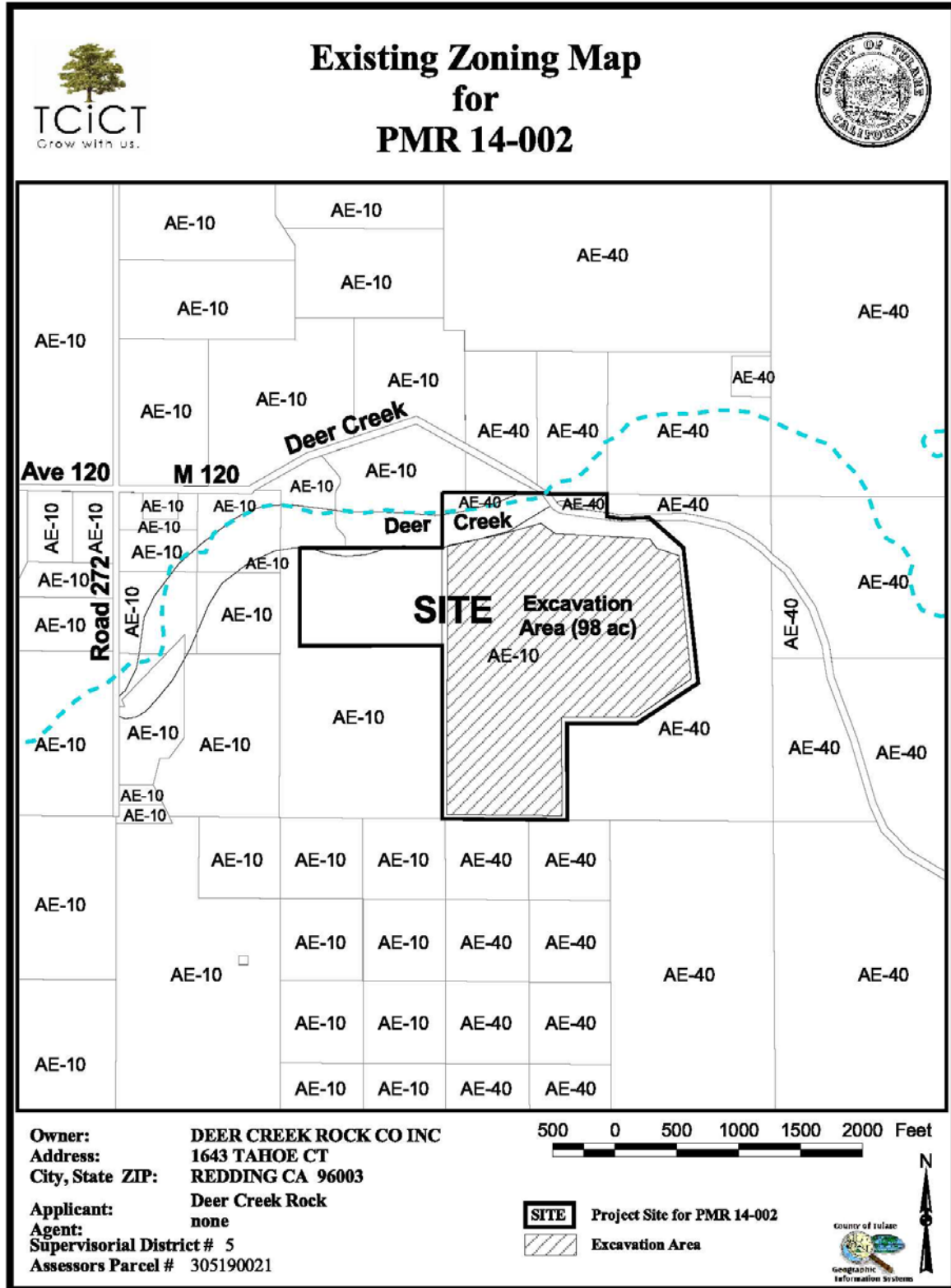
Natural resources mining is permitted with a surface mining permit and reclamation plan, in accordance with Chapter 25 of Part VII of the Tulare County Ordinance Code. A portion of the proposed Project site currently supports agricultural grazing, and the disturbed Project site areas are proposed to be reclaimed for grazing and agriculture uses in the future, pursuant to the approved Reclamation Plan.

The site is subject to the policies of the 1981 Foothill Growth Management Plan (FGMP) and is designated as Foothill Agriculture. 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.” The site is located outside of an Urban Boundary and is subject to the policies of the Foothill Growth Management Plan.

Other relevant policies of the FGMP relate to insuring 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.

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Figure 2-3
Zoning Map



PROJECT OBJECTIVES

Objective 1: Increase Aggregate Production

According to the Department of Conservation, Office of Mines, the existing demand for aggregates in Tulare County “is sufficient to meet the demands for the next 11 to 20 years in the northern portion of the County and 21 to 30 years in the southern portions of the County. However, ideally there would be a minimum of 50 years of supply available in order to meet the projected County population according to the Department of Finance.¹ Currently, as a reference, Fresno County has less than a 10 year supply.

“The factors [concerning aggregate supply] include universal need, increasing demand, the economic and environmental costs of transportation, and multiple land-use pressures mak[ing]... availability and demand for aggregate[s] valuable to land-use planners and decision makers charged with planning for a sustainable future for California’s citizens.”²

Given the aggregate demands and only an 11 to 20 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 northern portion of the County can only meet its demand for the next 20 years, before other sources of aggregate must be found.

¹ California Geological Survey, Aggregate Sustainability in California 2012 Update, page 5-6

² Ibid. page 1

REFERENCES

California Geological Survey, Aggregate Sustainability in California 2012 Update, Pages 1, 5, 6

Tulare County General Plan 2030 Update

Tulare County General Plan 2030 Update Background Report

Aesthetics

Chapter 3.1

SUMMARY OF FINDINGS

The proposed Project will not have any significant impacts related to Aesthetics with mitigation. A detailed review of potential impacts is provided in the following analysis.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

CEQA requires that significant impacts on the environment be identified and, where possible, measures be added to minimize or eliminate impacts (CEQA Guidelines Section 15382). A “[s]ignificant effect on the environment” means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project...” (CEQA Guidelines Section 15382). With respect to aesthetics, potentially significant CEQA impacts include visual impacts to scenic highways, the visual character of the site, and impacts from lighting.

This section describes the existing visual environment in the vicinity of the Project area using accepted methodology to evaluate aesthetic/visual landscape quality and light/glare. Aesthetic considerations tend to be subjective. The methodologies used to evaluate aesthetic impacts to visual character are qualitative in nature, and are based on photographic documentation of the site and surrounding area.

The proposed Project site is located in the agricultural (Valley) portion of Tulare County. The Environmental Setting section describes scenic and aesthetic 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.

The analyses of the existing visual setting and potential visual impacts resulting from the proposed Project are based primarily on information provided by the Project applicant.

Thresholds of Significance:

- Impact on a scenic vista
- Impact on a scenic highway
- Impact on visual quality
- Creation of glare or impacts on nighttime views

ENVIRONMENTAL SETTING

Visual Character of the Region

Tulare County is located in a predominately agricultural region of central California. The terrain in the County varies. The western portion of the County includes a portion of the San Joaquin Valley (Valley), and is generally flat, with large agricultural areas with generally compact towns interspersed. In the eastern portion of the County are foothills and the Sierra Nevada mountain range. The project site is located on the Valley floor, which is very fertile and has been intensively cultivated for many decades. Agriculture and related industries such as agricultural packing and shipping operations and small and medium sized manufacturing plants make up the economic base of the Valley region. Many communities are small and rural, surrounded by agricultural uses such as row crops, orchards, and dairies. From several locations on major roads and highways through out the County, electric towers and telephone poles are noticeable. Mature trees, residential, commercial, and industrial development, utility structures, and other vertical forms are highly visible in the region because of the flat terrain. Where such vertical elements are absent, views are expansive. Most structures are small; usually one story in height, through occasionally two story structures can be seen commercial or industrial agricultural complexes.¹

Existing Visual Conditions

Land uses in the Project vicinity are predominantly agricultural and low foothill, with scattered rural residences. Surrounding agricultural lands consisting of citrus orchards, grazing land and other farmed lands. Deer Creek runs immediately north of the proposed Project site. All other ponds and vernal pools are absent from the site and vicinity. The site is currently an active mining operation.

REGULATORY SETTING

Federal Agencies & Regulations

None that apply to the proposed Project.

State Agencies & Regulations

Title 24 Outdoor Lighting Standards

Title 24 Outdoor Lighting Standards were adopted by the State of California Energy Commission (Commission) (Title 24, Parts 1 and 6, Building Energy Efficiency Standards (Standards) on November 5, 2003 and went into effect on October 1, 2005. The changes included new requirements for outdoor lighting, which vary according to which “lighting Zone” the equipment is in. The Commission defines rural areas as Lighting Zone 2. Existing outdoor lighting systems are not required to meet these lighting allowances.

¹ Tulare County General Plan 2030 Update: Recirculated Draft EIR (RDEIR), page 3.1-11

Scenic Highway Program

The California Scenic Highway Program was established by the state Legislature in 1963 for the purpose of protecting and enhancing the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been officially designated. The state laws governing the scenic highways program are found in The Streets and Highways Code Sections 260-263. In Tulare County, portions of State Routes 190, 198, and 180 are eligible for state scenic highway designation.²

Local Policy & Regulations

“The scenic landscapes in Tulare County will continue to be one of the County’s most visible assets. The Tulare County General Plan emphasizes the enhancement and preservation of these resources as critical to the future of the County. The County will continue to assess the recreational, tourism, quality of life, and economic benefits that scenic landscapes provide and implement programs that preserve and use this resource to the fullest extent.”³

County Scenic Roadways

“Tulare County’s existing General Plan identifies State designated scenic highways and County designated eligible highways. There are three highway segments designated as eligible by the State. These include State Route 198 from Visalia to Three Rivers, State Route 190 from Porterville to Ponderosa, and State Route 180 extending through Federal land in the northern portion of Tulare County. State Route 198 closely follows around Lake Kaweah and the Kaweah River, while State Route 190 follows around Lake Success and the Tule River. Both Scenic Highways travel through agricultural areas of the valley floor to the foothills and the Sierra Nevada Range... Additionally, the General Plan Update identifies preserving the rural agricultural character of SR 99 and SR 65 as valuable to the County and communities.”⁴ (See Figure 3.1-1)

Tulare County General Plan Policies

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

SL-1.1 Natural Landscapes

During review of discretionary approvals, including parcel and subdivision maps, the County shall as appropriate, require new development to not significantly impact or block views of Tulare County’s natural landscapes. To this end, the County may require new development to:

1. Be sited to minimize obstruction of views from public lands and rights-of- ways,

² Tulare County General Plan 2030 Update, Goals and Policies Report Part 1, page 7-5

³ Tulare County General Plan 203 Update Goals and Policies Report, p. A-2

⁴ Tulare County General Plan 2030 Update, Goals and Policies Report, page 7-2

2. Be designed to reduce visual prominence by keeping development below ridge lines, using regionally familiar architectural forms, materials, and colors that blend structures into the landscape,
3. Screen parking areas from view,
4. Include landscaping that screens the development,
5. Limit the impact of new roadways and grading on natural settings, and
6. Include signage that is compatible and in character with the location and building design

SL-1.2 Working Landscapes

The County shall require that new non-agricultural structures and infrastructure located in or adjacent to croplands, orchards, vineyards, and open rangelands be sited so as to not obstruct important viewsheds and to be designed to reflect unique relationships with the landscape by:

1. Referencing traditional agricultural building forms and materials,
2. Screening and breaking up parking and paving with landscaping, and
3. Minimizing light pollution and bright signage.

LU-7.14 Contextual and Compatible Design

The County shall ensure that new development respects Tulare County's heritage by requiring that development respond to its context, be compatible with the traditions and character of each community, and develop in an orderly fashion which is compatible with the scale of surrounding structures.

SL-2.1 Designated Scenic Routes and Highways

The County shall protect views of natural and working landscapes along the County's highways and roads by maintaining a designated system of County scenic routes and State scenic highways by:

1. Requiring development within existing eligible State scenic highway corridors to adhere to land use and design standards and guidelines required by the State Scenic Highway Program,
2. Supporting and encouraging citizen initiatives working for formal designation of eligible segments of State Highway 198 and State Highway 190 as State scenic highways,
3. Formalizing a system of County scenic routes throughout the County ..., and
4. Requiring development located within County scenic route corridors to adhere to local design guidelines and standards.

LU-5.3 Storage Screening

The County shall require adequate landscaping and screening of industrial storage areas to minimize visual impacts and enhance the quality of the environment.

LU-5.6 Industrial Use Buffer

Unless mitigated, the County shall prohibit new heavy industrial uses to a minimum of 500 feet from schools, hospitals, or populated residential areas (more than 10 dwelling units within a quarter mile diameter area). The buffer area may be used for activities not creating impacts to adjoining sensitive land uses for uses accessory to the heavy industrial use. The establishment of a buffer may not be required when mitigated or may not apply to industrial uses that do not impact adjoining uses identified herein. The buffer area shall be landscaped and maintained.

LU-7.6 Screening

The County shall require landscaping to adequately screen new industrial uses to minimize visual impacts.

LU-7.19 Minimize Lighting Impacts

The County shall ensure that lighting in residential areas and along County roadways shall be designed to prevent artificial lighting from reflecting into adjacent natural or open space areas unless required for public safety.

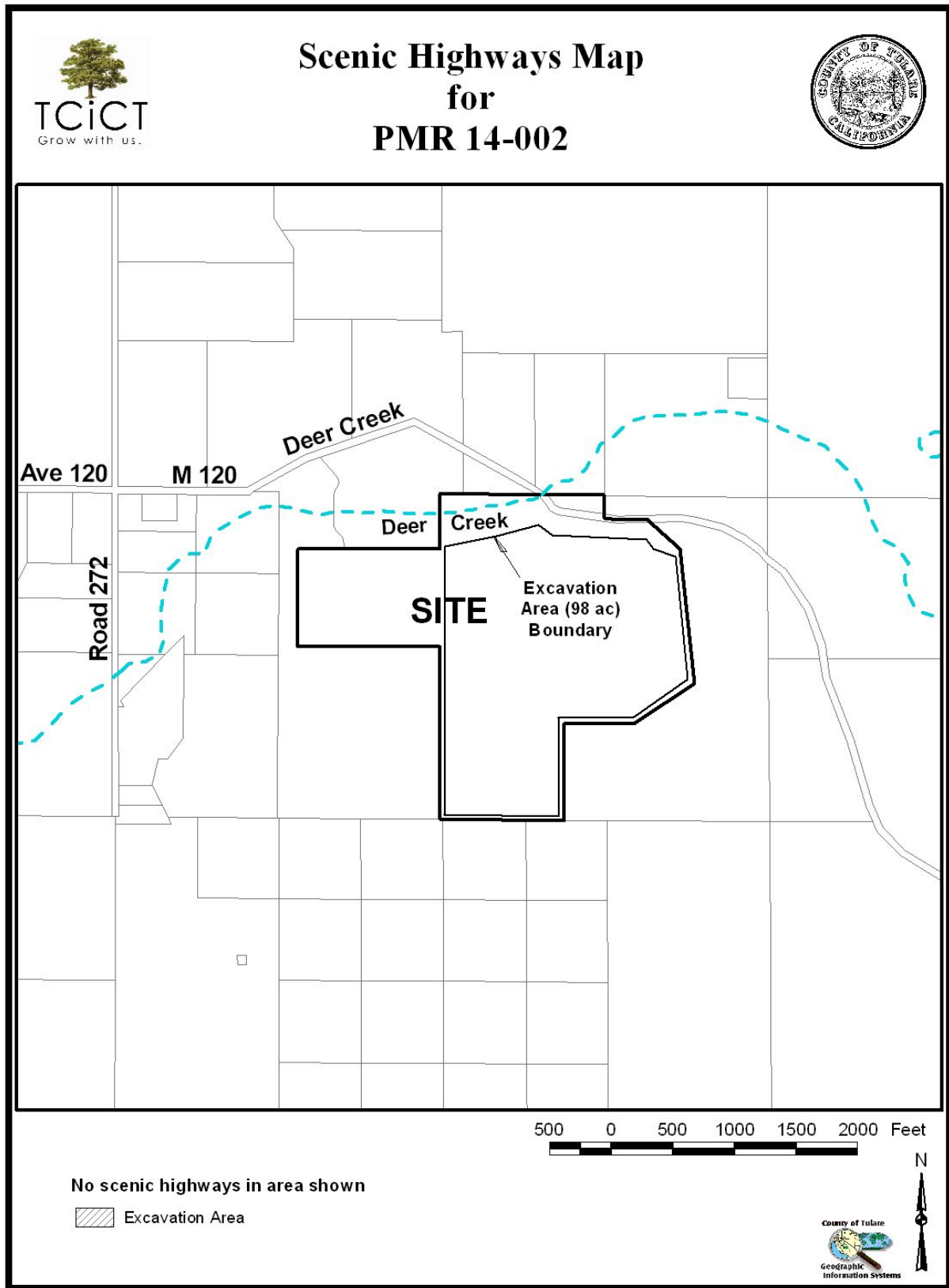
ERM-5.19 Night Sky Protection

Upon demonstrated interest by a community, mountain service center, or hamlet, the County will determine the best means by which to protect the visibility of the night sky.

ERM-1.15 Minimize Lighting Impacts

The County shall ensure that lighting associated with new development or facilities (including street lighting, recreational facilities, and parking) shall be designed to prevent artificial lighting from illuminating adjacent natural areas at a level greater than one foot candle above ambient conditions.

Figure 3.1-1
Scenic Highways and County Scenic Routes



IMPACT EVALUATION

Would the project:

a) **Have a substantial adverse effect on a scenic vista?**

Project Impact Analysis: *No Impact*

The Project site is located in the Valley portion of the County. There are no scenic vistas on the Project site or in the vicinity. The proposed Project will have *No Project-Specific Impacts* related to this Checklist Item.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is Tulare County.

There are no scenic vistas on or near the Project site, there will be *No Cumulative Impacts* related to this Checklist Item.

Mitigation Measure(s):

None Required.

Conclusion: *No Impact*

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

b) **Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?**

Project Impact Analysis: *No Impact*

The existing mining facility is located on this Project site because of the availability of rocks. The former rock outcropping has been mined. The proposed Project includes the mining of additional tonnage of rocks below the surface. The proposed Project will not impact any additional rock outcroppings beyond those already addressed in the environmental analysis for the current use.

There are no designated state scenic highways in the Project vicinity or in Tulare County, as seen in Figure 3.1-1. The Tulare County 2030 General Plan also lists a series of Scenic County Routes, several of which are located in agricultural areas; however, none are in the proposed Project vicinity. The California Department of Transportation Scenic Highway Mapping System identified State Route 190 east of State Route 65 as an Eligible State Scenic Highway. State Route 190 is approximately 2.5 miles north of the site and will not be visually impacted by the proposed Project. There will be *No Impact* to this Checklist Item.

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

The geographic area of this cumulative analysis is Tulare County.

There will be ***No Cumulative Impacts*** because the proposed Project will not create visual impacts to State Scenic Highways or Scenic County Routes.

Mitigation Measure(s):

None required.

Conclusion: ***No Impact***

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

c) Substantially degrade the existing visual character or quality of the site and its surroundings

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

The proposed Project includes mining/crushing equipment and a large pit. To reduce visual impacts, a berm has been constructed and will be maintained to continue to screen the pit and equipment from the road and neighboring properties. See Mitigation Measure 1-1. With mitigation, the Project-specific impacts to the visual character of the site and its surroundings will be ***Less Than Significant***.

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

The geographic area of this cumulative analysis is Tulare County.

Due to the limited amount of physical changes to the Project site, the proposed Project could have a limited visual impact on the existing agricultural area. With mitigation; however, ***Less Than Significant Cumulative Impacts*** on visual character will occur.

Mitigation Measure(s):

- 1-1 The Project site has an existing berm and shall continue to have and maintain an 8-foot berm along the entire edge of the project site (not including location of the driveway).**

Conclusion: ***Less than Significant Impact with Mitigation***

With mitigation, the proposed Project will have ***Less Than Significant Project-specific and Cumulative Impacts*** related to this Checklist Item.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

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

Lighting impacts from the Project are associated with the use of artificial light during the evening and nighttime hours. Impacts can include light emanating from building interiors (seen through windows) and light from exterior sources, including building or parking lot lighting, security lighting, street lighting, etc. Glare is typically a daytime occurrence caused by light reflecting off highly polished surfaces such as window glass. The most common impacts from glare are impacts to nearby moving vehicles.

The proposed Project will not create a new source of light or glare from the existing buildings and no new structures are associated with proposed Project.

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.

The proposed Project will result in no significant impacts related to light and glare. As such, ***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*** related to this Checklist Item will occur.

DEFINITIONS

Scenic landscapes - Landscapes that include agricultural lands, woodlands, forestlands, watercourses, mountains, meadows, structures, communities, and other types of scenery that contribute to the visual beauty of Tulare County.

Natural Landscapes - An expanse of naturally-formed scenery that contribute to the visual beauty of Tulare County.

Working Landscapes - These are landscapes shaped by human activities that produce economic commodities such as agricultural lands, ranch lands, and timber lands. They may also include picturesque commercial districts in communities, crops, orchards, agricultural structures, stands of timber, and canals.”

Viewshed - An area of land, water, or other environmental features that is visible from a fixed vantage point. Viewsheds tend to be areas of particular scenic or historic value that are deemed worthy of preservation against development or other change. The preservation of viewsheds is typically the goal in the designation of open space areas, green belts, and urban separators.

REFERENCES

Tulare County General Plan 2030 Update, Goals and Policies Report, page A-2, 7-2

Tulare County General Plan 2030 Update, Goals and Policies Report Part 1, page 7-5

Tulare County General Plan 2030 Update: Recirculated Draft EIR (RDEIR), page 3.1-11

Agricultural Land and Forestry Resources

Chapter 3.2

SUMMARY OF FINDINGS

The proposed Project will result no impacts to Agricultural Land and Forestry Resources. No mitigation measures will be required. A detailed review of potential impacts is provided in the following analysis.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to Agricultural Land and Forestry Resources. 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 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 Agricultural Lands and Forestry Resources 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

¹ CEQA Guidelines, Section 15126.2 (a)

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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 Department of Conservation identifies the location of prime Agricultural Land resource areas and Williamson Act Contract lands. Thresholds of potential significance will include the following:

- Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
- Conflict with Williamson Act Contracts
- Convert Forest Land

ENVIRONMENTAL SETTING

“Tulare County exhibits a diverse ecosystems landscape created through the extensive amount of topographic relief (elevations range from approximately 200 to 14,000 feet above sea level). The County is essentially divided into three eco-regions. The majority of the western portion of the County comprises the Great Valley Section, the majority of the eastern portion of the County is in the Sierra Nevada Section, and a small section between these two sections comprises the Sierra Nevada Foothill Area.”²

Agricultural Productivity

The Project site is located in the San Joaquin Valley portion of Tulare County. This area is characterized by rich, highly productive farmland. Agriculture is the most important sector in Tulare County’s economy, and agriculture and related industries make Tulare County one of the two most productive agricultural counties in the United States, according to Tulare County Farm Bureau statistics.^{3,4} Agricultural lands (crop and commodity production and grazing) also provide the County’s most visible source of open space lands. As such, the protection of agricultural lands and continued growth and production of agriculture industries is essential to all County residents.”⁵

The *2012 Tulare County Annual Crop and Livestock Report* listed Tulare County’s total gross production value for 2012 as \$6,210,693,000. Milk was the leading agricultural commodity in Tulare County in 2012, representing 29% of the total crop and livestock value. The 2012 report listed over 120 different commodities, forty-three of which had a gross value greater than \$1

² Tulare County General Plan 2030 Update RDEIR, page 3.11-5

³ Tulare County Farm Bureau, “Agricultural Facts,” <http://www.tulcofb.org/index.php?page=agfacts>. Accessed August, 2014

⁴ Tulare County Agricultural Commissioner, 2012 Tulare County Agricultural Crop and Livestock Report

⁵ Tulare County General Plan 2030 Update, page 3-4

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million. The top agricultural commodities in the County in 2012, based on total/gross value were milk, grapes, oranges, and cattle⁶.

The California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) indicates that agricultural lands in Tulare County in 2010 included 859,991 acres of important farmland (designated as FMMP Prime, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance) and 440,042 acres of grazing land, for a total of 1,300,033 acres of agricultural land⁷.

The Tulare County Subvention Report (November 21, 2012, see Table 3.2-1) notes that 1,069,299 acres of farmland with Tulare County is under California Land Conservation Act (Williamson Act) contracts; a program designed to prevent premature conversion of farmland to residential or other urban uses. As of January 1, 2012, there were 1,096,299 acres of farmland under Williamson Act or Farmland Security Zone contracts in Tulare County divided by the following categories: 571,904 acres of Williamson Act prime, 513,243 acres nonprime, and 11,152 acres of Farmland Security Zone lands (The acreage totals also include 6,040 acres of Williamson Act prime contract land in nonrenewal and 7,513 acres of Williamson Act of nonprime contract land in nonrenewal.)

Table 3.2-1
2012 Tulare County Lands under Williamson Act or Farmland Security Zone Contracts⁸

Acres	Category
571,904	*Total prime = Prime active + NR Prime
513,243	*Total Nonprime = Nonprime active + NR Prime
11,152	Farmland Security Zone
1,096,299	TOTAL ACRES in Williamson Act and Farmland Security Zone contracts

**Prime total includes 6,039.75 acres in nonrenewal; Nonprime total includes 7,512.56 acres in nonrenewal*

Important Farmland Trends

Using data collected by the FMMP, farmland acreage has been consistently decreasing for each two-year period since 1998. In the 2010 FMMP analysis, Tulare County lost 17,502 acres of important farmland, and 17,748 acres of total farmland between 2008 and 2010.⁹

“For Tulare County and the surrounding region, the reported major cause of this conversion is the downgrading of important farmlands to other agricultural uses (e.g., such as expanded or

⁶ Tulare County Agricultural Commissioner, 2012 Tulare County Agricultural Crop and Livestock Report.

⁷ California Department of Conservation, Division of Land Resource Protection. Farmland Mapping and Monitoring Program California Farmland Conversion Report 2008-2010. Table A-44. <http://www.conservation.ca.gov/dlrp/fmmp/Documents/fmmp/pubs/2008-2010/fcr/FCR%200810%20complete.pdf>. Accessed August, 2014.

⁸ Tulare County Resource Management Agency, Tulare County Subvention Report for Fiscal Year 2012-2013 (submitted to Department of Conservation, November 2012)

⁹ Ibid.

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new livestock facilities, replacing irrigated farmland with non-irrigated crops, or land that has been fallow for six years or longer).”¹⁰

Forest Lands

“Timberlands that are available for harvesting are located in the eastern portion of Tulare County in the Sequoia National Forest. Hardwoods found in the Sequoia National Forest are occasionally harvested for fuel wood, in addition to use for timber production. Since most of the timberlands are located in Sequoia National Forest, the U.S. Forest Service has principal jurisdiction, which encompasses over 3 million acres. The U.S. Forest Service leases these federal lands for timber harvests.”¹¹

¹⁰ Tulare County General Plan 2030 Update RDEIR, page 3.10-6

¹¹ Tulare County General Plan 2030 Update, *Background Report*, Page 4-20

**Figure 3.2-1
Prime Farmland**

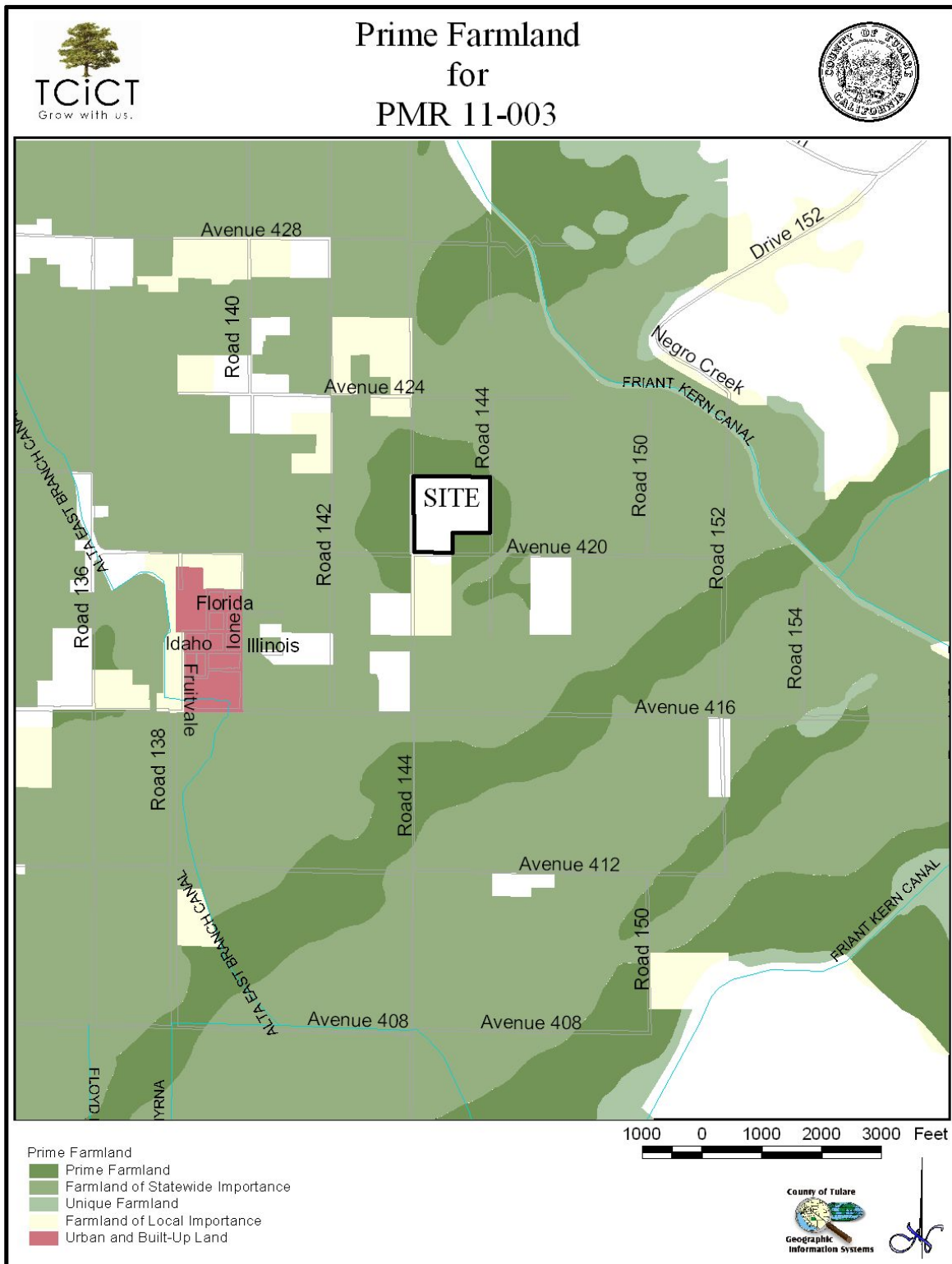
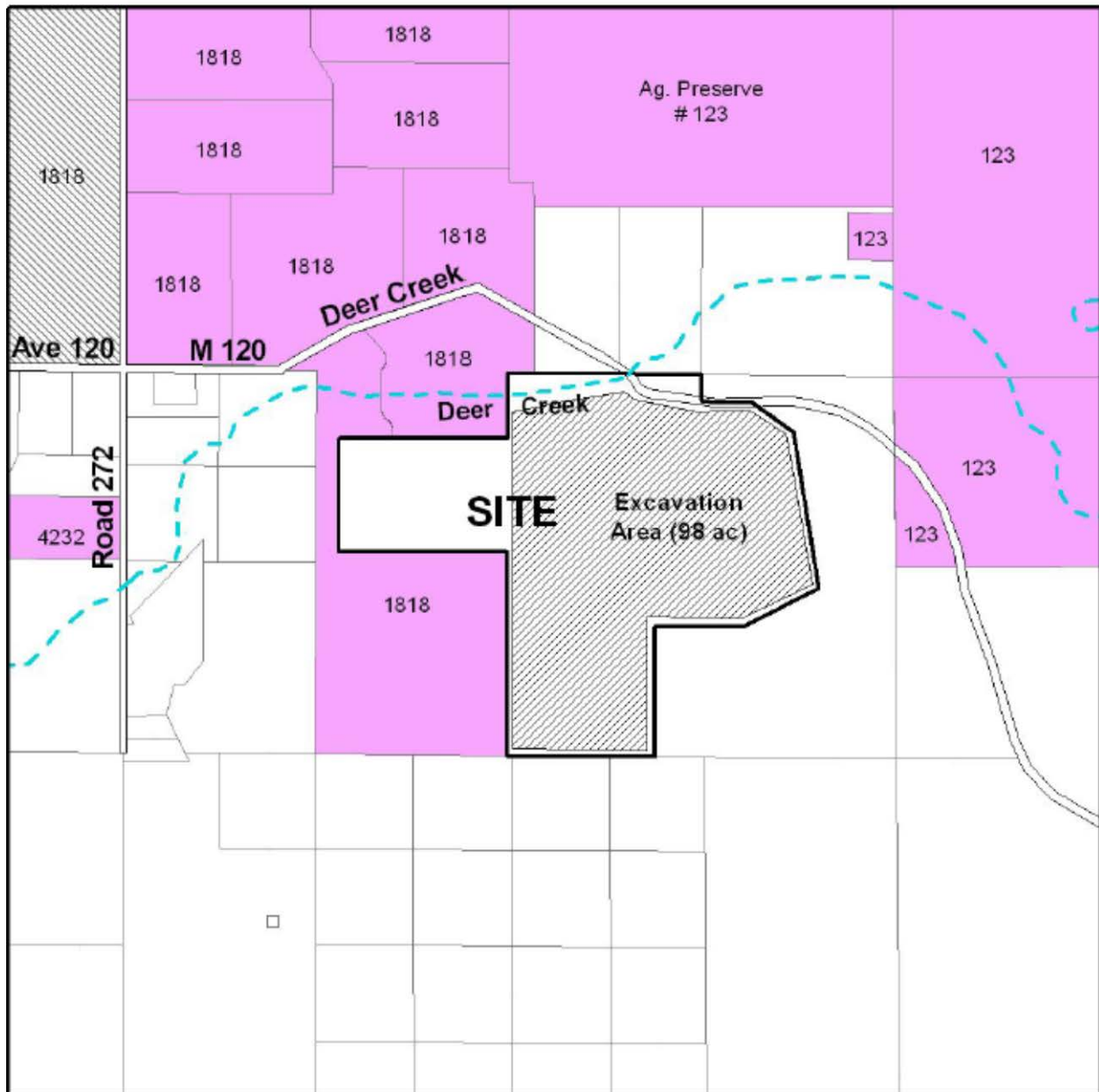


Figure 3.2-2
Ag. Preserve Map



Ag. Preserve Map for PMR 14-002



Owner: DEER CREEK ROCK CO INC
Address: 1643 TAHOE CT
City, State ZIP: REDDING CA 96003
Applicant: Deer Creek Rock
Agent: none
Supervisory District # 5
Assessor's Parcel # 305190021

500 0 500 1000 1500 2000 Feet

Ag Preserves
Williamson Act Preserves
Williamson Act Preserves - Non Renewal
Farmland Security Zones



REGULATORY SETTING

Federal Agencies & Regulations

Federal Farmland Protection Act (FPPA)

“The FPPA is intended to minimize the impact Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It assures that to the extent possible federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland... Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a Federal agency or with assistance from a Federal agency.”¹²

US Forest Service

“The U.S. Department of Agriculture Forest Service is a Federal agency that manages public lands in national forests and grasslands. The Forest Service is also the largest forestry research organization in the world, and provides technical and financial assistance to state and private forestry agencies. Gifford Pinchot, the first Chief of the Forest Service, summed up the purpose of the Forest Service—“to provide the greatest amount of good for the greatest amount of people in the long run.””¹³

State Agencies & Regulations

California Department of Conservation: Farmland Mapping and Monitoring Program

“The California Department of Conservation (DOC), under the Division of Land Resource Protection, has developed the Farmland Mapping and Monitoring Program (FMMP), which monitors the conversion of the state’s farmland to and from agricultural use. Data is collected at the county level to produce a series of maps identifying eight land use classifications using a minimum mapping unit of 10 acres. The program also produces a biannual report on the amount of land converted from agricultural to non-agricultural use. The program maintains an inventory of state agricultural land and updates the “Important Farmland Series Maps” every two years (Department of Conservation, 2000).”¹⁴

Williamson Act: California Land Conservation Act of 1965

“The California Land Conservation Act (CLCA) of 1965, Sections 51200 et seq. of the California Government Code, commonly referred to as the “Williamson Act”, enables local governments to restrict the use of specific parcels of land to agricultural or related open space use. Landowners enter into contracts with participating cities and counties and agree to restrict their land to agriculture or open space use for a minimum of ten years. In return, landowners

¹² Federal Farmland Protection Act, <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/alphabetical/fppa>. Accessed August 2014.

¹³ US Forest Service Description, <http://www.fs.fed.us/aboutus/meetfs.shtml>. Accessed August 2014.

¹⁴ Tulare County General Plan 2030 Update, *Background Report*, Page 4-12

receive property tax assessments that are much lower than normal because they are based upon farming and open space uses as opposed to full market (speculative) value. Local governments receive an annual subvention of forgone property tax revenues from the state via the Open Space Subvention Act of 1971.”¹⁵

California Department of Forestry and Fire Protection (CAL FIRE)

“CAL FIRE manages eight Demonstration State Forests that provide for commercial timber production, public recreation, and research and demonstration of good forest management practices. CAL FIRE foresters can be found in urban areas working to increase the number of trees planted in our cities, or preventing the spread of disease by identifying and removing infected trees. A Native American burial ground in the path of a logging operation or fire may be verified and saved due to a CAL FIRE archaeologist's review of the area. And, an improved strain of trees, resistant to disease and pests, may be nurtured and introduced by a CAL FIRE forester.”¹⁶

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.

AG-1.1 Primary Land Use

The County shall maintain agriculture as the primary land use in the valley region of the County, not only in recognition of the economic importance of agriculture, but also in terms of agriculture's real contribution to the conservation of open space and natural resources.

AG-1.3 Williamson Act

The County should promote the use of the California Land Conservation Act (Williamson Act) on all agricultural lands throughout the County located outside established UDBs. However, this policy carries with it a caveat that support for the Williamson Act as a tax reduction component is premised on continued funding of the State subvention program that offsets the loss of property taxes.

AG-1.5 Substandard Williamson Act Parcels

The County may work to remove parcels that are less than 10 acres in Prime Farmland and less than 40 Acres in Non-Prime Farmland from Williamson Act Contracts (Williamson Act key term for Prime/Non-Prime).

AG-1.6 Conservation Easements

The County shall consider developing an Agricultural Conservation Easement Program (ACEP) to help protect and preserve agricultural lands (including “Important Farmlands”), as defined in

¹⁵ Tulare County General Plan 2030 Update, *Background Report*, Page 4-13

¹⁶ California Department of Forestry and Fire Protection, <http://www.fire.ca.gov/about/about.php>. Accessed August 2014.

this Element. This program may require payment of an in-lieu fee sufficient to purchase a farmland conservation easement, farmland deed restriction, or other farmland conservation mechanism as a condition of approval for conservation of important agricultural land to non-agricultural use. If available, the ACEP shall be used for replacement lands determined to be of statewide significance (Prime or other Important Farmlands), or sensitive and necessary for the preservation of agricultural land, including land that may be a part of a community separator as part of a comprehensive program to establish community separators. The in-lieu fee or other conservation mechanism shall recognize the importance of land value and shall require equivalent mitigation.

AG-1.7 Preservation of Agricultural Lands

The County shall promote the preservation of its agricultural economic base and open space resources through the implementation of resource management programs such as the Williamson Act, Rural Valley Lands Plan, Foothill Growth Management Plan or similar types of strategies and the identification of growth boundaries for all urban areas located in the County.

AG-1.9 Agricultural Preserves Outside Urban Boundaries

The County shall grant approval of individual applications for agricultural preserves located outside a UDB provided that the property involved meets the requirements of the Williamson Act and the regulations of Tulare County.

AG-1.10 Extension of Infrastructure into Agricultural Areas

The County shall oppose extension of urban services, such as sewer lines, water lines, or other urban infrastructure, into areas designated for agriculture use unless necessary to resolve a public health situation. Where necessary to address a public health issue, services should be located in public rights-of-way in order to prevent interference with agricultural operations and to provide ease of access for operation and maintenance. Service capacity and length of lines should be designed to prevent the conversion of agricultural lands into urban/suburban uses.

AG-1.11 Agricultural Buffers

The County shall examine the feasibility of employing agricultural buffers between agricultural and non-agricultural uses, and along the edges of UDBs and HDBs. Considering factors include the type of operation and chemicals used for spraying, building orientation, planting of trees for screening, location of existing and future rights-of-way (roads, railroads, canals, power lines, etc.), and unique site conditions.

LU-2.6 Industrial Development

Other than provided in Policy LU-2.5: Agricultural Support Facilities, the County shall, and the cities should, through their industrial development policies, approve only those agriculturally-oriented or related industries and uses that can demonstrate, whether by location and/or controlled methods of operation, that they will not adversely affect agricultural production or the County's natural resources. These uses should be located inside UDBs, HDBs, PCAs and regional growth corridors unless necessary for the support of agricultural operations or as provided in Policy LU-2.5: Agricultural Support Facilities.

IMPACT EVALUATION

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

- a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural uses?

Project Impact Analysis: *No Impact*

According to the FMMP map, the Project site is noted as vacant land. The proposed Project does not include the expansion of site area. As such, *No Project-specific Impacts* to this Checklist ~~h~~Item will occur.

Cumulative Impact Analysis: *No Impact*

The geographic area of this cumulative analysis is the entire State of California. This cumulative analysis is based on the Statewide FMMP map provided by the California Department of Conservation.

The Project site is not located on Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The Project site is located adjacent to prime farmland; however, the proposed expansion will not result in the conversion of these adjacent parcels or induce the conversion of these adjacent parcels to a non-agricultural use. *No Cumulative Impacts* related to this Checklist ~~h~~Item will occur.

Mitigation Measure(s):

None Required.

Conclusion: *No Impact*

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

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

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

The Project site is located in AE-10 and AE-40 agricultural zone. The existing operation was allowed via PMR 01-001, PMR 09-002, and PSP 01-055(ZA). The proposed Project is modification of this use permit. No variances are requested under the proposed Project.

The proposed Project site is not under a Williamson Act contract. As such, there will be ***No Project-specific Impacts*** to this Checklist ***i***Item.

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

The geographic area of this cumulative analysis is the entire State of California. This cumulative analysis is based on the Statewide FMMP map provided by the California Department of Conservation.

The Project site does not include a Williamson Act Contract. The existing use has not caused the adjacent agricultural uses to be converted into a non-agricultural use. The expansion of the existing use will not induce other agricultural uses to be converted. There will be ***No Cumulative Impacts*** to this Checklist ***i***Item.

Mitigation Measure(s):

None Required.

Conclusion: ***No Impact***

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

c) Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code § 12220(q), timberland (as defined by Public Resources Code § 4526), or timberland zoned Timberland Production (as defined by Government Code § 51104(g))?

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

The Project site and surrounding areas contain no lands zoned or identified as forest land or timberland. The site is currently zoned as AE-40 (Exclusive Agricultural Zone – 40 Acre Minimum). The proposed Project includes an expansion of an existing use, which will not cause the rezoning of designated forestland. As such, ***No Project-specific Impacts*** to this Checklist ***i***Item will occur.

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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 is not located within a forestland zone or will not require the change of a forestland zone. As such ***No Cumulative Impacts*** to this Checklist ~~h~~item will occur.

Mitigation Measure(s):

None Required.

Conclusion: ***No Impact***

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

d) Result in the loss of forest land or conversion of forest land to non-forest use?

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

As noted earlier, the proposed Project is not located within a forest land zone or will not require the change of a forest land zone. As such, ***No Project-specific Impacts*** to this Checklist ~~h~~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.

As noted earlier, the proposed Project is not located within a forest land zone or will not require the change of a forest land zone. As such, ***No Cumulative Impacts*** to this Checklist ~~h~~item will occur.

Mitigation Measure(s):

None Required.

Conclusion: ***No Impact***

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

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

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

The proposed Project is an expansion of an existing Mining Facility within the existing parcel. The nature of the proposed Project would not induce housing or commercial growth in the adjacent area. The Project site is located in a rural area and is not located within forestland. ***No Project-specific Impacts*** related to this Checklist **i**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 Project site is located in a rural area and is not located within forestland. The existing operation has not caused the conversion of adjacent agricultural uses. ***No Cumulative Impacts*** related to this Checklist **i**Item will occur.

Mitigation Measure(s):

None Required.

Conclusion: ***No Impact***

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

DEFINITIONS/ACRONYMS

Definitions

“The California Department of Conservation, Division of Land Resource Protection, maintains the Farmland Mapping and Monitoring Program (FMMP), which monitors the conversion of the state’s farmland to and from agricultural use. The map series identifies eight classifications (discussed below) and uses a minimum mapping unit size of 10 acres. The program also produces a biannual report on the amount of land converted from agricultural to non-agricultural use. The program maintains an inventory of state agricultural land and updates its “Important Farmland Series Maps” every two years. Although the program monitors a wide variety of farmland types (more fully described below), Important Farmland consists of lands classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland.”¹⁷

¹⁷ Tulare County General Plan 2030 Update RDEIR, Page 3.10-4

Prime Farmland (P) - “Prime Farmland is farmland with the best combination of physical and chemical features to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.”¹⁸

Farmland of Statewide Importance (S) - “Farmland of Statewide Importance is similar to Prime Farmland but has minor shortcomings, such as greater slopes or a lesser ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.”¹⁹

Unique Farmland (U) - “Unique Farmland has lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.”²⁰

Farmland of Local Importance (L) - “Farmland of Local Importance is land important to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.”²¹

Grazing Land (G) - “Grazing Land is land on which the vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, the University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.”²²

Urban and Built-Up Land (D) - “Urban and Built-Up Land is land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.”²³

Other Land (X) - “Other Land is land not included in any other mapping category. Common examples include low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.”²⁴

Water (W) - “Water is defined as perennial water bodies with an extent of at least 40 acres. While the number of agricultural lands classified as Important Farmlands (i.e., Prime Farmland,

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ Ibid.

²¹ Ibid.

²² Ibid.

²³ Ibid. Pages 3.10-4 and 3.10-5

²⁴ Tulare County General Plan 2030 Update RDEIR. Page 3.10-5

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Farmland of Statewide Importance, and Unique Farmland) have been decreasing over the past several years, the total acreage for all categories of farmland (including grazing land) remained relatively stable between the years 1998 and 2006 (see Table 3.10-4). The locations of these farmland types are identified in Figure 3.10-1. The farmlands are concentrated in the Rural Valley/Foothill Planning areas. No important farmlands are located in the Mountain Area.”²⁵

Acronyms

(CLCA)	California Land Conservation Act (Williamson Act)
(FFPA)	Federal Farmland Protection Act
(FMMP)	Farmland Mapping and Monitoring Program

²⁵ Ibid.

REFERENCES

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<http://www.tulcofb.org/index.php?page=agfacts>. Accessed August, 2014

Tulare County General Plan 2030 Update, page 3-4

Tulare County General Plan 2030 Update, Background Report, Pages 4-12, 4-13, 4-20

Tulare County 2030 General Plan Update RDEIR, Pages 3.10-4, 3.10-5, 3.10-6, 3.11-5

Tulare County Resource Management Agency, Tulare County Subvention Report for Fiscal Year 2012-2013 (submitted to Department of Conservation, November 2012)

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Air Quality

Chapter 3.3

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts to Air Quality with mitigation. The Air Quality Impact Report prepared by consultant First Carbon Solutions is included as Appendix “B” of this document which is used as the basis for determining this Project will result in less than significant impacts. A detailed review of potential impacts is provided in the following analysis.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to Air 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 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 Air Quality in the County. The regulatory setting provides a description of applicable Federal, State and Local regulatory

¹ CEQA Guidelines, Section 15126.2 (a)

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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.

- Result in an exceedence of criteria pollutants as established in the 1990 Clean Air Act amendments.
- Result in an exceedence of San Joaquin Valley Unified Air Pollution Control District criteria pollutant threshold.
- Result in nuisance odors.
- Result in emissions of toxic air contaminants (TAC).
- 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.

ENVIRONMENTAL SETTING

“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 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.

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.”²

Local Air Quality

The existing local air quality can be characterized by reviewing relevant air pollution concentration data near the project area for comparison to the NAAQS and 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 emission in a community. PM₁₀, PM_{2.5}, and nitrogen dioxide (NO₂) is monitored at the Visalia-N. Church Street station, which is the closest station to the project site and is located approximately 29 miles northwest of the project site. Ozone is monitored from the Porterville-1839 Newcomb Street station, located approximately 6 miles northwest of the project site. Carbon monoxide emissions are monitored from Fresno-1st Station, which is 70 miles northwest of the proposed Project site. The measurements made at these stations may not be representative of the Project area, but they are assumed to provide a conservative estimate for a smaller rural setting, such as the project site. Table 3.3-1 summarizes 2011 through 2013 published air monitoring data, which is the most recent 3-year period available. The amount over the standards and the number of days each year that standards were exceeded provide a good indicator of severity of the air quality problems in the local area. The data shows that during the past few years, the proposed Project area has exceeded the ozone, PM₁₀, and PM_{2.5} standards.

² Tulare County 2030 General Plan 2030 Update RDEIR, page 3.3-9

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Table 3.3-1
Air Quality Monitoring Summary

Air Quality Monitoring Summary					
Air Pollutant, Location	Averaging Time	Item	2011	2012	2013
Ozone	1 Hour	Max 1 Hour (ppm)	0.104	0.102	0.112
		Days > State Standard (0.09 ppm)	15	10	5
	8 Hour	Max 8 Hour (ppm)	0.095	0.092	0.096
		Days > State Standard (0.07 ppm)	82	80	52
		Days > National Standard (0.075 ppm)	47	44	23
Carbon Monoxide	8 Hour	Max 8 Hour (ppm)	2.29	2.22	ID
		Days > State Standard (9.0 ppm)	0	0	ID
		Days > National Standard (9 ppm)	0	0	ID
Nitrogen Dioxide	Annual	Annual Average (ppm)	0.012	0.012	0.012
	1 Hour	Max 1 Hour (ppm)	0.058	0.061	0.062
		Days > State Standard (0.18 ppm)	0	0	0
Inhalable coarse particles (PM ₁₀)	Annual	Annual Average (µg/m ³)	34	38.1	44.5
	24 Hour	24 Hour (µg/m ³)	78.1	75.7	155.0
		Days > State Standard (50 µg/m ³)	11	15	16
		Days > National Standard (150 µg/m ³)	0	0	1
Fine particulate matter (PM _{2.5})	Annual	Annual Average (µg/m ³)	16.1	14.8	18.7
	24 Hour	24 Hour (µg/m ³)	73.2	76.2	124.2
		Days > National Standard (35 µg/m ³)	9	7	14
<i>Notes and Abbreviations:</i> > = exceed ppm = parts per million µg/m ³ = micrograms per cubic meter max = maximum State Standard = California Ambient Air Quality Standard National Standard = National Ambient Air Quality Standard Ozone data from Porterville Station. Nitrogen dioxide, PM ₁₀ and PM _{2.5} data from Visalia-N. Church Street Station. Carbon monoxide data from Fresno-1 st Station. Sources: California Air Resources Board 2014.					

Attainment Status

“The Environmental Protection Agency (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 as an “attainment” area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered “unclassified.” National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or “form” of what constitutes

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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 3-year average of the annual average PM_{2.5} concentration is less than or equal to the standard. The current attainment designations for the basin are shown in Table 3.3-2.”³

Table 3.3-2
San Joaquin Valley Air Basin Attainment Status

Pollutant	Designation	
	Federal ⁴	State ⁵
Ozone – 1-hour	No Federal Standard	<i>Nonattainment/Severe</i>
Ozone – 8-hour	Nonattainment/Extreme	<i>Nonattainment</i>
PM ₁₀	Attainment	<i>Nonattainment</i>
PM _{2.5}	Nonattainment	<i>Nonattainment</i>
Carbon monoxide	Project area is in attainment and not in maintenance area	<i>Merced, Madera, and Kings County are unclassified; others in Attainment</i>
Nitrogen dioxide	Attainment/Unclassified	<i>Attainment</i>
Sulfur dioxide	Attainment/Unclassified	<i>Attainment</i>
Lead	Attainment	<i>Attainment</i>
Hydrogen sulfide	No Federal Standard	<i>Unclassified</i>
Sulfates	No Federal Standard	<i>Attainment</i>
Visibility-reducing particles	No Federal Standard	<i>Unclassified</i>
Vinyl chloride	<i>No Federal Standard</i>	<i>Attainment</i>

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.

Construction sometimes requires the demolition of existing buildings where construction occurs. Buildings often include materials containing asbestos, but no demolition is associated with this project. However, 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.

³ Air Quality and Greenhouse Gas Analysis Report, Deer Creek Rock Company, Inc. Quarry Expansion, page 17

⁴ Air Quality and Greenhouse Gas Analysis Report, Deer Creek Rock Company, Inc. Quarry Expansion, page 17

⁵ California Air Resources Board. Ambient Air Quality Standards. Updated 6/7/12. www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed August, 2014.

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Sources of asbestos emissions include unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present.

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).

The ARB has an Air Toxics 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.”⁶

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. The California Almanac of Emissions and Air Quality presents the relevant concentration and cancer risk data for the ten TACs that pose the most substantial health risk in California based on available data. The ten TACs are acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (diesel PM).

Some studies indicate that diesel PM poses the greatest health risk among the TACs listed above. A 10-year research program⁷ demonstrated that diesel PM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to diesel PM poses a chronic health risk. In addition to increasing the 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 coughs, 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.

Diesel PM differs from other TACs in that it is not a single substance but a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled, internal combustion

⁶ Air Quality and Greenhouse Gas Analysis Report, Deer Creek Rock Company, Inc. Quarry Expansion, page 24

⁷ California Air Resources Board. 1998. The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines. www.arb.ca.gov/toxics/dieseltac/factsht1.pdf. Accessed July 2014.

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 diesel PM because no routine measurement method currently exists. The ARB has made preliminary concentration estimates based on a diesel PM 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 diesel PM.

In addition to DPM, the operation of the project would also release amounts of fugitive dust that contain several TACs through the various stages of the aggregate processing. These TACs include aluminum, arsenic, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, nickel, selenium, zinc, and crystalline silica.”⁸

REGULATORY SETTING

Federal Agencies & Regulations

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 [PM₁₀] 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

⁸ Air Quality and Greenhouse Gas Analysis Report, Deer Creek Rock Company, Inc. Quarry Expansion, page 25

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them to CARB for review and approval. The CARB forwards SIP revisions to the EPA for approval and publication in the Federal Register.”⁹

**Table 3.3-3
State & National Criteria Air Pollutant Standards, Effects, and Sources¹⁰**

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 hour	0.09 ppm	---	(a) Decrease of pulmonary function and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; (f) Property damage.	Formed when reactive organic gases (ROG) and nitrogen oxides (NO _x) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
	8 hours	0.07 ppm ¹	0.075 ppm		
Carbon Monoxide	1 hour	20 ppm	35 ppm	(a) Aggravation of angina pectoris (chest pain) and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm		
Nitrogen Dioxide	1 hour	0.18 ppm	---	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration - Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Avg.	0.030	0.053 ppm		
Sulfur Dioxide	1 hour	0.25 ppm	---	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient sulfur dioxide levels. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hours	---	0.5 ppm		
	24 hours	0.04 ppm	0.14 ppm		
	Annual Avg.	---	0.03 ppm		
Respirable Particulate Matter (PM ₁₀)	24 hours	50 mg/m ³	150 mg/m ³	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; (c) Increased risk of premature death from heart or lung diseases in the elderly. Daily fluctuations in PM _{2.5} levels have been related to hospital admissions	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Avg.	20 mg/m ³	---		
Fine Particulate Matter	24 hours	---	35 mg/m ³		Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning;
	Annual Avg.	12 mg/m ³	15 mg/m ³		

⁹ Tulare County 2030 General Plan 2030 Update RDEIR, pages 3.3-1 to 3.3-2

¹⁰ California Air Resources Board. 2013. Air Quality Standards. Updated 6/7/12. Website: www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed August, 2014.

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(PM2.5)				for acute respiratory conditions, school absences, and increased medication use in children and adults with asthma.	Also, formed from photochemical reactions of other pollutants, including NO _x , sulfur oxides, and organics.
Lead	Rolling 3-Month Average NAAQS/Monthly Avg. State	1.5 mg/m ³	0.15 mg/m ³	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction. The more serious effects of lead poisoning include behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQs. Lead may also contribute to high blood pressure and heart disease.	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	---	1.5 mg/m ³		
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard	High levels of hydrogen sulfide can cause immediate respiratory arrest. It can irritate the eyes and respiratory tract and cause headache, nausea, vomiting, and cough. Long exposure can cause pulmonary edema.	Geothermal Power Plants, Petroleum Production and refining
Sulfates	24 hour	25 mg/m ³	No National Standard	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) Property damage.	Produced by the reaction in the air of SO ₂ .
Visibility Reducing Particles	8 hour	Extinction of 0.23/km; visibility of 10 miles or more	No National Standard	Reduces visibility, reduced airport safety, lower real estate value, and discourages tourism.	See PM2.5.
Sulfates	24 Hour	25 µg/m ³	—	(a) Decrease in ventilatory function; (b) aggravation of asthmatic symptoms; (c) aggravation of cardio-pulmonary disease; (d) vegetation damage; (e) degradation of visibility; (f) property damage.	Sulfates are particulates formed through the photochemical oxidation of sulfur dioxide. In California, the main source of sulfur compounds is combustion of gasoline and diesel fuel.
Lead ^e	30-day	1.5 µg/m ³	—	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction, behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQs.	Lead ore crushing, lead-ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and crustal physical weathering.
	Quarter	—	1.5 µg/m ³		
	Rolling 3-month average	—	0.15 µg/m ³		
Vinyl chloride ^e	24 Hour	0.01 ppm	—	Short-term exposure to high levels of vinyl chloride in the air causes central nervous system effects, such as dizziness, drowsiness, and headaches. Epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of a rare cancer, liver angiosarcoma, and have suggested a relationship between exposure and lung and brain cancers.	Most vinyl chloride is used to make polyvinyl chloride plastic and vinyl products, including pipes, wire and cable coatings, and packaging materials. It can be formed when plastics containing these substances are left to decompose in solid waste landfills. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites.
Hydrogen sulfide	1 Hour	0.03 ppm	—	High levels of hydrogen sulfide can cause immediate respiratory arrest. It can irritate the eyes and respiratory tract and cause headache, nausea, vomiting, and cough. Long exposure can cause pulmonary edema.	Manure, storage tanks, ponds, anaerobic lagoons, and land application sites are the primary sources of hydrogen sulfide. Anthropogenic sources include the combustion of sulfur containing

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				fuels (oil and coal).
Volatile organic compounds (VOC)	There are no State or federal standards for VOCs because they are not classified as criteria pollutants.	Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations because of interference with oxygen uptake. In general, concentrations of VOCs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, the kidneys, and the central nervous system. Many VOCs have been classified as toxic air contaminants.	Indoor sources of VOCs include paints, solvents, aerosol sprays, cleansers, tobacco smoke, etc. Outdoor sources of VOCs are from combustion and fuel evaporation. A reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone. VOCs are transformed into organic aerosols in the atmosphere, which contribute to higher PM ₁₀ and lower visibility.	
Benzene	There are no ambient air quality standards for benzene.	Short-term (acute) exposure of high doses from inhalation of benzene may cause dizziness, drowsiness, headaches, eye irritation, skin irritation, and respiratory tract irritation, and at higher levels, loss of consciousness can occur. Long-term (chronic) occupational exposure of high doses has caused blood disorders, leukemia, and lymphatic cancer.	Benzene is emitted into the air from fuel evaporation, motor vehicle exhaust, tobacco smoke, and from burning oil and coal. Benzene is used as a solvent for paints, inks, oils, waxes, plastic, and rubber. Benzene occurs naturally in gasoline at 1 to 2 percent by volume. The primary route of human exposure is through inhalation.	
Diesel particulate matter (diesel PM)	There are no ambient air quality standards for diesel PM.	Some short-term (acute) effects of diesel PM exposure include eye, nose, throat, and lung irritation, coughs, headaches, light-headedness, and nausea. 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. Human studies on the carcinogenicity of diesel PM demonstrate an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure.	Diesel exhaust is a major source of ambient particulate matter pollution in urban environments. Typically, the main source of diesel PM is from combustion of diesel fuel in diesel-powered engines. Such engines are in on-road vehicles such as diesel trucks, off-road construction vehicles, diesel electrical generators, and various pieces of stationary construction equipment.	
<p>Notes:</p> <p>ppm = parts per million (concentration) $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter Annual = Annual Arithmetic Mean 30-day = 30-day average Quarter = Calendar quarter</p> <p>^a Federal standard refers to the primary national ambient air quality standard, or the levels of air quality necessary, with an adequate margin of safety to protect the public health. All standards listed are primary standards except for 3 Hour SO₂, which is a secondary standard. A secondary standard is the level of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.</p> <p>^b To attain the 1-hour NO₂ 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 parts per billion (0.100 ppm).</p> <p>^c 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.</p> <p>^d Visibility-reducing particles: 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.</p> <p>^e 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.</p> <p>Source of effects, properties, and sources: South Coast Air Quality Management District 2007; California Environmental Protection Agency 2002; California Air Resources Board 2009; U.S. Environmental Protection Agency 2003, 2009a, 2009b, 2010, 2011a, and 2012; National Toxicology Program 2011a and 2011b.</p>				

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., 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.

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, PM2.5, or ozone. Locally prepared attainment plans are not required for areas that violate the State PM10 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.

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.”¹¹

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.

¹¹ Tulare County 2030 General Plan 2030 Update RDEIR, page 3.3-1

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 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.”¹²

Local Policy & 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, Tulare, and the San Joaquin Valley Air Basin portion of Kern.

The Air District is primarily responsible for regulating stationary source emissions within Tulare County and preparing the air quality plans (or portions thereof) for its jurisdiction. 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. For example, the Air District adopted its Regulation VIII-(Fugitive PM₁₀ Prohibitions), on October 21, 1993 and amended it on several occasions since then. This Regulation consists of a series of emission reduction rules intended to implement the PM₁₀ Maintenance Plan. The PM₁₀ Maintenance Plan emphasizes reducing fugitive dust as a means of achieving attainment of the federal standards for PM₁₀. Regulation VIII specifically addresses the following activities:

- construction, demolition, excavation, extraction;
- handling and storage of bulk materials;
- landfill disposal sites;
- paved and unpaved roads; and
- vehicle and/or equipment parking, shipping and receiving, transfer, fueling, and service areas.

The Air District has limited authority to regulate transportation sources and indirect sources that attract motor vehicle trips.

- Rule 9510 (Indirect Source Review) requires developers to mitigate project emissions through 1) on-site design features that reduce trips and vehicle miles traveled, 2) controls on other emission sources, and 3) with reductions obtained through the payment of a mitigation fee used to fund off-site air quality mitigation projects. Rule 9510 requires construction related NO_x emission reductions of 20 percent and PM₁₀ reductions of 45 percent. Rule 9510 requires a 33 percent reduction in operational NO_x emissions and a 50 percent reduction in PM₁₀. The reductions are calculated by comparing the unmitigated baseline emissions and mitigated emissions from the first year of project

¹² Tulare County 2030 General Plan 2030 Update RDEIR, pages 3.3-6 to 3.3-7

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operation. The Air District recommends using the [CalEEMOD] model to quantify project emissions and emission reductions. Rule 9510 was adopted to reduce the impacts of development on Air District's attainment plans.

Other Air District Rules and Regulations that affect development in Tulare County include:

- Rule 2201 (New and Modified Stationary Source Review): This rule requires new and modified stationary emission sources to implement best available control technology and to offset emissions exceeding thresholds contained in the rule. The rule implements the federal Title V permitting program for the San Joaquin Valley Air Basin.
- Rule 4101 - Visible Emissions
- 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 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations): The purpose of this rule is to limit VOC emissions from asphalt paving and maintenance operations. If asphalt paving will be used, then the paving operations will be subject to Rule 4641.
- Rule 4202 - Particulate Matter - Emission Rate

The Air District's Governing Board has also recently adopted the 2008 PM_{2.5} Plan. This plan highlights a variety of measures designed to achieve all the PM_{2.5} standards - the 1997 federal standards, the 2006 federal standards, and the state standard - as soon as possible.

The district has published a Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI), an advisory document that provides lead agencies, consultants, and project applicants with uniform procedures for addressing air quality in environmental documents. A major part of the GAMAQI includes a discussion of air quality control measures that are recommended for use in mitigating construction and operation-related impacts. The District has also published Air Quality Guidelines for General Plans, which provides guidance to local officials and staff on developing and implementing local policies and programs to be included in local jurisdictions' general plans."¹³

Air District Rules Specific to the proposed Project

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

Rule 2201 – New and Modified Stationary Source Review
Rule 2520 – Federally Mandated Operating Permits
Rule 4001 – New Source Performance Standards
Rule 4002 – National Emission Standards for Hazardous Air Pollutants
Rule 4101 – Visible Emissions
Rule 4102 – Nuisance

¹³ Tulare County 2030 General Plan 2030 Update RDEIR pages 3.3-7 to 3.3-8

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Rule 4702 – Internal Combustion Engines – Phase 2
Rule 4801 – Sulfur Compounds
Regulation VIII – Fugitive PM₁₀ Prohibitions; Rules 8011-8081

Note that District Rule 9510 – Indirect Source Review – does not apply to the proposed Project because it is a project on a facility whose primary functions are subject to Rule 2201 or Rule 2010.”¹⁴

“Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 horsepower and Greater. Effective February 19, 2011, each fleet shall comply with weighted reduced particulate matter emission fleet averages by compliance dates listed in the regulation.

ARB Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling adopts new section 2485 within Chapter 10, Article 1, Division 3, title 13 in the California Code of Regulations. The measure limits the idling of diesel vehicles to reduce emissions of toxics and criteria pollutants. The driver of any vehicle subject to this section: (1) shall not idle the vehicle’s primary diesel engine for greater than five minutes at any location; and (2) shall not idle a diesel-fueled auxiliary power system for more than five minutes to power a heater, air conditioner, or any ancillary equipment on the vehicle if it has a sleeper berth and the truck is located within 100 feet of a restricted area (homes and schools).

ARB Final Regulation Order, Requirements to Reduce Idling Emissions from New and In-Use Trucks, requires that new 2008 and subsequent model-year heavy-duty diesel engines be equipped with an engine shutdown system that automatically shuts down the engine after 300 seconds of continuous idling operation once the vehicle is stopped, the transmission is set to “neutral” or “park,” and the parking brake is engaged. If the parking brake is not engaged, then the engine shutdown system shall shut down the engine after 900 seconds of continuous idling operation once the vehicle is stopped and the transmission is set to “neutral” or “park.” Any project trucks manufactured after 2008 would be consistent with this rule, which would ultimately reduce air emissions.

ARB Regulation for In-Use Off-Road Diesel Vehicles. On July 26, 2007, the California Air Resources Board (ARB) adopted a regulation to reduce diesel PM and NO_x 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 5 consecutive minutes, requires reporting and labeling, and requires disclosure of the regulation upon vehicle sale. The ARB enforces that part of the rule with fines up to \$10,000 per day for each vehicle in violation. Performance requirements of the rule are based on a fleet’s average NO_x 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 to 5,000 horsepower), and 2019 for small fleets (2,500 horsepower or less).

¹⁴ Air Quality and Greenhouse Gas Analysis Report, Deer Creek Rock Company, Inc. Quarry Expansion, page 9

Statewide Truck and Bus Rule. On December 12, 2008, the ARB approved this regulation to reduce emissions from existing on-road diesel trucks and buses operating in California. This regulation applies to all on-road heavy-duty diesel-fueled vehicles with a gross vehicle weight rating greater than 14,000 pounds, agricultural yard trucks with off-road certified engines, and certain diesel fueled shuttle vehicles of any gross vehicle weight rating. Out-of-state trucks and buses that operate in California are also subject. Under the regulation, older, heavier trucks, i.e. those with pre-2000 year engines and a gross vehicle weight rating greater than 26,000 pounds, are required to have installed a particulate matter filter and must be replaced with a 2010 engine between 2015 and 2020, depending on the model year. By 2015, all heavier pre-1994 trucks must be upgraded to 2010 engines and newer trucks are thereafter required to be replaced over the next 8 years. Older, more polluting trucks are required to be replaced first, while trucks that already have relatively clean 2007-2009 engines are not required to be replaced until 2023. Lighter trucks (14,001 to 26,000 pounds) must adhere to a similar schedule, and will all be replaced by 2020. Furthermore, nearly all trucks that are not required under the Truck and Bus Regulation to be replaced by 2015 are required to be upgraded with a particulate matter filter by that date.

ARB Airborne Toxic Control Measure. 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 one 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.”¹⁵

Ozone Plans

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

The planning requirements for the 1-hour plan remain in effect until replaced by a federal 8-hour ozone attainment plan. The EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan, including revisions to the plan, on March 8, 2010, effective April 7, 2010. However, the Air Basin failed to attain the standard in 2010 and was subject to a \$29-million Clean Air Act penalty. The penalty is being collected through an additional \$12 motor vehicle registration surcharge for each passenger vehicle registered in the Air Basin that will be applied to pollution

¹⁵ Air Quality and Greenhouse Gas Analysis Report, Deer Creek Rock Company, Inc. Quarry Expansion. Pages 9 to 11

reduction programs in the region. The District also instituted a more robust ozone episodic program to reduce emissions on days with the potential to exceed the ozone standards.

EPA originally classified the Air Basin as serious nonattainment for the 1997 federal 8-hour ozone standard with an attainment date of 2013. On April 30, 2007, the District's Governing Board adopted the 2007 Ozone Plan, which contained analysis showing a 2013 attainment target to be infeasible. The 2007 Ozone Plan details the plan for achieving attainment on schedule with an "extreme nonattainment" deadline of 2024. At its adoption of the 2007 Ozone Plan, the District also requested a reclassification to extreme nonattainment. ARB approved the plan in June 2007, and EPA approved the request for reclassification to extreme nonattainment on April 15, 2010."¹⁶

Particulate Matter Plans

The Air Basin was designated nonattainment of state and federal health-based air quality standards for PM₁₀. The Air Basin is also designated nonattainment of state and federal standards for PM_{2.5}.

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

The 2008 PM_{2.5} Plan builds upon the comprehensive strategy adopted in the 2007 Ozone Plan to bring the Basin into attainment of the 1997 national standards for PM_{2.5}. The EPA has identified NO_x and sulfur dioxide as precursors that must be addressed in air quality plans for the 1997 PM_{2.5} standards. The 2008 PM_{2.5} Plan is a continuation of the District's strategy to improve the air quality in the Basin. The EPA issued final approval of the 2008 PM_{2.5} Plan on November 9, 2011 effective January 9, 2012. EPA approved the emissions inventory, the reasonably available control measures/reasonably available control technology demonstration, reasonable further progress demonstration, attainment demonstration and associated air quality modeling, and the transportation conformity motor vehicle emissions budgets. EPA also granted California's request to extend the attainment deadline for the San Joaquin Valley to April 5, 2015 and approved commitments to measures and reductions by the District and the ARB. Finally, it disapproved the SIP's contingency provisions and issued a protective finding for transportation conformity determinations.

¹⁶ Air Quality and Greenhouse Gas Analysis Report, Deer Creek Rock Company, Inc. Quarry Expansion. Page 32 to 33.

In December 2012, the District adopted the 2012 PM_{2.5} 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 California Air Resources Board (ARB) approved the District's 2012 PM_{2.5} Plan for the 2006 standard at a public hearing on January 24, 2013. This plan seeks to bring the Valley into attainment with the standard by 2019, with the expectation that most areas will achieve attainment before that time.¹⁷

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.

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 SJVAPCD, 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 reasonably 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.

¹⁷ Ibid. Page 34

AQ-2.3 Transportation and Air Quality

When developing the regional transportation system, the County shall work with TCAG to comprehensively study methods of transportation which may contribute to a reduction in air pollution in Tulare County. Some possible alternatives that should be studied are:

1. Commuter trains (Light Rail, Amtrak, or High Speed Rail) connecting with Sacramento, Los Angeles, and San Francisco, with attractive services scheduled up and down the Valley,
2. Public transportation such as buses and light rail, to serve between communities of the Valley, publicly subsidized if feasible,
3. Intermodal public transit such as buses provided with bicycle racks, bicycle parking at bus stations, bus service to train stations and airports, and park and ride facilities, and
4. Community transportation systems supportive of alternative transportation modes, such as cycling or walking trails, with particular attention to high-density areas.

AQ-3.4 Landscape

The County shall encourage the use of ecologically based landscape design principles that can improve local air quality by absorbing CO₂, producing oxygen, providing shade that reduces energy required for cooling, and filtering particulates. These principles include, but are not limited to, the incorporation of parks, landscaped medians, and landscaping within development.

AQ-4.1 Air Pollution Control Technology

The County shall utilize the BACM and RACM as adopted by the County to support SJVAPCD air quality attainment plans to achieve and maintain healthful air quality and high visibility standards. These measures shall be applied to new development approvals and permit modifications as appropriate.

AQ-4.2 Dust Suppression Measures

The County shall require developers to implement dust suppression measures during excavation, grading, and site preparation activities consistent with SJVAPCD Regulation VIII – Fugitive Dust Prohibitions. Techniques may include, but are not limited to, the following:

1. Site watering or application of dust suppressants,
2. Phasing or extension of grading operations,
3. Covering of stockpiles,
4. Suspension of grading activities during high wind periods (typically winds greater than 25 miles per hour), and
5. Re-vegetation of graded areas.

AQ-4.3 Paving or Treatment of Roadways for Reduced Air Emissions

The County shall require that all new roads be paved or treated to reduce dust generation where feasible as required by SJVAPCD Regulation VIII, Rule 8061- Paved and Unpaved Roads. For new projects with unpaved roads, funding for roadway maintenance shall be adequately addressed and secured.

AQ-4.5 Public Awareness

The County shall promote public awareness of the seriousness and extent of the existing air quality problems.

AQ-4.6 Asbestos Airborne Toxic Control and Dust Protection

Asbestos is of concern to Tulare County because it occurs naturally in surface deposits of several types of ultramafic materials (materials that contain magnesium and iron and a very small amount of silica). Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining.

IMPACT EVALUATION

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

- a) Would the project conflict with or obstruct implementation of the applicable air quality plan?**

Project Impact Analysis: *Less Than Significant Impact*

“Air quality plans are plans for reaching attainment of air quality standards. The assumptions, inputs, and control measures are analyzed to determine if the Air Basin can reach attainment for the ambient air quality standards. In order to show attainment of the standards, the District analyzes the growth projections in the valley, contributing factors in air pollutant emissions and formations, and existing and future emissions controls. The District then formulates a control strategy to reach attainment.”¹⁸

A measure of determining if the project is consistent with the air quality plans is if the project will not 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 air quality plans. Because of the region’s nonattainment status for ozone, PM_{2.5}, and PM₁₀, if project-generated emissions of either of the ozone precursor pollutants (ROG and NO_x), PM₁₀, or PM_{2.5} would exceed the District’s significance thresholds, then the project would be considered to conflict with the attainment plans.

As discussed in Response to 3.3 b) and 3.3 d), proposed Project emissions would not exceed the District’s significance thresholds with mitigation incorporation. Therefore, the Project would not conflict with or obstruct implementation of the regional air quality plan.

The proposed Project would comply with all applicable rules and regulations contained in the air quality plans for the area. Therefore, the proposed Project would not conflict with or obstruct the applicable air quality attainment plan after the incorporation of mitigation measures.”

¹⁸ Air Quality and Greenhouse Gas Analysis Report, Deer Creek Rock Company, Inc. Quarry Expansion. Appendix B. Page 76.

Cumulative Impact Analysis: ***Less than Significant Impact***

The geographic area of this cumulative analysis is San Joaquin Air Basin. This cumulative analysis is based on the information provided in the Air Quality Report.

As emissions will not conflict with or obstruct the applicable air quality attainment plan after the incorporation of mitigation measures, comply with all applicable rules and regulations contained in the air quality plans for the area, and will not exceed Air District thresholds, ***Less Than Significant Cumulative Impacts*** related 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*** related to this Checklist Item will occur.

b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

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

The Project is not expected to generate hydrogen sulfide or vinyl chloride; therefore, there would be no related impact.¹⁹

Carbon Monoxide

The District's 2014 Draft Guide includes an operational threshold for CO of 100 tons per year. As shown in Table 3.3-8, the Project would increase CO emissions by 16.92 tons per year in year five as the project increases the production to the full 450,000 tons of material. This is far under the District's draft threshold of 100 tons per year. Emissions are ***Less Than Significant***.

Lead

Lead along with several other metals would be produced principally from fugitive dust generated by the various aggregated production activities. The potential health impacts from lead are discussed in Impact d) below.

Visibility-Reducing Particles

Visibility-reducing particles are suspended particulates that reduce visibility. During operational activities, fugitive dust (PM₁₀ and PM_{2.5}) is generated (see the response for Impact c, below) for emission quantification). The majority of this fugitive dust will remain

¹⁹ Air Quality and Greenhouse Gas Analysis Report, Deer Creek Rock Company, Inc. Quarry Expansion. Appendix B. Page 77.

localized and will be deposited near the Project site. Fugitive dust should not substantially impact local visibility. In addition, compliance with Regulation VIII will reduce fugitive dust impacts. Emissions are ***Less Than Significant***.

Sulfur Dioxide

The project will emit a small amount of sulfur dioxide during operation. The District's 2014 Draft Guide includes an operational threshold for SO_x of 27 tons per year. As shown in Table 3.3-8, the Project would increase SO_x emissions by 0.31 ton in the year five as production reaches the full 450,000 tons of material processed. This would be far less than the District's draft threshold of 27 tons per year. Additionally, the Air Basin is in attainment for sulfur dioxide. Therefore, Project emissions of sulfur dioxide are ***Less Than Significant***.

Ozone, PM₁₀, PM_{2.5}, Nitrogen Dioxide, NO_x

As discussed in Response c) below, the ROG, PM₁₀, and PM_{2.5} are less than the District's significance thresholds for all years as the Project reaches the full 450,000 tons of material processed. There would be localized on-site emissions of those pollutants; however, it is not anticipated that emissions would cause or contribute to an exceedance of the ambient air quality standards. Emissions are ***Less Than Significant***.

The Project would not exceed the District's NO_x threshold of significance in years one (2015), two (2016), and three (2017), but would exceed the threshold in years four and five without mitigation. Compliance with ARB's In-Use Off-Road Diesel Vehicle Regulation would further reduce the fleet average NO_x emissions by 36 percent in year three (2017) to meet the average NO_x emission rate of 4.6 grams per brake-horsepower hour. In years four and five, the Applicant would need to accelerate compliance with regulatory reduction NO_x emission rate targets. Mitigation Measure AIR-3 requires the Applicant to ensure that the Project's fleet average NO_x emissions meet the 2019 regulatory NO_x emission factor target of 3.5 grams per brake-horsepower hour by the year 2018 or when the Project reaches 400,000 tons of material produced. Mitigation Measure AIR-4 requires the applicant to ensure that the Project meets the 2020 regulatory NO_x emission factor target of 2.3 grams per brake-horsepower hour by the year 2019 or when the Project reaches 450,000 tons of material produced. Compliance with regulations and implementation of mitigation measures would reduce the Project's emissions to less than the District's NO_x threshold of significance. Therefore, the impact is ***Less Than Significant***.

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

The geographic area of this cumulative analysis is San Joaquin Air Basin. This cumulative analysis is based on the information provided in the Air Quality Report noted earlier.

Since the Project will not exceed any air quality standard, ***Less Than Significant Cumulative Impacts*** related 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*** related to this Checklist Item will occur.

- c) **Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?**

Project Impact Analysis:

Less Than Significant Impact with Mitigation

Ozone is a secondary pollutant that can be formed miles away 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 Basin often exceeds the 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 District established significance thresholds for ozone precursors, ROG and NO_x, and has published them in its Guide. For typical projects, operation-related emissions that exceed the threshold of 10 tons per year for ROG or NO_x would be considered significant.

The July 2014 Draft Guide contains a threshold for PM₁₀ and PM_{2.5} of 15 tons per year each, 27 tons per year for SO_x, and 100 tons per year for CO which are to be used in this impact analysis.

The 2014 Draft Guide separates operational permitted equipment and activities and non-permitted equipment and activities and recommends that the emissions be separated and compared with separate thresholds. For example, if a generic project's permitted ROG emissions were 9 tons per year and the non-permitted ROG emissions were 9 tons per year, the project's emissions would be less than significant, since each permitted and non-permitted emission source is judged separately. However, since this approach is in the District's draft Guide, which has not been finalized or adopted, the emissions are not separated to present a worst-case scenario.

For purposes of this analysis, the net new emissions are compared with the following annual significance thresholds:

- 10 tons per year ROG (ozone precursor)
- 10 tons per year NO_x (ozone precursor)
- 15 tons per year PM₁₀
- 15 tons per year PM_{2.5}
- 27 tons per year SO_x
- 100 tons per year CO

Operational Emissions

Operational emissions occur over the lifetime of the project. The unmitigated emissions for the processing of material for years one through five are shown in Table 3.3-4 through Table 3.3-8. As shown in the tables, the emissions do not exceed the District's thresholds of significance for ROG, PM₁₀, PM_{2.5}, CO, and SO_x for all years until an additional 400,000 tons of material are being produced in year four (2018) and the full 450,000 tons of additional material are being produced in year five (2019). In years four and five, the NO_x emissions do exceed the District's thresholds of significance for NO_x and are potentially significant.

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Table 3.3-4
Year 1: 2015 (increase of 100,000 tons processed, unmitigated)

Type	Source	ROG (tons)	NOx (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SOx (tons)
Permitted	Dust from Material Processing	0.00	0.00	0.50	0.09	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	0.43	0.05	0.01	1.68	0.05
	Off-Road Equipment Exhaust	0.19	1.32	0.08	0.08	0.94	0.02
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust)	0.06	0.35	0.01	0.01	0.67	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust)	0.00	0.00	0.10	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.14	1.89	0.03	0.03	1.37	0.00
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.11	0.03	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	2.61	0.42	0.00	0.00
	<i>Subtotal Non-Permitted</i>	0.39	3.99	3.48	0.69	4.66	0.08
Total		1.34	10	10	15	15	500
Significance Threshold		10	No	No	No	No	No
Exceed Significance Threshold?		No	0.39	3.99	3.48	0.69	4.66
Notes: ROG = reactive organic gases NOx = nitrogen oxides PM10 and PM2.5 = particulate matter SOx = oxides of sulfur CO = carbon monoxide Source of blasting: Spreadsheets prepared by FCS (Appendix B) Source of off road equipment (exhaust): ARB emission factors for NOx and PM10 based on Tier level, CalEEMod OFFROAD equipment emission factors Assumes 225 days per year Source of equipment: Deer Creek Rock Company, 2014							

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Table 3.3-5
Year 2: 2016 (increase of 200,000 tons processed, unmitigated)

Type	Source	ROG (tons)	NOx (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Permitted	Dust from Material Processing	0.00	0.00	1.00	0.19	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	0.85	0.22	0.04	3.35	0.10
	Off-Road Equipment Exhaust	0.39	2.64	0.15	0.16	1.88	0.04
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.01	0.00	0.00	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust)	0.02	0.12	0.00	0.00	0.22	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust)	0.00	0.00	0.03	0.01	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.26	3.21	0.05	0.05	2.55	0.01
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.21	0.06	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	4.77	0.64	0.00	0.00
	<i>Subtotal Non-Permitted</i>	0.67	6.82	5.45	0.96	8.01	0.15
Total		0.67	6.82	6.45	1.15	8.01	0.15
Significance Threshold		10	10	15	15	500	27
Exceed Significance Threshold?		No	No	No	No	No	No
Notes: ROG = reactive organic gases NOx = nitrogen oxides PM10 and PM2.5 = particulate matter SO _x = oxides of sulfur CO = carbon monoxide Source of blasting: Spreadsheets prepared by FCS (Appendix B) Source of off road equipment (exhaust): ARB emission factors for NOx and PM10 based on Tier level, CalEEMod OFFROAD equipment emission factors Assumes 225 days per year Source of equipment: Deer Creek Rock Company, 2014							

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Table 3.3-6
Year 3: 2017 (increase of 300,000 tons processed, unmitigated)

Type	Source	ROG (tons)	NOx (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Permitted	Dust from Material Processing	0.00	0.00	1.50	0.28	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	1.28	0.38	0.09	5.03	0.15
	Off-Road Equipment Exhaust	0.58	3.96	0.23	0.24	2.82	0.07
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.01	0.00	0.00	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust)	0.05	0.42	0.01	0.01	0.58	0.05
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust)	0.00	0.00	0.11	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.32	4.21	0.07	0.06	3.39	0.01
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.32	0.09	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	6.93	0.86	0.00	0.00
	<i>Subtotal Non-Permitted</i>	0.95	9.87	8.05	1.35	11.83	0.24
Total		0.67	0.95	9.87	9.55	1.63	11.83
Significance Threshold		10	10	10	15	15	500
Exceed Significance Threshold?		No	No	No	No	No	No
Notes: ROG = reactive organic gases NOx = nitrogen oxides PM10 and PM2.5 = particulate matter SO _x = oxides of sulfur CO = carbon monoxide Source of blasting: Spreadsheets prepared by FCS (Appendix B) Source of off road equipment (exhaust): ARB emission factors for NOx and PM10 based on Tier level, CalEEMod OFFROAD equipment emission factors Assumes 225 days per year Source of equipment: Deer Creek Rock Company, 2014							

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Table 3.3-7
Year 4: 2018 (increase of 400,000 tons processed, unmitigated)

Type	Source	ROG (tons)	NOx (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Permitted	Dust from Material Processing	0.00	0.00	2.00	0.37	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	1.70	0.54	0.10	6.70	0.20
	Off-Road Equipment Exhaust	0.77	5.28	0.30	0.32	3.76	0.09
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.02	0.00	0.00	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust)	0.05	0.47	0.01	0.01	0.55	0.05
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust)	0.00	0.00	0.12	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.39	5.01	0.09	0.08	4.26	0.02
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.42	0.12	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	9.09	1.07	0.00	0.00
	<i>Subtotal Non-Permitted</i>	1.21	12.47	10.58	1.73	15.27	0.31
Total		1.21	12.47	12.58	2.10	15.27	0.31
Significance Threshold		10	10	15	15	500	27
Exceed Significance Threshold?		No	Yes	No	No	No	No
Notes: ROG = reactive organic gases NOx = nitrogen oxides PM10 and PM2.5 = particulate matter SO _x = oxides of sulfur CO = carbon monoxide Source of blasting: Spreadsheets prepared by FCS (Appendix B) Source of off road equipment (exhaust): ARB emission factors for NOx and PM10 based on Tier level, CalEEMod OFFROAD equipment emission factors Assumes 225 days per year Source of equipment: Deer Creek Rock Company, 2014							

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Table 3.3-8
Year 5: 2019 (increase of 450,000 tons processed, unmitigated)

Type	Source	ROG (tons)	NOx (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SOx (tons)
Permitted	Dust from Material Processing	0.00	0.00	2.25	0.42	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	1.91	0.73	0.11	7.54	0.23
	Off-Road Equipment Exhaust	0.87	5.92	0.34	0.36	4.22	0.10
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.02	0.00	0.00	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust)	0.04	0.40	0.01	0.01	0.44	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust)	0.00	0.00	0.12	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.42	5.26	0.10	0.09	4.73	0.02
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.48	0.13	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	10.17	1.18	0.00	0.00
	<i>Subtotal Non-Permitted</i>	1.34	13.49	11.97	1.92	16.92	0.35
Total		1.34	13.49	14.22	2.34	16.92	0.35
Significance Threshold		10	10	15	15	500	27
Exceed Significance Threshold?		No	Yes	No	No	No	No
Notes: ROG = reactive organic gases NOx = nitrogen oxides PM10 and PM2.5 = particulate matter SOx = oxides of sulfur CO = carbon monoxide Source of blasting: Spreadsheets prepared by FCS (Appendix B) Source of off road equipment (exhaust): ARB emission factors for NOx and PM10 based on Tier level, CalEEMod OFFROAD equipment emission factors Assumes 225 days per year Source of equipment: Deer Creek Rock Company, 2014							

The second largest source of NOx is from the on-road diesel haul trucks. The applicant does not have control over those sources; therefore, mitigation in the form of cleaner trucks is not feasible. The off-road equipment is under the applicant's control and is subject to ARB's In-Use Off-Road Diesel-Fueled Fleets Rule. The regulation requires fleets to apply exhaust retrofits that capture pollutants before they are emitted to the air, and to accelerate turnover of fleets to newer, cleaner engines. The regulation establishes fleet average emission rates for PM and NOx that decline over time. Each year, the regulation requires each fleet to meet the fleet average emission rate targets for PM or apply the highest level verified diesel emission control system to 20 percent of its horsepower. In addition, large and medium fleets are required each year to meet the fleet average emission rate targets for NOx or to turn

over a certain percent of their horsepower (8 percent in early years, and 10 percent in later years). “Turn over” means repowering with a cleaner engine, rebuilding the engine to a more stringent emissions configuration, retiring a vehicle, replacing a vehicle with a new or used piece, or designating a dirty vehicle as a low-use vehicle. If retrofits that reduce NOx emissions become available, they may be used in lieu of turnover as long as they achieve the same emission benefits. The ARB estimates that the total cumulative cost of the regulation between 2009 and 2030 is expected to be between \$3.0 and 3.4 billion (2006 dollars), with the majority of these costs occurring between 2010 and 2021.

Based on the total horsepower for the proposed Project, the off-road fleet would be considered a medium-sized fleet. The current emissions rate for NOx for the fleet is 7.2 gram per brake-horsepower-hour (g/bhp). The fleet would need to meet a target of 4.6 g/bhp by 2017. This is a 36 percent reduction in emissions.

The Project’s emissions for the third year of production after compliance with ARB’s In-Use Off-Road Diesel Regulation in 2017 are shown in Table 3.3-9. As shown in Table 3.3-9, the Project’s compliance with regulation would further reduce NOx emissions.

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Table 3.3-9
Year 3: 2017 (increase of 300,000 tons processed, Compliance with Regulation)

Type	Source	ROG (tons)	NO _x (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Permitted	Dust from Material Processing	0.00	0.00	1.50	0.28	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	1.28	0.38	0.07	5.03	0.15
	Off-Road Equipment Exhaust	0.58	2.53	0.23	0.24	2.82	0.07
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.01	0.00	0.00	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust)	0.05	0.42	0.01	0.01	0.58	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust)	0.00	0.00	0.11	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.32	4.21	0.07	0.06	3.39	0.01
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.32	0.09	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	6.93	0.86	0.00	0.00
	<i>Subtotal Non-Permitted</i>	0.95	8.44	8.05	1.35	11.83	0.24
Total		0.95	8.44	9.55	1.63	11.83	0.24
Significance Threshold		10	10	15	15	500	27
Exceed Significance Threshold?		No	No	No	No	No	No
Notes: ROG = reactive organic gases NO _x = nitrogen oxides PM ₁₀ and PM _{2.5} = particulate matter SO _x = oxides of sulfur CO = carbon monoxide Source of blasting: Spreadsheets prepared by FCS (Appendix B) Source of off road equipment (exhaust): ARB emission factors for NO _x and PM ₁₀ based on Tier level, CalEEMod OFFROAD equipment emission factors Assumes 225 days per year Source of equipment: Deer Creek Rock Company, 2014							

In year four, compliance with regulation would not produce enough reduction in emissions to result in a less than significant level of NO_x emissions; therefore, the applicant will implement Mitigation Measure AIR-3, which would accelerate compliance with ARB's In-Use OFFROAD regulatory measure. The Applicant would commit to achieving the 2019 average NO_x emission rate target for the fleet in 2018 or when production meets 400,000 tons of material produced. Table 3.3-10 shows the Project NO_x emissions in 2018 after implementation of mitigation are *Less Than Significant*.

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Table 3.3-10
Year 4: 2018 (increase of 400,000 tons processed, Mitigated)

Type	Source	ROG (tons)	NOx (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Permitted	Dust from Material Processing	0.00	0.00	1.50	0.28	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	1.28	0.38	0.07	5.03	0.15
	Off-Road Equipment Exhaust	0.58	2.53	0.23	0.24	2.82	0.07
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.01	0.00	0.00	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust)	0.05	0.42	0.01	0.01	0.58	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust)	0.00	0.00	0.11	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.32	4.21	0.07	0.06	3.39	0.01
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.32	0.09	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	6.93	0.86	0.00	0.00
	<i>Subtotal Non-Permitted</i>	0.95	8.44	8.05	1.35	11.83	0.24
Total		0.95	8.44	9.55	1.63	11.83	0.24
Significance Threshold		10	10	15	15	500	27
Exceed Significance Threshold?		No	No	No	No	No	No
Notes: ROG = reactive organic gases NOx = nitrogen oxides PM10 and PM2.5 = particulate matter SO _x = oxides of sulfur CO = carbon monoxide Source of blasting: Spreadsheets prepared by FCS (Appendix B) Source of off road equipment (exhaust): ARB emission factors for NOx and PM10 based on Tier level, CalEEMod OFFROAD equipment emission factors Assumes 225 days per year Source of equipment: Deer Creek Rock Company, 2014							

In year five, compliance with regulation would not produce enough reduction in emissions to result in a less than significant level of NOx emissions; therefore, the Applicant will implement Mitigation Measure AIR-4, which would accelerate compliance with ARB's In-Use OFFROAD regulatory measure. The applicant would commit to achieving the 2020 average NOx emission rate target for the fleet in 2019 or when production meets 450,000 tons of material produced. Table 3.3-11 shows the Project emissions in 2019 after implementation of mitigation; the resulting NOx emissions are *Less Than Significant*.

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Table 3.3-11
Year 5: 2019 (increase of 450,000 tons processed, Mitigated)

Type	Source	ROG (tons)	NOx (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SOx (tons)
Permitted	Dust from Material Processing	0.00	0.00	2.25	0.42	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	1.91	0.73	0.11	7.54	0.23
	Off-Road Equipment Exhaust	0.87	1.89	0.34	0.36	4.22	0.10
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.02	0.00	0.00	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust)	0.04	0.40	0.01	0.01	0.44	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust)	0.00	0.00	0.12	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.42	5.26	0.10	0.09	4.73	0.02
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.48	0.13	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	10.17	1.18	0.00	0.00
	<i>Subtotal Non-Permitted</i>	1.34	9.46	11.97	1.92	16.92	0.35
Total		1.34	9.46	14.22	2.34	16.92	0.35
Significance Threshold		10	10	15	15	500	27
Exceed Significance Threshold?		No	No	No	No	No	No
Notes: ROG = reactive organic gases NOx = nitrogen oxides PM10 and PM2.5 = particulate matter SOx = oxides of sulfur CO = carbon monoxide Source of blasting: Spreadsheets prepared by FCS (Appendix B) Source of off road equipment (exhaust): ARB emission factors for NOx and PM10 based on Tier level, CalEEMod OFFROAD equipment emission factors Assumes 225 days per year Source of equipment: Deer Creek Rock Company, 2014							

The reductions proposed by existing regulations are stringent and will require significant investment in capital. As shown above, the applicant's commitment to accelerate compliance with regulation will result in NOx emissions that are less than the District's thresholds of significance. Accordingly, the proposed Project would not exceed the District's thresholds of emissions for NOx, ROG, PM₁₀, PM_{2.5}, CO, and SOx; emissions would be ***Less Than Significant***.

As no thresholds will be exceeded, ***Less Than Significant Impacts*** related to this Checklist Item will occur with mitigation.

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

The geographic area of this cumulative analysis is San Joaquin Air Basin. This cumulative analysis is based on the information provided in the Air Quality Report.

“The Basin is in nonattainment for ozone, NO₂, PM₁₀, 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 the elderly, children, and the sick). Therefore, when the concentration of those pollutants exceeds the standard, it is likely that some sensitive individuals in the population would experience health effects that were described in Table 3.3-3. However, the health effects are a factor of the dose-response curve. Concentration of the pollutant in the air (dose), the length of time exposed, and the response of the individual are factors involved in the severity and nature of health impacts. If a significant health impact results from project emissions, it does not mean that 100 percent of the population would experience health effects.

ROG and NO_x have significance thresholds because they are precursors to ozone. The significance thresholds for ROG and NO_x are not designed to be indicators of health effects from ROG and NO_x individually. However, one could conclude that cumulative health impacts of ozone and/or particulate matter would result if the thresholds are exceeded. It would not be a project-specific impact because project emissions of ROG and NO_x are regional in nature and are dispersed over miles; project emissions alone would not result in a significance ozone health effect. The combination of unmitigated project emissions with pollutants from other sources within the Basin could cumulatively contribute to a significant impact.

The emissions analysis shown above indicates that the increase in emissions would not exceed the District’s regional significance threshold for ROG or NO_x. The proposed Project would not result in cumulative health impacts.

The health impacts of ozone and particulate matter can be presented in a number of ways. A comparison of ambient concentrations of the pollutants to the state and federal ambient air quality standards is most clear. 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 how much the standard is exceeded. The EPA developed the Air Quality Index (AQI) as an easy to understand measure of health impact. The AQI and related health effects for ozone is provide in Table 3.3-12.

Table 3.3-12
Air Quality Index and Health Effects²⁰

Air Quality Index/ 8-hour Ozone Concentration	Health Effects Description
AQI – 100 - Moderate	<i>Sensitive Groups: Children and people with asthma are the groups most at risk.</i>
Concentration 75 ppb	<i>Health Effects Statements: Unusually sensitive individuals may experience respiratory symptoms.</i>
	<i>Cautionary Statements: Unusually sensitive people should consider limiting prolonged outdoor exertion.</i>
AQI – 150 – Unhealthy for Sensitive Groups	<i>Sensitive Groups: Children and people with asthma are the groups most at risk.</i>
Concentration 95 ppb	<i>Health Effects Statements: Increasing likelihood of respiratory symptoms and breathing discomfort in active children, adults, and people with respiratory disease, such as asthma.</i>
	<i>Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.</i>
AQI – 200 – Unhealthy	<i>Sensitive Groups: Children and people with asthma are the groups most at risk</i>
Concentration 115 ppb	<i>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</i>
	<i>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</i>
AQI – 210 – Very Unhealthy	<i>Sensitive Groups: Children and people with asthma are the groups most at risk</i>
Concentration 139 ppb	<i>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</i>
	<i>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.</i>

Based on the AQI scale, the nearest monitoring station to the project experienced no days in the last three years that would be categorized as unhealthful, and as many as 47 days that were unhealthful for sensitive groups or moderate. The highest ozone reading was 96 ppb compared to the AQI of 150 (unhealthful for sensitive groups) which is based on an 8-hour ozone concentration of 95 ppb. See 3.3-3 for more details regarding health effects of the various pollutants. See Table 3.3-1 for detailed monitoring data for the last three years.

²⁰ U.S. Environmental Protection Agency. 2014. Clean Air Act Requirements and History. <http://www.epa.gov/air/caa/requirements.html>. Accessed July, 2014.

Although the proposed Project by itself would not increase the health impacts, the cumulative impacts of existing sources of emissions, other proposed projects, and the Project's slow progress toward attainment should be mitigated to the extent feasible."²¹

Mitigation Measure(s):

One of the major sources of NOx emissions from the Project are attributable to the on-road diesel trucks. Feasible mitigation measures that are within the control of the Applicant and Tulare County for these on-road mobile sources are limited. The next major source of NOx emissions are from the off-road equipment. The Applicant is subject to existing regulation that requires the turnover of existing off-road equipment. The regulation would require a 36 percent significant reduction in NOx emissions by the year 2017, a 51 percent reduction in 2019, and a 68 percent reduction in NOx emissions by the year 2020. The required reductions for off-road equipment are stringent and will require significant investment to achieve. The applicant has committed to accelerating compliance with regulations in order to ensure that the Project's emissions are less than significant. The following mitigation measures are required to reduce the NOx emissions to a less than significant level.

3-1 The following air pollution control measures 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 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 for construction workers at all access points.**
- **All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. Maintain maintenance records onsite and all equipment shall be checked by a certified visible emissions evaluator.**

3-2 The following air pollution control measures shall be implemented to reduce emissions from trucks operating on the Project site:

- **Minimize truck idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of the California Code of Regulations). Post signs in areas where trucks will park instructing drivers to shut off engines unless in an active queue.**

²¹ Air Quality and Greenhouse Gas Analysis Report, Deer Creek Rock Company, Inc. Quarry Expansion. Appendix B. Pages 90-92.

- 3-3 By the year 2018 or prior to increasing production by 400,000 tons of additional material, the applicant shall ensure that the fleet average NO_x emissions meet the 2019 standard of 3.5 grams of NO_x per brake-horsepower hour.**
- 3-4 By the year 2019 or prior to increasing production by 450,000 tons of additional material, the applicant shall ensure that the fleet average NO_x emissions meet the 2020 standard of 2.3 grams of NO_x per brake-horsepower hour.**

Conclusion: *Less Than Significant Impact with Mitigation*

Less Than Significant Project- related and Cumulative Impacts to this Checklist Item will occur with mitigation.

d) Expose sensitive receptors to substantial pollutant concentrations?

Project Impact Analysis: *Less Than Significant Impact*

“Those individuals who are sensitive to air pollution include children, the elderly, and persons with pre-existing respiratory or cardiovascular illness. The District considers a sensitive receptor to be a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools.”²²

Sensitive receptors are presented in Table 3.3-11. The nearest school is Alta Vista Elementary School in Porterville, approximately 3.6 miles north of the proposed Project site.

Table 3.3-13
Sensitive Receptors ²³

Sensitive Receptor	<i>Distance & Direction to Nearest Project Boundary (feet)</i>
On-site Residence	0
House east of Road 272	1,031 feet of southern boundary
House on Deer Creek Drive	1,667 feet east of southern boundary
<i>Houses at intersection of Deer Creek Drive Avenue 120) and Road 272</i>	<i>2,605 feet east of northern boundary</i>

Any project with the potential to expose sensitive receptors or the public to substantial levels of toxic air contaminants would have a potentially significant impact. A health risk is the probability that exposure to a given toxic air contaminant (TAC) under a given set of conditions will result in an adverse health effect. The health risk is affected by several

²² Air Quality and Greenhouse Gas Analysis Report Deer Creek Rock Company, Inc. Quarry Expansion. Appendix B. Page 93.

²³ Estimated using aerial photography (Google Earth), 2014

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factors, such as the amount, toxicity, and concentration of the contaminant; meteorological conditions; distance from the emission sources to people; the distance between emission sources; the age, health, and lifestyle of the people living or working at a location; and the length of exposure to the toxic air contaminant. The health risk is determined by estimating potential emissions and then entering the emissions into air dispersion models (AERMOD and HARP), which estimate the concentration of pollutants at the nearby sensitive receptors. The concentrations are converted to risk using a set of formulas within the HARP model relating TAC concentrations with their attendant cancer risks and non-cancer hazards.

The SJVAPCD has adopted the following health risk significance thresholds for project-specific impacts:

- Cancer risk: less than a risk of 10 in one million
- Non-cancer hazard index of 1.0

As discussed previously in the methodology section, this health risk assessment assesses the risk from the following TACs: diesel particulate matter, aluminum, arsenic, barium, beryllium, cadmium, chromium, chromium VI, cobalt, copper, lead, manganese, nickel, selenium, zinc, and crystalline silica.

As shown in Table 3.3-12, the proposed Project would create the highest concentration of DPM at Sensitive Receptor 3, which is at the home located northwest of the Project site and would experience an annual concentration of 0.0236 µg per m³. Sensitive Receptor 3 was found to result in a cancer risk increase of 9.8 per million people. All diesel emissions concentrations at the nearby sensitive receptors were found to be below the 10.0 in a million cancer risk threshold established by the District. Therefore, no significant long-term health impacts would occur from the operation of diesel trucks and equipment on the Project site.

Table 3.3-14
Cancer Risk from Project Operations²⁴

Sensitive Receptor	Receptor Description	Annual PM_{2.5} Concentration (µg/m³)	Cancer Risk Per Million People¹	Threshold of Significance	Exceed Threshold of Significance
1	SFR – Southeast of Project Site	0.0055	2.3	10	No
2	SFR – Southwest of Project Site	0.0017	0.7	10	No
3	SFR – Northwest of Project Site	0.0236	9.8	10	No
4	SFR – West of Project Site	0.0204	8.4	10	No
Note: ¹ Cancer risk based on a residential receptor cancer risk = 4.1453E-04 x C _{air} . Source: Vista Environmental, Deer Creek Rock Company Hard Rock Mine Expansion Project, Health Risk Assessment; Tulare County, 2014; Calculated from ISC-AERMOD View Version 8.7.0.					

²⁴ Air Quality and Greenhouse Gas Analysis Report Deer Creek Rock Company, Inc. Quarry Expansion. Appendix B. Page 94.

A “significant” health risk is the level of exposure to air toxics at which facility operators are required to notify the public. A facility with a cancer risk over 10 in one million does not necessarily mean that those exposed will develop harmful effects. To put the cancer risk in perspective, there is an approximate risk that around 1 in 100 people will get into a car accident²⁵. As noted in Table 3.3-13, the maximum cancer risk at any sensitive receptor was estimated to be 9.8 in 1,000,000 people. A cancer risk of 9.8 in a million is the likelihood that up to 9.8 people out of one million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the specific concentration over 70 years (an assumed lifetime). This would be in addition to those cancer cases that would normally occur in an unexposed population of one million people. Thus, the operation of the Project would not exceed the District’s cancer risk significance threshold of 10 in a million and, therefore, would not expose sensitive receptors to substantial pollutant concentration.

In addition to the cancer risk from exposure to DPM, there is also the potential DPM exposure may result in adverse health impacts from acute and chronic illnesses, which are detailed below.

Chronic Health Impacts

Chronic health effects are characterized by prolonged or repeated exposure to a TAC over many days, months, or years. Symptoms from chronic health impacts may not be immediately apparent and are often irreversible. The chronic hazard index is based on the most impacted sensitive receptor from the proposed Project and is calculated from the annual average concentrations of PM_{2.5}.

The AERMOD model found that the annual concentration at the nearest sensitive receptor is 0.0236 µg/m³ for DPM equivalent chronic non-cancer risk emissions. The resulting Hazard Index is 0.0047, which is significantly less than the threshold of 1.0 or greater. Therefore, the ongoing operations of the proposed Project would result in a less than significant impact due to the non-cancer chronic health risk from TAC emissions created by the proposed Project.

Acute Health Impacts

Acute health effects are characterized by sudden and severe exposure and rapid absorption of a TAC. Normally, a single large exposure is involved. Acute health effects are often treatable and reversible. The acute hazard index is calculated from the maximum hourly concentrations of PM_{2.5} and total organic gases (TOG) at the point of maximum impact (PMI), which has been calculated with the AERMOD model.

The AERMOD model found that the proposed Project would create maximum hourly concentrations of 1.998 µg/m³ of PM_{2.5} and 5.194 µg/m³ of TOG at the PMI. Table 3.3-13 provides a list of TAC pollutants from diesel emissions that have the potential to cause acute health risks, the associated pollutant analyzed in the AERMOD model, the ratio of the

²⁵ San Joaquin Valley Air Pollution Control District. 2014. Draft Guidance for Assessing and Mitigating Air Quality Impacts. http://www.valleyair.org/transportation/GAMAQI-2014/DRAFT_GAMAQI_2014_July_7.pdf. Accessed July, 2014.

pollutant to total diesel emissions, the AREL for each pollutant, and the calculated Acute Hazard Index for each pollutant.

Table 3.3-15
Acute Non Cancer Assessment

TAC from Diesel Emissions	Pollutant	Diesel Weight Ratio ¹	Acute Reference Exposure Level (AREL) ² µg/m ³	Acute Hazard Index (AHI)
Acetaldehyde	TOG	0.0735	470	8.12E-04
Acrolein	TOG	0.003	25	6.23E-04
Arsenic	PM	0.000002	0.2	2.00E-05
Benzene	TOG	0.02	1,300	7.99E-05
Chlorine	PM	0.00003	210	2.85E-07
Copper	PM	0.00006	100	1.20E-06
Formaldehyde	TOG	0.1471	55	1.39E-02
Mercury	PM	0.000006	0.6	2.00E-05
Methanol	TOG	0.0408	28,000	7.57E-06
Methyl Ethyl Ketone	TOG	0.0148	13,000	5.91E-06
Nickel	PM	0.000008	6	2.66E-06
Styrene	TOG	0.0006	21,000	1.48E-07
Toluene	TOG	0.0147	37,000	2.06E-06
Vanadium	PM	0.001	30	6.66E-05
Xylene	TOG	0.0104	22,000	2.46E-06
Total				1.55E-02 (0.0155)
Notes: ¹ Diesel related TAC composition is based on the ARB speciation profile 6099 for PM and 818 for VOC. ² Acute REL is from http://oehha.ca.gov/air/allrels.html . Source: Vista Environmental, Deer Creek Rock Company Hard Rock Mine Expansion Project, Health Risk Assessment; Tulare County, 2014.				

Table 3.3-13 shows that the total acute hazard index from the proposed Project would be 0.0155. The criterion for significance is an Acute Hazard Index increase of 1.0 or greater, as established by the District. Therefore, the on-going operations of the proposed project would result in a **Less Than Significant Impact** due to the non-cancer acute health risk from TAC emissions created by the proposed Project.

Valley Fever

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

By geographic region, hospitalizations for Valley fever in the San Joaquin Valley increased from 230 (6.9 per 100,000 population) in 2000 to 701 (17.7 per 100,000 population) in 2007. Within the region, Kern County reported the highest hospitalization rates, increasing from

121 (18.2 per 100,000 population) in 2000 to 285 (34.9 per 100,000 population) in 2007, and peaking in 2005 at 353 hospitalizations (45.8 per 100,000 population). The Centers for Disease Control and Prevention indicates that 752 of the 8,657 persons (8.7 percent) hospitalized in California between 2000 and 2007 for Valley fever died²⁶.

Operational activities would generate fugitive dust. The Project will minimize the generation of fugitive dust by complying with the District's Regulation VIII and the District's permit requirements. Therefore, this regulation would reduce valley fever impacts to ***Less Than Significant***.

Naturally Occurring Asbestos

According to the geologic survey prepared by CGI Technical Services, Inc. in 2010, there is no NOA present within rock materials in the quarry site. Therefore, development of the Project is not anticipated to expose receptors to naturally occurring asbestos. Impacts would be ***Less Than Significant***.

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 San Joaquin Air Basin. This cumulative analysis is based on the information provided in the Air Quality Report.

Since the Project will result in less than significant Project-specific impacts, ***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*** related to this Checklist Item will occur.

e) Create objectionable odors affecting a substantial number of people?

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

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

²⁶ Centers for Disease Control and Prevention (CDC). 2009. MMWR Weekly. Increase in Coccidioidomycosis —California, 2000–2007. www.cdc.gov/mmwr/preview/mmwrhtml/mm5805a1.htm. Accessed August, 2014.

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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. The District has determined the common land use types that are known to produce odors in the Basin. These types are shown in Table 3.3-14.”

Table 3.3-16
Screening Levels for Potential Odor Sources²⁷

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

According to the District’s 2002 Guide, 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 locating near existing odor sources.

If the proposed Project were to result in sensitive receptors being located closer to an odor generator in the list in Table 3.3-14 than the recommended distances, a more detailed analysis including a review of District odor complaint records is recommended. The detailed analysis would involve contacting the District’s Compliance Division for information regarding odor complaints. For a project locating near an existing source of odors, the project should be identified as having a significant odor impact if it is proposed for a site that is closer to an existing odor source than any location where there have been:

- More than one confirmed complaint per year averaged over a three-year period, or
- Three unconfirmed complaints per year averaged over a three-year period.²⁸

“During operation, onsite diesel powered equipment and vehicles will emit diesel PM, which is odorous. The District was contacted on July 23, 2014 to determine if any odor complaints

²⁷ San Joaquin Valley Air Pollution Control District, Guide for Assessing and Mitigating Air Quality Impacts, 2002.

²⁸ San Joaquin Valley Air Pollution Control District, Guide for Assessing and Mitigating Air Quality Impacts, 2002.

had been reported from 2011 to the present (July, 2014). The District provided an email response on July 24, 2014 indicating that no complaints had been registered.

Given that the sources of odors for the proposed 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*²⁹.

Cumulative Impact Analysis: *Less than Significant Impact*

The geographic area of this cumulative analysis is San Joaquin Air Basin. This cumulative analysis is based on the information provided in the Air Quality Report.

Since the Project will result in less than significant Project-specific impacts, *Less Than Significant Cumulative Impacts* related 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* related to this Checklist Item will occur.

DEFINITIONS

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

²⁹ Air Quality and Greenhouse Gas Analysis Report Deer Creek Rock Company, Inc. Quarry Expansion. Appendix B. Page 99.

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 (CO₂) - 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 (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrochlorofluorocarbons (HCFCs), ozone (O₃), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

Hydrogen Sulfide (H₂S) - 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 (µg/m₃) [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 (NO₂). NO_x are primarily created from the combustion process and are a major contributor to ozone smog and acid rain formation. NO_x also forms ammonium nitrate particulate in chemical reactions that occur when NO_x forms nitric acid and combines with ammonia. Ammonium nitrate particulate is an important contributor to PM₁₀ and PM_{2.5}.

Ozone (O₃) - Ozone is a pungent, colorless, toxic gas created in the atmosphere rather than emitted directly into the air. O₃ 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 O₃ 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, 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 O₃, 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 composition of some particles is toxic and has serious health impacts.

Particulate Matter 10 Micrometers (PM₁₀) - 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. PM₁₀ refers to dust/particulates that are 10 microns in diameter or smaller. The fraction of PM between PM_{2.5} and PM₁₀ is comprised primarily of fugitive dust. The particles between PM₁₀ 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 chemical gas composed of non-methane hydrocarbons that may contribute to the formation of smog. This is 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 PM₁₀, 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 apparatus 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 are at 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 (SO₂) - Sulfur dioxide belongs to the family of SO_x. 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. SO_x can form sulfuric acid in the atmosphere that in the presence of ammonia forms ammonium sulfate particulates, a small but important component of PM₁₀ 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.

Abbreviations and Acronyms

(ACM)	Asbestos Containing Materials
(BACM)	Best Available Control Measures
(CAA)	Clean Air Act
(CARB or ARB)	California Air Resources Board
(CH ₄)	Methane
(CO)	Carbon Monoxide
(CO ₂)	Carbon Dioxide
(EPA)	Environmental Protection Agency
(GAMAQI)	Guide for Assessing and Mitigating Air Quality Impacts
(HCFCs)	Hydrochlorofluorocarbons
(HFCs)	Hydrofluorocarbons
(HI)	Hazard Index
(H ₂ S)	Hydrogen Sulfide
(NAAQS)	National Ambient Air Quality Standards
(NO ₂)	Nitrogen Dioxide

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(NESHAPs)	National Environmental Standards for Hazardous Air Pollutants
(MPO)	Metropolitan Planning Organization
(O ₃)	Ozone
(Pb)	Lead
(PFCs)	Perfluorocarbons
(PM _{2.5})	Particulate Matter 2.5 Micrometers in diameter
(PM ₁₀)	Particulate Matter 10 Micrometers in diameter
(RACM)	Reasonably Available Control Measures
(RACT)	Reasonably Available Control Technologies
(ROG)	Reactive Organic Gases
(SEKI)	Sequoia and Kings Canyon National Park
(SIP)	State Implementation Plan
(SF ₆)	Sulfur Hexafluoride
(SO ₂)	Sulfur Dioxide
(AIR DISTRICT)	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
(URBEMIS)	Urban Emissions model
(VOC)	Volatile Organic Compound

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Biological Resources

Chapter 3.4

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts to Biological Resources. A detailed review of potential impacts is provided in the following analysis. Consultants Live Oak Associates, Inc. (LOA) prepared a Biotic Evaluation for the proposed Project on August 6, 2014. 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 report can be seen in Appendix “C” of this DEIR.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

“Whenever possible, public agencies are required to avoid or minimize environmental impacts by implementing practical alternatives or mitigation measures. 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 Environmental Impact Report (DEIR) 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

¹ California Department of Fish & Wildlife, Species of Special Concern, <http://www.dfg.ca.gov/wildlife/nongame/ssc/>. Accessed October, 2014.

² Ibid.

³ Ibid.

“Environmental Setting” section provides a description 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 proposed Project Site is located in the low foothills of the Central Sierra Nevada on the eastern edge of the Tulare Basin. “The site includes the active quarry located on the north- and west-facing slopes of a small hill and an unmined area within a former orchard (Garden Groves acreage) on more level terrain just south of Deer Creek and west of the active mine/mix plant site. Elevations of the site range from a low of 565 feet National Geodetic Vertical Datum (NGVD) where Deer Creek Road crosses Deer Creek to a high of 885 feet NGVD at the top of the hill near the Project Site’s southeast boundary. The slope of this hill is approximately 25%

Three soil mapping units have been identified on the Project Site (NCRS 2014). The mapping unit found within the majority of the site is the Cibo Rock Outcrop Complex, 15-50 percent slopes. This moderately deep well-drained soil has formed from weathered basic igneous rock. Rock outcrops occurring throughout the site, but most extensively near the top of the site’s highest point, consist of exposed hard gabbro. This soil mapping unit includes small areas of Centerville clay, Coarsegold loam, Las Posas loam, and Trabuco loam. During the two field visits to the Project Site, several small areas of Centerville clay were identifiable within the Cibo Rock Outcrop Complex, but all appeared to be less than 200 square feet in size, and some were less than 100 square feet in size. The eastern third of the Garden Groves acreage has been mapped as Porterville Clay. This mapping unit consists of deep well-drained soils that developed in fine textured alluvium derived from metabasic igneous rock. The western two-thirds of the Garden Groves acreage have been mapped as Yettem sandy loam, 0 to 2 percent slopes. Yettem soils are deep, well-drained soils that formed in alluvium from granitic sources. These soils are found on the alluvial fans and flood plains of creeks passing out of the southern Sierra foothills.

Like most of California, the proposed Project Site is located in an area having a Mediterranean climate. Warm to hot dry summers are followed by cool moist winters. Annual precipitation within the study area is about 12 inches, almost all of which falls between the months of October and March. Virtually all precipitation falls in the form of rain. Stormwater runoff infiltrates this soil complex with some difficulty due to the amount of exposed rock and heavy clay present.

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Thus, heavy rains could result in considerable runoff, with relatively little water infiltrating the site's soils. When field capacity has been reached, which most years would occur in January or February, surface water leaves the site via sheet flow. Stormwater runoff generated on the site would then enter Deer Creek to the north of the active mine site.”⁴

“Riparian habitat was associated with the channel and upper channel banks of Deer Creek. Deer Creek was dry at the time of the 2014 field survey, but healthy stands of red willow (*Salix laevigata*) and Goodding's black willow (*Salix gooddingii*) mixed with occasional Fremont's cottonwoods (*Populus fremontii*) were nonetheless present along the northern boundary of the Project Site. Shrubs associated with this riparian habitat included mule fat (*Baccharis salicifolia*), Mexican elder (*Sambucus nigra ssp. caerulea*), and tree tobacco (*Nicotiana glauca*), the latter a non-native species. Understory species' included mugwort (*Artemisia douglasiana*), a native species, and a number of non-native weedy species such as rip-gut, soft chess, and poison hemlock (*Conium maculatum*).

Riparian vegetation located on the proposed Project Site's northern boundary provides habitat for a number of terrestrial vertebrates, and of all the landuse/habitat types present on the site is used by the largest number of species. The value of riparian vegetation to native terrestrial vertebrate species is due, largely, to the presence of multiple canopy layers. Herbaceous, shrub, and tree layers provide ample opportunity for cover, roosting, nesting, and foraging. The presence of water in Deer Creek during the winter, spring, and early summer is important as a source of drinking water and habitat for invertebrate and amphibian species upon which terrestrial vertebrates forage. Deer Creek provides aquatic habitat suitable for amphibians such as Pacific treefrogs and western toads. These amphibians are likely to attract predators such as common garter snakes (*Thamnophis sirtalis*). Avian species include resident species such as California scrub jay (*Aphelocoma californica*) and black phoebes (*Sayornis nigricans*), winter migrants such as white-crowned sparrows (*Zonotrichia sandwichensis*) and dark-eyed juncos (*Junco hyemalis*), and summer migrants such as Ash-Throated Flycatcher (*Myiarchus cinerascens*) and lazuli buntings (*Passerina amoena*).”⁵

A number of special status plants and animals occur in the vicinity of the study area. These species, and their potential to occur in the study area, are listed in Table 1 of Appendix “C” of this DEIR.

There are two habitat conservation plans that apply in Tulare County: 1) Recovery Plan for Upland Species of the San Joaquin Valley, and 2) the Kern Water Bank Habitat Conservation Plan.

The Recovery Plan for Upland Species of the San Joaquin Valley identifies several species that are important in the San Joaquin Valley⁶: However, the Biotic Evaluation identified the potential occurrence of special status species in Table 1 [of the Biotic Evaluation, Appendix “C” of this DEIR] which are listed within Table 3-4-1 of this section:

⁴ Biotic Evaluation Amendment to Existing Mining Permits Per Application PMR 14-002 Deer Creek Rock Company Tulare County, California. Pages 11- 12 (See Appendix “C” of this DEIR)

⁵ Ibid. 15-16

⁶ Recovery Plan for Upland Species of the San Joaquin Valley, California, U.S. Fish and Wildlife Service, 1998.

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Table 3-4-1 [Table 1 of the Biological Evaluation]⁷
SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE VICINITY OF THE
DEER CREEK ROCK MINE, TULARE COUNTY, CALIFORNIA.

Species	Status	Habitat	*Occurrence in the Study Area
Succulent Owl's Clover (<i>Castilleja campestris</i> ssp. <i>succulenta</i>)	FT, CE CNPS 1B	Vernal pools California's Central Valley.	Absent. Vernal pool habitats required by this species are absent from the Project Site.
Springville Clarkia (<i>Clarkia springvillensis</i>)	FE, CE CNPS 1B	Cismontane woodland, valley and foothill grassland, found in decomposed granite loam; nearest known location to Project Site is Lewis Hill approx. 8 miles to north-northwest (CDFW 2014).	Unlikely. The soils of the site do not consist of decomposed granite loam. This species would not have been blooming at the time of the site visit, but no seedlings of any species of the genus <i>Clarkia</i> were observed on the site.
Striped Adobe-lily (<i>Fritillaria striata</i>)	CE CNPS 1B	Cismontane woodland, valley and foothill grassland, in heavy clay soils of Centerville and Porterville Series; nearest known location to Project Site is Mine Hill approx. 5 miles to the northeast (CDFW 2014).	Absent. Patchy Centerville clay soils appear to be present on the site, but striped adobe-lily was not observed during the 2009 field survey at a time when it should have been visible and identifiable.
San Joaquin Valley Orcutt Grass (<i>Orcuttia inaequalis</i>)	FT, CE CNPS 1B	Vernal pools in California's Central Valley. Requires deep pools with prolonged periods of inundation.	Absent. Vernal pool habitats required by this species are absent from the Project Site.
San Joaquin Adobe Sunburst (<i>Pseudobahia peirsonii</i>)	FT, CE	Occurs in Centerville and Porterville heavy clay soils in valley and foothill grassland habitat; nearest location to Project Site is by Lake Success approx. 5 miles to northeast, and in Fountain Springs area 7-8 miles to south-east (CDFW 2014).	Absent. Patchy Centerville clay soils appear to be present on the site, but San Joaquin adobe sunburst was not observed during the 2009 field survey at a time when it should have been visible and identifiable.
Keck's Checkerbloom (<i>Sidalcea keckii</i>)	FE CNPS 1B	Mixed oak woodland and non-native grassland of southern Sierra foothills; this species has been documented in Centerville clay soils approx. two miles north of the site (CDFW 2014).	Absent. Patchy Centerville clay soils appear to be present on the site, but Keck's checkerbloom was not observed during the 2009 field survey at a time when it should have been visible and identifiable.
Greene's Tuctoria (<i>Tuctoria greenei</i>)	FE, CR CNPS 1B	Vernal pools in California's Central Valley. Requires deep pools with prolonged periods of inundation.	Absent. Vernal pool habitats required by this species are absent from the Project Site.
Munz's Iris (<i>Iris munzii</i>)	CNPS 1B	Cismontane woodland in granitic moist sandy loam soils, often along streams; nearest known location to Project Site is on South Fork of the Tule River on the Tule River Indian Reservation (CDFW 2014).	Absent. Suitable habitat for this species is not present on the Project Site.
Madera Leptosiphon (<i>Leptosiphon serrulatus</i>)	CNPS 1B	Cismontane woodland and annual grasslands on dry slopes, often on decomposed granite. This species has been documented from a location approx. one mile north of the Project Site at nearly 1,000 feet in elevation (CDFW 2014).	Unlikely. This species was not observed on the site during a field survey conducted at a time when it should have been visible and identifiable (i.e., spring of 2009). No species of Linanthus/ Leptosiphon were observed on the site.

⁷ Deer Creek Rock Company Biological Evaluation Tulare County, California" prepared by Live Oak Associates, Inc. August, 2014. Pages 20-24

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Species	Status	Habitat	*Occurrence in the Study Area
Calico Monkeyflower (<i>Mimulus pictus</i>)	CNPS 1B	Broadleaf upland forest, cismontane woodlands, in bare ground around gooseberry bushes on or around granite rock outcrops; nearest sighting to Project Site is in lowest foothills approx. two miles east of Porterville (CDFW 2014).	Absent. Habitats of the Project Site are not suitable for this species.
Spiny-sealed Button Celery (<i>Eryngium spinosepalum</i>)	CNPS 1B	Vernal pools of Madera, Fresno, and Tulare Counties.	Absent. Vernal pool and vernal swale habitats required by this species are absent from the Project Site.
Vernal Pool Fairy Shrimp (<i>Branchinecta lynchi</i>)	FT	Primarily found in vernal pools; may use other seasonal wetlands.	Absent. Vernal pool habitat required by this species is absent from the Project Site.
Vernal Pool Tadpole Shrimp (<i>Lepidurus packardii</i>)	FE	Primarily found in deep vernal pools; may use other seasonal wetlands.	Absent. Vernal pool habitat required by this species is absent from the Project Site.
Valley Elderberry Longhorn Beetle (<i>Desmocerus californicus dimorphus</i>)	FT	Lives in mature elderberry shrubs of California's Central Valley and Sierra Foothills. The valley elderberry longhorn beetle (VELB) has been documented in elderberry bushes along Deer Creek (adjacent to the Project Site) and the Tule River 3-4 miles to the north of the Project Site (CDFW 2014).	Possible. The primary host plant required by this species, the Mexican elder, is present within the riparian corridor associated with Deer Creek. The host plant is not present within any areas of the Project Site permitted for mining.
California Red-legged Frog (<i>Rana aurora draytonii</i>)	FT, CSC	Rivers, creeks and stock ponds of the Sierra foothills, prefers pools with overhanging vegetation.	Absent. This species appears to have been extirpated from the southern Sierra foothills, and therefore is presumed absent. Furthermore, suitable perennial aquatic habitat required by this species is absent from the Project Site.
California Condor (<i>Gymnogyps californianus</i>)	FE, CE	Nests on rocky cliffs and forages over vast areas of grassland. Blue Ridge in the Sierra, which is about 20 miles to the northeast of the Project Site, has historically served as a roost site (CDFW 2014).	Absent. The small amount of rangeland found on the Project Site would not be used by foraging condors due to the general absence of carrion and the proximity of the Project Site to an active mine site.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	CE	Ranges widely over state, most often associated with seacoast, lakes and reservoirs.	Unlikely. Bald eagles winter and forage at nearby Lake Success Reservoir, but this species would not likely forage on the Project Site due to its proximity to an active mining operation.
American Peregrine Falcon (<i>Falco peregrinus anatum</i>)	CE	Individuals breed on cliffs in the Sierra or in coastal habitats; occurs in many habitats of the state during migration and winter.	Possible. Individuals may pass over the site from time to time during migration.
San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)	FT, CE	Annual grasslands and alkali sink scrub of California's southern Central Valley and Inner Coast Range. One individual (roadkill) was observed due west of Tennessee Knob approx. 2 miles south of the Project Site (CDFW 2014).	Unlikely. Abandoned ground squirrel burrows were observed on the site, but no possible kit fox dens were present. While the site provides possible foraging habitat, the kit fox has not been documented in the immediate project vicinity for nearly 35 years (Fig. 5).
Foothill Yellow-legged Frog (<i>Rana boylei</i>)	CSC	Once widespread in fast-moving rivers and creeks of the Sierra foothills with cobble bottoms; historically occurred in nearby Mill Creek, but now nearly extirpated from the Sierra foothills.	Absent. Habitat in which this species occurs is absent from the study area.

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Species	Status	Habitat	*Occurrence in the Study Area
Western Pond Turtle (<i>Actinemys marmorata</i>)	CSC	Open slow moving water of rivers and creeks of central Calif. with rocks and logs for basking. This species occurs along many foothill creeks, and is possibly present in nearby Deer Creek, although no record of this can be found in the CNDDDB (2014).	Possible. Although western pond turtles may occur in Deer Creek, the site outside the riparian zone would not likely be used as nesting habitat. This species requires loose friable soils for the excavation of a nest. Soils and rock outcrops of undisturbed portions of the Project Site are not loose and friable and largely inaccessible due to mining operations. Mining operations render the remainder of the site unsuitable for this species.
California Horned Lizard (<i>Phrynosoma coronatum</i>)	CSC	Grasslands, scrublands, oak woodlands, etc. of central California. Common in sandy washes with scattered shrubs.	Absent. The Project Site provides unsuitable habitat for this species. Undisturbed sandy friable soils are absent from the Project Site.
Northern Harrier (<i>Circus cyaneus</i>)	CSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	Possible. Non-native grasslands of site provide limited post-breeding foraging habitat for this species and extremely marginal breeding habitat.
Golden Eagle (<i>Aquila chrysaetos</i>)	CSC	Open grasslands, oak savannahs agricultural fields, etc. of San Joaquin Valley and nearby foothills of Inner Coast Range.	Possible. The site provides suitable foraging habitat for this species. Nesting habitat is absent.
Burrowing Owl (<i>Athene cunicularia</i>)	CSC	Found in open, dry grasslands, deserts and ruderal areas. Requires suitable burrows.	Unlikely. Ground squirrel burrows were limited to non-native grasslands east and south of the mine site. These burrows had not been recently occupied by ground squirrels, and evidence that any burrows had been used by burrowing owls was found absent during LOA site surveys.
Long-eared Owl (<i>Asio otus</i>)	CSC	Occurs in riparian woodlands and forests of the state. Nests in abandoned crow, raven, magpie, or hawk nests. Forages over marshes and grasslands.	Possible. Riparian vegetation associated with Deer Creek provides suitable roosting, foraging, and nesting habitat for this species. Grasslands of the site provide limited foraging habitat for this species.
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	CSC	This species is found in open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches	Possible. The study area provides suitable foraging and nesting habitat for this species.
Vaux's Swift (<i>Chaetura vauxi</i>)	CSC	Migrants move through the foothills of the western Sierra in spring and late summer. Some individuals breed in region.	Possible. The site provides suitable foraging habitat for migrants. Breeding habitat is absent.
Black Swift (<i>Cypseloides niger</i>)	CSC	Migrants and transients found throughout many habitats of state; in Sierra nests are usually associated with waterfalls from 4,000-7,000 ft.	Possible. The site provides suitable foraging habitat for migrants. Breeding habitat is absent.
Yellow Warbler (<i>Dendroica petechia brewsteri</i>)	CSC	This species breeds in riparian thickets of alder, willow and cottonwoods. Migrants move through many habitats of the state.	Possible. This species may seek cover in the riparian vegetation of Deer Creek during migration, but would not likely nest there.

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Species	Status	Habitat	*Occurrence in the Study Area
Spotted Bat (<i>Euderma maculatum</i>)	CSC	Found in a variety of habitats from arid desert and grassland to mixed conifer forest. Feeds over water. Roosts and reproduces in rock crevices and cliffs.	Possible. This species may forage over the site. Roosting habitat is absent.
Townsend's Western Big-eared Bat (<i>Corynorhinus townsendii townsendii</i>)	CSC	Primarily a cave-dwelling bat, which may also roost in buildings. Occurs in a variety of habitats.	Possible. This species may forage over the site. Roosting habitat is absent.
Western Mastiff Bat (<i>Eumops perotis</i>)	CSC	Frequents grasslands to woodland habitats along the central and southern coast and the Central Valley; requires high buildings, cliff faces, caves or tunnels for roosting and nesting.	Possible. This species may forage over the site. Roosting habitat is absent.
Species	Status	Habitat	*Occurrence in the Study Area
Pallid Bat (<i>Antrozous pallidus</i>)	CSC	Grasslands, chaparral, woodlands, and forests of California; most common in dry rocky open areas providing roosting opportunities. May also use hollow trees for roosting.	Possible. This species may forage over the site. Roosting habitat is absent.
American Badger (<i>Taxidea taxus</i>)	CSC	In the Sierra this species inhabits open and dry sections of shrub, forest and herbaceous habitats with friable soil.	Possible. The Project Site provides potential foraging and breeding habitat. Burrows used by this species were not observed on site.

*Present: Species observed on the study area at time of field surveys or during recent past.

Likely: Species not observed on the study area, but it may reasonably be expected to occur there on a regular basis.

Possible: Species not observed on the study area, but it could occur there from time to time.

Unlikely: Species not observed on the study area, and would not be expected to occur there except, perhaps, as a transient.

Absent: Species not observed on the study area, and precluded from occurring there because habitat requirements not met.

STATUS CODES

FE Federally Endangered
FT Federally Threatened
FPE Federally Endangered (Proposed)
FC Federal Candidate

CE California Endangered
CT California Threatened
CR California Rare
CSC California Species of Special Concern
CNPS California Native Plant Society Listing

The Kern Water Bank Habitat Conservation Plan also applies to Tulare County. This plan; however, only applies to an area in Allensworth located in the southwest quadrant of the County⁸.

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

⁸ Kern Water Bank, Habitat Conservation Plan/Natural Community Conservation Plan, Kern Water Bank Authority, October 2, 1997

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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; 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).”⁹

“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.”¹⁰

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.”¹¹

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

⁹ Tulare County General Plan Update DEIR, page 3.11-2

¹⁰ Ibid.

¹¹ Op. Cit. 3.11-2

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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.”¹²

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.”¹³

“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.”¹⁴

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.

¹² Op. Cit. 3.11-3

¹³ Op. Cit.

¹⁴ Op. Cit. 3.11-1 to 3.11.2

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.

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.).

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.).

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.

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: 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.

Birds of Prey

Birds of Prey are protected under the California Fish and Game Code Section 3503.5, which states:

"It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

This includes any construction disturbance which could lead to nest abandonment, which is considered a "taking" by the DFW.

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...”

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-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*

As noted in Table 1 of Appendix “C” of this DEIR, 11 special status vascular plant species and 23 special status animal species were determined to occur in the general vicinity of the Deer Creek Rock Mine.

Project Impacts to Special Status Plant Species

A Biotic Evaluation was conducted by LOA for the addition of the Shannon Trust acreage that was added to the site in 2009 under PMR 09-002. The Shannon Trust acreage was examined for vascular plant species or habitats suitable for them during the spring of 2009.¹⁵ “These species were at that time considered absent from the Shannon Trust acreage or unlikely to occur within habitats of that acreage. A survey of the entire mine site in July of 2014 by LOA confirms that these special status plant species are unlikely to occur anywhere on the site. Furthermore, the proposed amendment to existing Tulare County permits (the action evaluated in this report) would not alter the magnitude of eventual project impact on natural habitats of the mine site in ways not already addressed in other environmental documents prepared for the existing permits. Therefore, approval of the proposed amendment to the existing Tulare County permits will have no adverse environmental effect on special status plant species.”¹⁶

Project Impact to Special Status Animal Species

“LOA determined in 2009 that 23 special status animal species occur in the general vicinity of the Deer Creek Rock Mine. A review of the listing status of species occurring in the

¹⁵ Biotic Evaluation Amendment to Existing Mining Permits Per Application PMR 14-002 Deer Creek Rock Company Tulare County, California. Page 32 (See Appendix “C” of this DEIR)

¹⁶ Ibid.

project vicinity reveals that in 2014, 24 special status species occur in the general vicinity of the Deer Creek Rock Mine. Of these 24 species, 9 would not occur in habitats of the Project Site, 4 may pass over the site during migration, but not use the site, 9 species may forage regularly on or in the airspace over the site, and two species, the valley elderberry longhorn beetle and the western pond turtle may be resident in the riparian corridor associated with the Deer Creek channel.

The proposed action is the approval of an amendment that will not result in new mining impacts to habitats potentially occupied by special status animal species (for example, no encroachment into the Deer Creek channel or the undeveloped buffer along it is proposed). Therefore, the increased tonnage of rock to be mined will come from the same areas already permitted for mining. Since most special status animal species potentially using the site occur on it episodically to forage, their foraging activities are not expected to be affected by the language in the amendment that standardizes the hours of operation for the existing mine/mix plant site and the Shannon acreage. Weekday peak hour truck traffic will increase from 40 trips to 76 trips, an increase of 36 trips. This increase in truck traffic will have no effect on special status animal species within the active mine site, since such animal species do not use the mine site. Increase truck traffic passing over the Deer Creek Bridge would have no effect on valley elderberry longhorn beetles that may occur in scattered elderberry bushes along the channel downstream of the bridge, or on western pond turtles that may occur in the Deer Creek channel. Nor will the increase in truck traffic have any measurable effect on other wildlife species susceptible to traffic disturbance, since the truck traffic permitted by the proposed amendment will not result in impact to such species that has not already occurred from the existing level of truck traffic. Therefore, the proposed amendments to the existing County permits will have no adverse environmental effect on special status animal species.”¹⁷

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. 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 the proposed Project does not result in significant loss of habitat or direct impact to these special status species, ***Less Than Significant Cumulative Impacts*** related to this Checklist item will occur.

¹⁷ Op. Cit. 32-33

Mitigation Measure(s):

None Required.

Conclusion:

Less Than Significant Impact

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

“The only sensitive natural community within the Project Site is the riparian habitat associated with Deer Creek along the Project Site’s northern boundary. As previously noted, the proposed amendments to the existing Tulare County permits would not result in any change to the existing footprint of mining activities. The Deer Creek channel, its associated riparian habitat, and the existing buffer between the active mine and the riparian habitat will remain unaffected by the proposed amendments. Therefore, the proposed amendments to the existing County permits will have no adverse environmental effect on riparian habitat or other sensitive natural communities.”¹⁸

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.

¹⁸ Op. Cit. 33

Conclusion: *No Impact*

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

- 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 channel of Deer Creek passes along the northern boundary of the larger proposed Project Site, but this channel may not be considered a water of the United States, due to the fact that it does not connect to a downstream water of the United States. In any event, the proposed amendments to the existing Tulare County permits do not enlarge the mining operation footprint from that already permitted. Therefore, the channel of Deer Creek, its associated riparian vegetation, and the existing disturbance-free buffer between the creek and the existing mining operation will not be affected by approval of the proposed amendments. Therefore, the proposed amendments to the existing County permits will have no adverse environmental effect on federally protected wetlands as defined by Section 404 of the Clean Water Act.”¹⁹ *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?**

¹⁹ Op. Cit. 34

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

“The Deer Creek riparian corridor along the northern boundary of the Project Site provides a discontinuous cover of riparian vegetation that favors roosting and nesting habitat for riparian birds. This riparian corridor is likely to be used for regular and predictable wildlife movements during the spring and fall. Migratory birds in particular would likely use the riparian vegetation for cover and foraging.”²⁰

“Proposed amendments to the existing Tulare County permits will not have any effect on the riparian corridor that existing mining operations do not already have. As previously noted, Deer Creek, its associated riparian vegetation, and a buffer between the creek corridor and the existing mining operation will be unaffected by approval of the proposed amendments. Therefore, the proposed amendments to the existing Tulare County permits will have no adverse environmental effect on wildlife movement corridors and wildlife habitat.”²¹ 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***

²⁰ OP. Cit.

²¹ Op. Cit. 34-35

“The proposed amendments to existing Tulare County permits do not alter the footprint of the existing mine/mix plant, and therefore would not result in direct impact to any biological resources that have not already been identified in other environmental documents prepared for the existing permits.”²² ***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***

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.

²² Op. Cit. 35

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 Amendment to Existing Mining Permits Per Application PMR 14-002. Deer Creek Rock Company, Tulare County, California” Prepared by Live Oak Associates, Inc. August 6, 2014; and included as Appendix “C” of this DEIR.

California Department of Fish & Wildlife, Species of Special Concern, which can be accessed at: <http://www.dfg.ca.gov/wildlife/nongame/ssc/>. Accessed October, 2014.

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 Update DEIR, page 3.11-2, 3

Cultural Resources

Chapter 3.5

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts to Cultural Resources with mitigation. Consultant Sierra Valley Cultural Planning completed a cultural resources assessment, including a records search and survey which is included as Appendix “D” of this DEIR. 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 DEIR for the proposed Project meets CEQA requirements by addressing potential impacts to cultural resources on the proposed Project site. The “Environmental Setting” 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 CEQA Section 21084.1

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- (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

² CEQA Guidelines, Section 15064.5 (b)

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.

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.”⁶

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.

No paleontological resources have been identified in the proposed Project vicinity.

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.

REGULATORY SETTING

Federal Agencies & Regulations

The National Historic Preservation Act

The National Historic Preservation Act of 1966 (NHPA) established federal regulations for the purpose of protecting significant cultural resources. The legislation established the National Register of Historic Places and the National Historic Landmarks Program. It mandated the establishment of the State Historic Preservation Office (SHPO), responsible for implementing statewide historic preservation programs in each state. A key aspect of SHPO responsibilities include surveying, evaluating and nominating significant historic buildings, sites, structures, districts and objects to the National Register. The NHPA also established requirements federal agencies to consider the effects of proposed federal projects on historic properties (Section 106, NHPA). Federal agencies and recipients of federal funding are required to initiate consultation with the State Historic Preservation Officer (SHPO) as part of the Section 106 review process.⁷

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 nine-member state review board appointed by the governor.⁸

Among OHP's responsibilities are identifying, evaluating, and registering historic properties; and ensuring compliance with federal and state regulations. The OHP administers the State Register of Historical Resources and maintains the California Historical Resources Information System (CHRIS) database. The CHRIS database includes a statewide Historical Resources Inventory (HRI) database. The records are maintained and managed under contract by eleven independent regional Information Centers. Tulare, Fresno, Kern, Kings and Madera counties are served by the Southern San Joaquin Valley Historical Resources Information Center (Center), located in Bakersfield, CA. The Center provides information on known historic and cultural resources to governments, institutions and individuals.⁹

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

- 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 to 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; or

⁷ Advisory Council on Historic Preservation, <http://www.achp.gov/nrcriteria.html>. Accessed August, 2014.

⁸ Advisory Council on Historic Preservation, State Historic Preservation Officers, <http://www.achp.gov/shpo.html>, Accessed September, 2014.

⁹ California Office of Historic Preservation, About OHP, http://ohp.parks.ca.gov/?page_id=1066 . Accessed September, 2014.

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- Has yielded, or may be likely to yield, information important in prehistory or history.¹⁰

CEQA Guidelines: Historical Resources Definition

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:
 - (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.”¹¹

CEQA Guidelines: Archaeological Resources

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

¹⁰ California Office of Historic Preservation. California Register. http://www.ohp.parks.ca.gov/?page_id=21238. Accessed September, 2014.

¹¹ CEQA Guidelines, Section 15064.5(a)

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- “(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.”¹²

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).
 - (2) The requirements of CEQA and the Coastal Act.”¹³
- “(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

¹² CEQA Guidelines, Section 15064.5(c)

¹³ CEQA Guidelines, Section 15064.5(d)

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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.”¹⁴

“(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.”¹⁵

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.”

¹⁴ CEQA Guidelines, Section 15064.5 (e)

¹⁵ CEQA Guidelines, Section 15064.5(f)

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.¹⁶

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-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.

¹⁶ Government Code §65352.3

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 was conducted on the site on September 2, 2014. All of the area is currently within an open rock quarry. “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”¹⁷.

The Southern San Joaquin Valley Information Center performed a record search (14-288) for the Project area on September 13, 2014. The record search found that two reports have been completed within a ¼ mile radius of the proposed Project site and no resources were found in either search. As indicated on page 2 of the Cultural Resources Assessment (see Appendix “D” of this DEIR), no Native American areas of concern were identified as a result of consultation with the Native American Heritage Commission and local Native American groups.

The proposed Project site is already an existing gravel mining operation in full production. It is highly developed and the ground disturbance and mining of gravel 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. Based on this analysis, implementation of Mitigation Measure 5-1 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*.

¹⁷ 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 12 (Also included as Appendix “D” of this DEIR)

Mitigation Measure(s):

5-1 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 5-1, potential Project-specific and cumulative impacts related to this Checklist Item will be reduced to a ***Less Than Significant*** level.

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 fully developed. No paleontological resources or sites, or unique geologic features have previously been encountered on the proposed Project site. As noted earlier, a cultural resources record search was conducted on September 2, 2014 by 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 5-1, ***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 5-1.**

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

With implementation of Mitigation Measure 5-1, 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 fully developed. 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 5-2. With implementation the Mitigation Measure 5-2, 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:

- 5-2 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 5-2, 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***

The Project site is fully developed, and no cultural resources have been encountered previously on the proposed Project site, as described in the cultural resources records search. Although it cannot conclusively be demonstrated that no subsurface human remains are present, it is possible to mitigate potentially significant impacts with the following Mitigation Measure. With implementation of Mitigation Measure 5-3, 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:

5-3 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 Measure 5-3, potential ***Project-specific and Cumulative Impacts*** related to this Checklist Item will be reduced to a ***Less Than Significant*** level.

REFERENCES

Advisory Council on Historic Preservation, <http://www.achp.gov/nrcriteria.html>. Accessed August, 2014.

Advisory Council on Historic Preservation, State Historic Preservation Officers, which can be accessed at: <http://www.achp.gov/shpo.html>, Accessed September, 2014.

California Office of Historic Preservation, About OHP, which can be accessed at: http://ohp.parks.ca.gov/?page_id=1066 . Accessed September, 2014.

California Office of Historic Preservation. California Register which can be accessed at: http://www.ohp.parks.ca.gov/?page_id=21238. Accessed September, 2014.

CEQA Section 21084.1, 15064.5 (a)(b)(c)(d)(e)(f)

“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 this DEIR.

Government Code §65352.3

Tulare County General Plan 2030 Update, *Background Report*, Page 9-56.

Tulare County General Plan Update 2030, page 8-5, 8-6

Geology and Soils

Chapter 3.6

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts related to Geology and Soils. A detailed review of potential impacts is provided in the following analysis.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

This section of the Draft Environmental Impact Report (DEIR) 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

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

¹ CEQA Guidelines, Section 15126.2 (a)

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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:

- Located on a Fault line
- Hazard to people or property
- Project subject to landslides
- Located on a liquefaction zone

ENVIRONMENTAL SETTING

“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.”²

“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.”³

“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.”⁴

² Tulare County General Plan 2030 Update, *Background Report*, Page 8-5.

³ Ibid.

⁴ Ibid. Page 8-9.

“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 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.”⁵

“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.”⁶

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.”⁷

⁵ Tulare County General Plan 2030 Update, *Background Report*, Page 8-9

⁶ Ibid.

⁷ Ibid., Page 8-7

“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 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.”⁸

“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 URM’s are adopted by jurisdictions.”⁹

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

⁸ Tulare County General Plan 2030 Update, *Background Report*. Pages 8-6 and 8-7

⁹ *Ibid.*, Page 8-8

epicenter of the quake.”¹⁰

“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 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.”¹¹

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).”¹²

Soils in proposed Project area

The proposed Project area is composed primarily of Cibo-Rock outcrop complex with 15 to 50% slopes. Cibo-Rock soils are well drained with no frequency of flooding or ponding and have moderate water storage ability. Tujunga sand is in the northeast acre of the proposed Project site. Tujunga sand is somewhat excessively drained with no frequency of flooding or ponding.¹³

REGULATORY SETTING

Federal Agencies & Regulations

None that apply to the proposed Project.

State Agencies & Regulations

California Building Code

“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

¹⁰ Tulare County General Plan 2030 Update, *Background Report*. Page 8-7

¹¹ Ibid.. Page 8-9

¹² Ibid.. Page 8-10

¹³ USDA NRCS Web Soils Report, *Custom Soil Resource Report for Tulare County, California, Central Part*, August 2014.

Building Standards Code. Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards.”¹⁴

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.”¹⁵

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.

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

¹⁴ Tulare County General Plan 2030 Update, Background Report. Page 8-3

¹⁵ Ibid.

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) **Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**
 - i) **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**
 - ii) **Strong seismic ground shaking?**
 - iii) **Seismic-related ground failure, including liquefaction?**
 - iv) **Landslides?**

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.¹⁶ The proposed Project site is located on solid rock formation and is not at risk from subsidence, liquefaction, or sliding. The proposed Project will not expand operations beyond the existing footprint. ***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.

¹⁶ California Department of Conservation, Alquist-Priolo Earthquake Fault Zone Maps, <http://www.quake.ca.gov/gmaps/WH/regulatorymaps.htm>. Accessed August, 2014.

The Project site is appropriate for mining. The proposed Project will not impact other neighboring properties. Mining operations will not occur outside the existing footprint. ***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***

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As noted in the Response to Item 3.6 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 continue to be contained in the existing footprint. ***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 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.

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

California Department of Conservation, Alquist-Priolo Earthquake Fault Zone Maps, <http://www.quake.ca.gov/gmaps/WH/regulatorymaps.htm>. Accessed August, 2014.

CEQA Guidelines, Section 15126.2 (a)

Tulare County General Plan 2030 Update, Background Report. Pages 8-3 and 8-5 through 8-10

USDA NRCS Web Soils Report, Custom Soil Resource Report for Tulare County, California, Central Part, August 2014.

Greenhouse Gas Emissions

Chapter 3.7

SUMMARY OF FINDINGS

The proposed Project will not have any significant impacts related to Greenhouse Gas (GHG) Emissions. A Greenhouse Gas Emissions Study prepared by consultant First Carbon Solutions is included as Appendix “B” of this document which is used as the basis for determining this Project will result in less than significant impacts.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

Section 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) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or
 - (2) Rely on a qualitative analysis or performance based standards.
- (b) A lead agency should consider the following factors, among others, when assessing 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. 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.”¹

¹ CEQA Guidelines, Section 15064.4

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Thresholds of Significance

“The San Joaquin Valley Air Pollution Control District proposes the following process... for determining the cumulative significance of project specific GHG emissions on global climate change when issuing permits for stationary source projects:”²

- “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.”³
- “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 reductions achieved since the 2002-2004 baseline period, consistent with GHG emission reduction targets established in ARB’s AB 32 Scoping Plan. 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.”⁴
- “Projects requiring preparation of an Environmental Impact Report 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 (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).”⁶

“In 2007, Tulare County generated approximately 5.2 million tonnes of Carbon Dioxide Equivalent (CO₂e). The largest portion of these emissions (63 percent) is attributed to dairies/feedlots, while the second largest portion (16 percent) is from mobile sources.”⁷

² San Joaquin Valley Air Pollution Control District Policy, Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as Lead Agency. Page 8

³ Ibid. 8

⁴ Op. Cit. 9

Op. Cit.

⁶ Tulare County General Plan 2030 Update Background Report, Page 6-17

⁷ Tulare County General Plan 2030 Update Background Report, Page 6-33

Table 3.7-1
Emissions by Sector in 2007⁸

Sector	CO₂e (tonnes/year)	% of Total
Electricity	542,690	11%
Natural Gas	321,020	6%
Mobile Sources	822,230	16%
Dairy/Feedlots	3,294,870	63%
Solid Waste	227,250	4%
Total	5,208,060	100%
Per Capita	36.1	

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, CO₂ and methane are emitted in the greatest quantities from human activities. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas methane primarily results from off-gassing associated with agricultural practices and landfills. SF₆ 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 effects⁹:

- 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;
- 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.”¹⁰

⁸ Ibid. 6-34

⁹ Intergovernmental Panel on Climate Change. 2001. Climate Change 2001: The Scientific Basis. http://www.grida.no/climate/ipcc_tar/wg1/pdf/WG1_TAR-FRONT.pdf. Accessed September, 2014.

¹⁰ Tulare County General Plan 2030 Update Background Report, pages 6-27 to 6-28

REGULATORY SETTING

Federal Agencies & Regulations

US EPA United States Environmental Protection Agency

“The primary sources of greenhouse gas emissions in the United States are:

- **Electricity production** (34% of 2010 greenhouse gas emissions) - Electricity production generates the largest share of greenhouse gas emissions. Over 70% of our electricity comes from burning fossil fuels, mostly coal and natural gas.^[2]
- **Transportation** (27% of 2010 greenhouse gas emissions) - Greenhouse gas emissions from transportation primarily come from burning fossil fuel for our cars, trucks, ships, trains, and planes. About 90% of the fuel used for transportation is petroleum based, which includes gasoline and diesel.^[3]
- **Industry** (21% of 2010 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% of 2010 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** (7% of 2010 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 15% of 2010 greenhouse gas emissions) - Land areas can act as a sink (absorbing CO₂ from the atmosphere) or a source of greenhouse gas emissions. In the United States, since 1990, managed forests and other lands have absorbed more CO₂ from the atmosphere than they emit.”¹¹

Greenhouse Gas Endangerment Finding

“On December 7, 2009, the EPA Administrator signed two distinct findings regarding greenhouse gases under Section 202(a) of the Clean Air Act: 1) 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. 2) 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.”¹²

State Agencies & Regulations

California Air Resources Board

¹¹ United States Environmental Protection Agency. Climate Change, Emissions, Sources, <http://www.epa.gov/climatechange/ghgemissions/sources.html>. Accessed September, 2014.

¹² South County Detention Facility Air Quality and Greenhouse Gas Analysis Report, page 25

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“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.”¹³ The California Air Resources Board has prepared the 2004 Carbon Monoxide State Implementation Plan.

San Joaquin Valley Air Pollution Control District (Air District)

“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.”¹⁴ “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.”¹⁵

The San Joaquin Valley Air Pollution Control District (Air District) determined that the quantification of GHG Emissions is expected for all projects that require an Environmental Impact Report.¹⁶

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.”¹⁷

Executive Order S-3-05

“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.

¹³ California Environmental Protection Agency Air Resources Board. <http://www.arb.ca.gov/desig/desig.htm>. Accessed September, 2014.

¹⁴ San Joaquin Valley Air Pollution Control District, About the District. http://www.valleyair.org/General_info/aboutdist.htm#Mission. Accessed September, 2014.

¹⁵ Ibid.

¹⁶ 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

¹⁷ Tulare County General Plan 2030 Update RDEIR, pages 3.3-2 to 3.3-3

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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).”¹⁸

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 technologically feasible and cost-effective reductions in GHG reductions. CARB is authorized to enforce compliance with the program that it develops.”¹⁹

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,

¹⁸Tulare County General Plan 2030 Update Background Report. Page 6-19

¹⁹ Ibid. 6-20

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”.²⁰

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;
- 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.”²¹

²⁰ Tulare County General Plan 2030 Update Background Report. Page 6-23 to 6-24

²¹ Tulare County General Plan 2030 Update Background Report. Pages 6-24 to 6-25

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-1.7 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.

AQ-1.10 Alternative Fuel Vehicle Infrastructure

County shall support the development of necessary facilities and infrastructure needed to encourage the use of low or zero-emission vehicles (e.g. electric vehicle charging facilities and conveniently located alternative fueling stations, including CNG filling stations.)

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.”²²

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*

A Climate Action Plan was adopted for Tulare County in August 2012²³. The Climate Action Plan states the following:

Commercial and industrial development in Tulare County during the 2020 and 2030 planning timeframes will be subject to conditions of approval and mitigation measures that will reduce greenhouse gas emissions beyond State regulations in most projects. For industrial projects where the SJVAPCD is a Responsible Agency, the project will be 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 To demonstrate consistency with the CARB Scoping Plan 2020 target of 26.2 percent reduction in land use related sectors compared with business as usual, new development in the County subject to discretionary approval would need to provide an overall reduction of 6 percent beyond that provided by State and SJVAPCD regulation. Based on this analysis, implementation of the policies contained in the General Plan 2030 Update and available project specific measures can achieve an overall reduction of 6 percent of development-related greenhouse gas emissions under Tulare County jurisdiction. When reductions from regulations and programs are included, new development would produce approximately 31 percent fewer greenhouse gas emissions compared with the 2020 business as usual scenario.

To determine significance, the analysis quantified project-related operational greenhouse gas emissions under a business-as-usual (BAU) scenario, and then compared these emissions with those emissions that would occur accounting for all project-related design features and regulatory measures adopted after 2005. Operational emissions for the increase in material processed and the existing material processed were analyzed for the year 2020 to demonstrate consistency with the targets contained in the Tulare County CAP and AB 32. Operational or long-term emissions occur over the life of the project. For assumptions and descriptions for the emission sources, please refer to Section 4 of this report.

As shown in Table 3.7-2, the reduction from BAU in 2020 is 18.5 percent, which is above the 6-percent threshold established by the CAP and is consistent with the County achieving the

²² Tulare County Climate Action Plan, page 1

²³ Ibid.

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required AB 32 Scoping Plan reductions. Impacts would be less than significant. The reductions in 2020 are primarily from existing regulations that require increased renewable energy, cleaner off-road equipment, and fuel and efficiency improvements for on-road vehicles.

Table 3.7-2
Operational Greenhouse Gases

Type	Source	Emissions (MTCO ₂ e per year)		
		2020 Business as Usual	2020 (with Regulation)	Percent Reduction (%)
Non-Permitted	Off-road Equipment (exhaust)	1,898	1,456	23.2
	On-site On-Road Mobile ¹ (exhaust)	474	364	23.2
	Haul Trucks (off-site exhaust)	4,571	3,819	16.5
Off-site Electricity Generation		1,117	927	17
Total		8,060	6,566	18.5
Significance Threshold				6.0
Are emissions significant?				No
Notes: ¹ Includes off-site employee trips and on-site light-duty to medium-duty trucks The permitted equipment from the District is not a source of direct greenhouse gas emissions, but is a source of indirect emissions through electricity use MTCO ₂ e = metric tons of carbon dioxide equivalents Source of business as usual emissions: CalEEMod output for the year 2005 (Appendix B). Source of 2020 emissions: CalEEMod output for the year 2020 (Appendix B).				

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*

This 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 California State Legislature adopted AB 32 in 2006. AB 32 focuses on reducing greenhouse gases (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) to 1990 levels by the year 2020. Pursuant to the requirements in AB 32, the ARB adopted the Climate Change Scoping Plan (Scoping Plan) in 2008, which outlines actions recommended to obtain that goal. The Scoping Plan calls for an “ambitious but achievable” reduction in California’s greenhouse gas emissions, cutting approximately 30 percent from business-as-usual emission levels projected for 2020, or about 10 percent from today’s levels. On a per-capita basis, that means reducing annual emissions of 14 tons of carbon dioxide for every man, woman and child in California down to about 10 tons per person by 2020.

The Scoping Plan contains a variety of strategies to reduce the State’s emissions. As shown in Table 3.7-3, the strategies are not applicable to the project.”²⁴

²⁴ Air Quality and Greenhouse Gas Analysis Report Deer Creek Rock Company, Inc. Quarry Expansion. First Carbon Solutions. Appendix B.

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**Table 3.7-3
Inapplicable Scoping Plan Reduction Measures**

Scoping Plan Reduction Measure ²⁵	Reason Why Not Applicable ²⁶
1. California Cap-and-Trade Program Linked to Western Climate Initiative. Implement a broad-based California Cap-and-Trade program to provide a firm limit on emissions. Link the California cap-and-trade program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater environmental and economic benefits for California. Ensure California's program meets all applicable AB 32 requirements for market-based mechanisms.	Although the cap-and-trade system has begun, products or services (such as electricity) would be covered and the cost of the cap-and-trade system would be transferred to the customers.
2. California Light-Duty Vehicle Greenhouse Gas Standards. Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	This is a statewide measure that cannot be implemented by a project applicant or lead agency. However, the standards would be applicable to the light-duty vehicles that would access the project site.
3. Energy Efficiency. Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	This is a measure for the State to increase its energy efficiency standards in new buildings. The project is required to build to the new standards and would increase its energy efficiency through compliance.
4. Renewable Portfolio Standard. Achieve 33 percent renewable energy mix statewide. Renewable energy sources include (but are not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.	This is a statewide measure that cannot be implemented by a project applicant or lead agency. SCE obtains 16 percent of its power supply from renewable sources such as geothermal. It is required to increase this percentage to 33 percent by the year 2020 pursuant to various regulations. The project would purchase power that is comprised of a greater amount of renewable sources that will

²⁵ California Air Resources Board. 2008. Climate Change Scoping Plan, a framework for change. www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm. Accessed May, 2013.

²⁶ Air Quality and Greenhouse Gas Analysis Report Deer Creek Rock Company, Inc. Quarry Expansion. First Carbon Solutions. Appendix B.

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	assist the utility in achieving the mandate.
5. Low Carbon Fuel Standard. Develop and adopt the Low Carbon Fuel Standard.	This is a statewide measure that cannot be implemented by a project applicant or lead agency. When this measure is initiated, the standard would be applicable to the fuel used by vehicles that would access the project site.
6. Regional Transportation-Related Greenhouse Gas Targets. Develop regional greenhouse gas emissions reduction targets for passenger vehicles. This measure refers to SB 375.	SB 375 has no requirements that apply to industrial projects such as this project.
7. Vehicle Efficiency Measures. Implement light-duty vehicle efficiency measures.	When this measure is initiated, the standards would be applicable to any light-duty vehicles that would access the project site.
8. Goods Movement. Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.	The project does not propose any changes to maritime, rail, or intermodal facilities or forms of transportation.
9. Million Solar Roofs Program. Install 3,000 MW of solar-electric capacity under California's existing solar programs.	This measure is to increase solar throughout California, which is being done by various electricity providers and existing solar programs.
10. Medium/Heavy-Duty Vehicles. Adopt medium and heavy-duty vehicle efficiency measures.	This is a statewide measure that cannot be implemented by a project applicant or lead agency. The standards phase-in over model years 2014 through 2018 are applicable to the vehicles that access the project site.
11. Industrial Emissions. Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.	This measure would apply to the direct greenhouse gas emissions at major industrial facilities emitting more than 500,000 MTCO ₂ e per year. Furthermore, the project is not a major industrial facility.
12. High Speed Rail. Support implementation of a high-speed rail system.	This is a statewide measure that cannot be implemented by a project applicant or lead agency.

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13. Green Building Strategy. Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	The project would not construct buildings subject to the standards.
14. High Global Warming Potential Gases. Adopt measures to reduce high global warming potential gases.	This measure is applicable to the high global warming potential gases that would be used by sources with large equipment (such as in air conditioning and commercial refrigerators) that are not part of this industrial project.
15. Recycling and Waste. Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	The project is an industrial facility with limited household/office waste.
16. Sustainable Forests. Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation.	The project site is not forested; therefore, no preservation is possible.
17. Water. Continue efficiency programs and use cleaner energy sources to move and treat water.	The project would comply with Green Building Code regulations and would implement required conservation features, if any.
18. Agriculture. In the near-term, encourage investment in manure digesters and at the five-year Scoping Plan update determine if the program should be made mandatory by 2020.	The project site is not designated or in use for agriculture purposes. No grazing, feedlot, or other agricultural activities that generate manure occur onsite or are proposed to be implemented by the project.

As shown in Table 3.7-2, the proposed Project is consistent with the Tulare County Climate Action Plan, which identified required reductions necessary to achieve the AB 32 goals. 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.”²⁷

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.”²⁸

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.”²⁹

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.”³⁰

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.”³¹

Category - “A District approved subdivision within a “class” as identified by unique operational or technical aspects.”³²

Class - “The broadest District approved division of stationary GHG sources based on fundamental type of equipment or industrial classification of the source operation.”³³

²⁷ 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

²⁸ Ibid. 6

²⁹ Op. Cit. 7

³⁰ Op. Cit.

³¹ Op. Cit.

³² Op. Cit.

³³ Op. Cit.

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 often used to refer to the warming predicted by computer models to occur as a result of increased emissions of greenhouse gases.”³⁴

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 (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrochlorofluorocarbons (HCFCs), ozone (O₃), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).”³⁵

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).”³⁶

Acronyms

AB	Assembly Bill
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 ₂ O	Nitrous Oxide
OPR	Governor’s Office of Planning and Research
PFCs	Perfluorocarbons
SF ₆	Sulfur Hexafluoride
AIR DISTRICT	San Joaquin Valley Air Pollution Control District

³⁴ Tulare County General Plan 2030 Update Background Report, page 6-3

³⁵ Ibid. Page 6-3

³⁶ Op. Cit. 6-29

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San Joaquin Valley Air Pollution Control District, About the District.
http://www.valleyair.org/General_info/aboutdist.htm#Mission. Accessed September, 2014.

San Joaquin Valley Air Pollution Control District Policy, Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as Lead Agency. Pages 6, 7, 8, 9

South County Detention Facility Air Quality and Greenhouse Gas Analysis Report, page 25

Tulare County Climate Action Plan, page 1

Tulare County General Plan 2030 Update Background Report, Page 6-3, 17, 19, 20, 23, 24,, 25, 27, 28, 29, 33, 34

Tulare County General Plan 2030 Update RDEIR, pages 3.3-2 to 3.3-3

United States Environmental Protection Agency. Climate Change, Emissions, Sources, <http://www.epa.gov/climatechange/ghgemissions/sources.html>. Accessed September, 2014.

Hazards and Hazardous Materials

Chapter 3.8

SUMMARY OF FINDINGS

The proposed Project will not have any significant impacts related to Hazards and Hazardous Materials 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 Environmental Impact Report (DEIR) addresses potential impacts to Hazards and Hazardous Materials. 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 Hazards and Hazardous Materials in the County. The regulatory setting provides a description of applicable Federal, State and Local

¹ CEQA Guidelines, Section 15126.2 (a)

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

- Create a significant hazard
- Located within one-quarter mile of an existing or proposed school
- Located on a list of hazardous materials sites
- Located within an airport land use plan
- Located within the vicinity of a private airstrip
- Interfere adopted emergency response plan or emergency evacuation plan
- Wildland Fire Risk

ENVIRONMENTAL SETTING

“A hazardous material is defined by the California Code of Regulations (CCR) as a substance that, because of physical or chemical properties, quantity, concentration, or other characteristics, may either (1) cause an increase in mortality or an increase in serious, irreversible, or incapacitating, illness; or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of (CCR, Title 22, Division 4.5, Chapter 10, Article 2, Section 66260.10).”²

“Similarly, hazardous wastes are defined as materials that no longer have practical use, such as substances that have been discarded, discharged, spilled, contaminated, or are being stored prior to proper disposal. According to Title 22 of the CCR, hazardous materials and hazardous wastes are classified according to four properties: toxic, ignitable, corrosive, and reactive (CCR, Title 22, Chapter 11, Article 3).”³

Hazardous Waste Shipments Originating Within Tulare County

“A determination of the routes used to transport hazardous waste within Tulare County was performed by analysis of Hazardous Waste Tracking System (HWTS) data on hazardous shipments. Calendar year 2002 manifest data indicates that a total of 1,606 tons of hazardous waste was transported from all categories of generators in Tulare County.”⁴

² Tulare County General Plan 2030 Update Background Report, page 8-19

³ Ibid. Pages 8-19 to 8-20

⁴ Ibid. Page 8-31

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Environmental Health Department Futures Assessment

“The Environmental Health Department [EHD], of which the CUPA is a part, anticipates a slight increase in the reported volume of hazardous waste generated within Tulare County in year 2003/04. However, EHD does not expect an increase in the actual volume of hazardous waste generated over the same period.”⁵

REGULATORY SETTING

Federal Agencies & Regulations

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act of 1975 (HMTA) as amended, is the major transportation-related statute affecting DOE. The objective of the HMTA according to the policy stated by Congress is “. . .to improve the regulatory and enforcement authority of the Secretary of Transportation to protect the Nation adequately against risks to life and property which are inherent in the transportation of hazardous materials in commerce.” The HMTA empowered the Secretary of Transportation to designate as hazardous material any “particular quantity or form” of a material that “may pose an unreasonable risk to health and safety or property.”

Regulations apply to “. . .any person who transports, or causes to be transported or shipped, a hazardous material; or who manufactures, fabricates, marks, maintains, reconditions, repairs, or tests a package or container which is represented, marked, certified, or sold by such person for use in the transportation in commerce of certain hazardous materials.”⁶

Superfund

“Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), commonly referred to as “Superfund”, was enacted on December 11, 1980. The purpose of CERCLA was to provide authorities with the ability to respond to uncontrolled releases of hazardous substances from inactive hazardous waste sites that endanger public health and the environment. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at such sites, and established a trust fund to provide for cleanup when no responsible party could be identified. Additionally, CERCLA provided for the revision and republishing of the National Contingency Plan (NCP) that provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also provides for the National Priorities List, a list of national priorities among releases or threatened releases throughout the United States for the purpose of taking remedial action.”⁷

⁵ Tulare County General Plan 2030 Update Background Report, page 8-32

⁶ United States Department of Energy, The Office of Health, Safety and Security, <http://homer.ornl.gov/sesa/environment/policy/hmta.html>. Accessed October, 2014.

⁷ Tulare County General Plan 2030 Update Background Report, page 8-20

“Superfund Amendments and Reauthorization Act SARA amended CERCLA on October 17, 1986. This amendment increased the size of the Hazardous Response Trust Fund to \$8.5 billion, expanded EPA’s response authority, strengthened enforcement activities at Superfund sites; and broadened the application of the law to include federal facilities. In addition, new provisions were added to the law that dealt with emergency planning and community right to know. SARA also required EPA to revise the Hazard Ranking System to ensure that the system accurately assesses the relative degree of risk to human health and the environment posed by sites and facilities subject to review for listing on the National Priorities List.”⁸

Federal Aviation Regulations

Sec. 77.17 — Form and time of notice

- (a) Each person who is required to notify the Administrator under §77.13(a) shall send one executed form set (four copies) of FAA Form 7460–1, Notice of Proposed Construction or Alteration, to the Manager, Air Traffic Division, FAA Regional Office having jurisdiction over the area within which the construction or alteration will be located. Copies of FAA Form 7460–1 may be obtained from the headquarters of the Federal Aviation Administration and the regional offices.
- (b) The notice required under §77.13(a) (1) through (4) must be submitted at least 30 days before the earlier of the following dates:
 - (1) The date the proposed construction or alteration is to begin.
 - (2) The date an application for a construction permit is to be filed.However, a notice relating to proposed construction or alteration that is subject to the licensing requirements of the Federal Communications Act may be sent to FAA at the same time the application for construction is filed with the Federal Communications Commission, or at any time before that filing.
- (c) A proposed structure or an alteration to an existing structure that exceeds 2,000 feet in height above the ground will be presumed to be a hazard to air navigation and to result in an inefficient utilization of airspace and the applicant has the burden of overcoming that presumption. Each notice submitted under the pertinent provisions of this part 77 proposing a structure in excess of 2,000 feet above ground, or an alteration that will make an existing structure exceed that height, must contain a detailed showing, directed to meeting this burden. Only in exceptional cases, where the FAA concludes that a clear and compelling showing has been made that it would not result in an inefficient utilization of the airspace and would not result in a hazard to air navigation, will a determination of no hazard be issued.
- (d) In the case of an emergency involving essential public services, public health, or public safety that requires immediate construction or alteration, the 30-day requirement in paragraph (b) of this section does not apply and the notice may be sent by telephone, telegraph, or other expeditious means, with an executed FAA Form 7460–1 submitted within 5 days thereafter. Outside normal business hours, emergency notices by telephone or telegraph may be submitted to the nearest FAA Flight Service Station.

⁸ Ibid., page 8-21

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- (e) Each person who is required to notify the Administrator by paragraph (b) or (c) of §77.13, or both, shall send an executed copy of FAA Form 117-1, Notice of Progress of Construction or Alteration, to the Manager, Air Traffic Division, FAA Regional Office having jurisdiction over the area involved.

State Agencies & Regulations

Hazardous Substance Account Act (1984), California Health and Safety Code Section 25300 ET SEQ (HSAA)

“This act, known as the California Superfund, has three purposes: 1) to respond to releases of hazardous substances; 2) to compensate for damages caused by such releases; and 3) to pay the state’s 10 percent share in CERCLA cleanups. Contaminated sites that fail to score above a certain threshold level in the EPA’s ranking system may be placed on the California Superfund list of hazardous wastes requiring cleanup.”⁹

California Environmental Protection Agency (Cal/EPA) Department of Toxic Substance Control (DTSC)

“Cal/EPA has regulatory responsibility under Title 22 of the California Code of Regulations (CCR) for administration of the state and federal Superfund programs for the management and cleanup of hazardous materials. The DTSC is responsible for regulating hazardous waste facilities and overseeing the cleanup of hazardous waste sites in California. The Hazardous Waste Management Program (HWMP) regulates hazardous waste through its permitting, enforcement and Unified Program activities. HWMP maintains the EPA authorization to implement the RCRA program in California, and develops regulations, policies, guidance and technical assistance/ training to assure the safe storage, treatment, transportation and disposal of hazardous wastes. The State Regulatory Programs Division of DTSC oversees the technical implementation of the state’s Unified Program, which is a consolidation of six environmental programs at the local level, and conducts triennial reviews of Unified Program agencies to ensure that their programs are consistent statewide and conform to standards.”¹⁰

⁹ Tulare County General Plan 2030 Update Background Report, page 8-22

¹⁰ Ibid. Pages 8-22 and 8-23

California Occupational Safety and Health Administration (Cal/OSHA)

“Cal/OSHA and the Federal OSHA are the agencies responsible for assuring worker safety in the handling and use of chemicals in the workplace. Pursuant to the Occupational Safety and Health Act of 1970, Federal OSHA has adopted numerous regulations pertaining to worker safety, contained in the Code of Federal Regulations Title 29 (29 CFR). These regulations set standards for safe workplaces and work practices, including standards relating to hazardous material handling. Cal/OSHA assumes primary responsibility for developing and enforcing state workplace safety regulations. Because California has a federally General Plan Background Report December 2007 approved OSHA program, it is required to adopt regulations that are at least as stringent as those identified in 29 CFR. Cal/OSHA standards are generally more stringent than federal regulations.”¹¹

Hazardous Materials Transport Regulations

“California law requires that Hazardous Waste (as defined in California Health and Safety Code Division 20, Chapter 6.5) be transported by a California registered hazardous waste transporter that meets specific registration requirements. The requirements include possession of a valid Hazardous Waste Transporter Registration, proof of public liability insurance, which includes coverage for environmental restoration, and compliance with California Vehicle Code registration regulations required for vehicle and driver licensing.”¹²

Cal/EPA Cortese List

“The provisions in Government Code Section 65962.5 are commonly referred to as the "Cortese List" (after the Legislator who authored the legislation that enacted it). The list, or a site's presence on the list, has bearing on the local permitting process as well as on compliance with the California Environmental Quality Act (CEQA).”¹³ The Cortese List identifies the following:

- Hazardous Waster and Substance Sites
- Cease and desist order Sites
- Waste Constituents above Hazardous Waste Levels outside the Waste Management Unit Sites
- Leaking Underground Tank (LUST) Cleanup Sites
- Other Cleanup Sites
- Land Disposal Sites
- Military Sites
- WDR Sites
- Permitted Underground Storage Tank (UST) Facilities Sites
- Monitoring Wells Sites
- DTSC Cleanup Sites
- DTSC Hazardous Waste Permit Sites

¹¹Tulare County General Plan 2030 Update Background Report, pages 8-23 and 8-24

¹² Ibid. Page 8-24

¹³ Cal/EPA Cortese List background, <http://www.calepa.ca.gov/sitecleanup/corteselist/Background.htm>. Accessed October, 2014.

Local Policy & Regulations

Tulare County Environmental Health Division

The Tulare County Department of Public Health protects health, prevents disease, and promotes the health and well-being for all persons in Tulare County. Public Health focuses on the population as a whole, rather than individuals. We conduct our activities through a network of public health professionals throughout the community. Public health nurses make home visits to families with communicable diseases; epidemiologists investigate and analyze data on diseases; our emergency preparedness unit responds to health related emergencies and assists communities in recovery; environmental health specialists ensure safe food, water, and housing; health operations assures the quality and accessibility of health services; and all work with community coalitions to advocate for public policies to protect and improve health.

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-4.1 Hazardous Materials

The County shall strive to ensure hazardous materials are used, stored, transported, and disposed of in a safe manner, in compliance with local, State, and Federal safety standards, including the Hazardous Waste Management Plan, Emergency Operations Plan, and Area Plan.

HS-4.3 Incompatible Land Uses

The County shall prevent incompatible land uses near properties that produce or store hazardous waste.

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.

ERM-3.1 Environmental Contamination

All mining operations in the County shall be required to take precautions to avoid contamination from wastes or incidents related to the storage and disposal of hazardous materials, or general operating activity at the site.

IMPACT EVALUATION

Would the project:

- a) **Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

Project Impact Analysis: *Less Than Significant Impact*

The existing operations include the storage of 10,000 gallons of diesel fuel for mobile equipment typical of mining operations. The existing operations also have lubricating and equipment maintenance oils, which is typical of a mining/rock crushing operation. The project includes efficiency improvements to build surge and feed the plant with less equipment in the new operation. This includes fewer and more efficient mobile equipment utilized on the proposed Project site. The equipment used in the proposed Project is found in Table 6 of the Air Quality, Greenhouse Gas, and Health Risk Assessment (Appendix “B” of this DEIR). The applicant is also required to obtain a Hazardous Materials Business Plan from the Tulare County Environmental Health Services.

Potential Project-specific impacts related to this Checklist Item 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.

With less than significant Project-specific impacts, *Less Than Significant Cumulative Impacts* related to this Checklist Item will occur.

Mitigation Measure(s):

None Required.

Conclusion: *Less Than Significant Impact*

Potential Project-specific and cumulative impacts related to this Checklist Item are *Less Than Significant*.

- b) **Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

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

The existing operation includes fuel deliveries for the diesel fuel stored on the site. Should diesel fuel spill, potential significant impacts could occur. Project-specific impacts related to this Checklist Item will be ***Less Than Significant impacts*** with mitigation.

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.

With less than significant Project-specific impacts, ***Less Than Significant Cumulative Impacts*** related to this Checklist Item will also occur.

Mitigation Measure(s):

- 8-1 No truck maintenance or washing shall occur at the site. Heavy equipment maintenance (such as a loader) will occur on a concrete surface or at an offsite location. If such a surface is unavailable or impractical, a drop cloth or other impermeable surface shall be utilized to prevent surface waste discharge that would contribute to soil and groundwater contamination, with any spills immediately cleaned up.**

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

Potential Project-specific and cumulative impacts related to this Checklist Item are ***Less Than Significant With Mitigation***.

- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

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

The Project site is not located within 0.25 mile of an existing or proposed school. Therefore, ***No Project-specific Impacts*** 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 Project site is not located within 0.25 mile of an existing or proposed school. Therefore, ***No Cumulative Impacts*** to this Checklist Item will occur.

Mitigation Measure(s):

None Required.

Conclusion: *No Impact*

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

- d) **Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

Project Impact Analysis: *No Impact*

As of the preparation date of this document, the proposed Project site was not located on a Cortese List site. *No Project-specific Impacts* 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 Project site is not located on any Cortese List of hazardous materials. As such *No Cumulative Impacts* related to this Checklist Item will occur.

Mitigation Measure(s):

None Required.

Conclusion: *No Impact*

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

- e) **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?**

Project Impact Analysis: *No Impact*

The nearest airport (Porterville Municipal Airport) is located more than five miles west of the Project site. *No Project-specific Impacts* related to this Checklist Item will occur.

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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 the nearest airport is located more than five miles west of the Project site, ***No Cumulative Impacts*** to this Checklist Item will occur.

Mitigation Measure(s):

None Required.

Conclusion: ***No Impact***

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

- f) **For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?**

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

The nearest airport to the Project site is the Porterville Municipal Airport located more than five miles west of the Project site. ***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. 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.

No Cumulative Impacts 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.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

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

“Tulare County has in place an emergency plan to cope with natural disasters that are statewide or happen locally. The County Fire Department and local stationed California Department of Forestry (CDF) are well prepared to fight fires locally as well as statewide. The United States Forest Service (USFS) is in charge of fires that happen in the national parks and Tulare County assists with the fire management process as needed.”¹⁴

“In the event of a disaster, certain facilities are critical to serve as evacuation centers, provide vital services, and provide for emergency response. Existing critical facilities in Tulare County include hospitals, county dispatch facilities, electrical, gas, and telecommunication facilities, water storage and treatment systems, wastewater treatment systems, schools, and other government facilities. This plan also addresses evacuation routes, which include all freeways, highways, and arterials that are located outside of the 100-year flood plain.”¹⁵

The proposed Project does not involve a change to any emergency response plan. There is an existing driveway that can allow large transport trucks. As such, emergency vehicles will be able to access the site. ***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. 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 does not include alterations to an emergency plan or include reductions of site accessibility by emergency vehicles. ***No Cumulative Impacts*** 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.

¹⁴ Tulare County Association of Government Regional Transportation Plan, Page 1-11

¹⁵ Tulare County General Plan 2030 Update Background Report, page 8-35 to 8-36

- h) **Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?**

Project Impact Analysis: *No Impact*

The Project site is already developed to its current use as a mine. In addition, there are agricultural uses surrounding the site. With this environmental context, the proposed Project site will not be considered to be located within a wildlands area. Therefore, the Project will not expose people or structure to wildland fires. *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. 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 not located in wildland and will not impact the growth of wildlands. *No Cumulative Impacts* related to this Checklist Item will occur.

Mitigation Measure(s):

None Required.

Conclusion: *No Impact*

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

DEFINITIONS and ACRONYMS

Definitions

Hazardous Waste Generators - Hazardous waste generators can be classified in three groups depending on the quantity of waste generated in any month. A Conditionally Exempt Small Quantity Generator (CESQG) is defined in regulation as a generator of less than 100 kilograms of hazardous waste in a calendar month. A Small Quantity Generator (SQG) is a generator of greater than 100 kg and less than 1000 kg of hazardous waste in a calendar month. A Large Quantity Generator (LQG) generates greater than 1000 kg of hazardous waste in a calendar month. Determination of whether a facility is a CESQG, SQG, or LQG is the responsibility of the generator. The designation may change during the year, based on the quantity of hazardous waste produced during a particular month. Specific hazardous waste materials may also be exempt from the monthly total quantity. Therefore, the Certified Unified Program Agencies (CUPA) cannot authoritatively designate the number of generators within each of the earlier

categories.

Small Quantity Generators - CUPA has designated 58 active and 30 inactive small quantity generators (SQG's). The total estimated quantities of hazardous waste generated within Tulare County by active and inactive SQG's during calendar year 2002 were 121.7 and 56.3 tons, respectively.

Large Hazardous Waste Producers - CUPA has designated 23 active and 3 inactive large quantity generators (LQG's). The total estimated quantities of hazardous waste generated within Tulare County by active and inactive LQG's during calendar year 2002 were 559.7 and 121.6 tons, respectively.

Storage Facilities - According to available information from the agencies (Department of Toxic Substances Control [DTSC] and RWQCB) that oversee treatment, storage and disposal facilities (TSDFs), there are no facilities authorized for the storage of hazardous waste in Tulare County.

Disposal Facilities - According to available information from the agencies (DTSC and RWQCB) that oversee treatment, storage and disposal facilities (TSDFs), there are no facilities authorized for the disposal of hazardous waste in Tulare County.

Planned Treatment, Storage and Disposal Facilities - According to information available to the CUPA, there are no new treatment, storage and disposal facilities proposed in Tulare County.

Acronyms

CDF/CalFire	California Department of Forestry
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
DOE	Department of Energy
DTSC	Cal/EPA Department of Toxic Substance Control
HMTA	Hazardous Materials Transportation Act of 1975
HWMP	Hazardous Waste Management Program
HWTS	Hazardous Waste Tracking System
LUST	Leaking Underground Tank
NCP	National Contingency Plan
SARA	Superfund Amendments and Reauthorization Act
USFS	United States Forest Service

REFERENCES

Cal/EPA Cortese List background, which can be accessed at:
<http://www.calepa.ca.gov/sitecleanup/corteselist/Background.htm>. Accessed October, 2014.

CEQA Guidelines, Section 15126.2 (a)

Tulare County Association of Government Regional Transportation Plan, Page 1-11

Tulare County General Plan 2030 Update Background Report, page 8-19, 20, 21, 22, 23, 24, 31, 32, 35, 36

United States Department of Energy, The Office of Health, Safety and Security, which can be accessed at: <http://homer.ornl.gov/sesa/environment/policy/hmta.html>. Accessed October, 2014.

Hydrology and Water Quality

Chapter 3.9

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts related to Hydrology and Water Quality 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 Environmental Impact Report (DEIR) addresses potential impacts to Hydrology and Water Quality. As required in Section 15126, all phases of the proposed Project will be considered was 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

¹ CEQA Guidelines, Section 15126.2 (a)

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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 not in compliance with the regulations outlined by the State Water Resources Control Board.
- Project not in compliance with the regulations by the Regional Water Quality Control Board.
- Design of stormwater facilities will not adequately protect surface water quality.
- Project will cause erosion.
- Project will alter watercourse and increase flooding impacts.
- Project's water usage not assessed in the Tulare County 2030 General Plan (General Plan Amendment, Zone Change, etc.).
- Project that will impact service levels of a Water Services District.
- Project includes or requires an expansion of a Water Service District.
- Project in flood zone.
- Project will create a flood safety hazard.
- Project located immediately downstream of a dam.
- Project violate any water quality standards or waste discharge requirements.
- Project will substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
- 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, in a manner which would result in substantial erosion or siltation on- or off-site.
- 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 substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.
- Project will 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 will otherwise substantially degrade water quality; place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- Project will place within a 100-year flood hazard area structures which would impede or redirect flood flows.

- Project will expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; and/or be subject to inundation by seiche, tsunami, or mudflow.

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.”²

“The Basin is one of the most important agricultural centers of the world. Industries related to agriculture, such as food processing and packaging (including canning, drying, and wine making), are prominent throughout the area. Producing and refining petroleum lead non-agricultural industries in economic importance.”³

The Tulare Lake Hydrologic Region has watershed areas (surface water) and groundwater sub-basin areas.

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.”⁴

“Surface water from the Tulare Lake Basin only drains north into the San Joaquin River in years of extreme rainfall. This essentially closed basin is situated in the topographic horseshoe formed by the Diablo and Temblor Ranges on the west, by the San Emigdio and Tehachapi Mountains on the south, and by the Sierra Nevada Mountains on the east and southeast.”⁵

² Department of Water Resources California Water Plan Update 2009, Tulare Lake, page TL-5

³ Water Quality Control Plan for the Tulare Lake Basin, page I-1

⁴ Department of Water Resources California Water Plan Update 2009, Tulare Lake, page TL-8

⁵ Ibid., page I-1

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.”⁶ Specific objectives outlined in the Water Quality Control Plan are listed below: ⁷

- **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.
- **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.

⁶ Water Quality Control Plan for the Tulare Lake Basin, page III-3

⁷ Ibid. Page III-2 to III-7

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- **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.

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.”⁸

“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.”⁹

“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.”¹⁰

Ground Water Sub Basin

“The Tulare Lake Hydrologic Region has 12 distinct groundwater basins and seven subbasins of the San Joaquin Valley Groundwater Basin, which crosses north into the San Joaquin River

⁸ Tulare County General Plan 2030 Update Background Report, page 10-7

⁹ Department of Water Resources, California Water Plan Update 2009, Tulare Lake, page TL-5

¹⁰ Water Quality Control Plan for the Tulare Lake Basin, page I-1

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Hydrologic Region (Figure TL-2). These basins underlie approximately 5.33 million acres (8,330 square miles) or 49 percent of the entire hydrologic region. Groundwater has historically been important to both urban and agricultural uses, accounting for 41 percent of the region's total annual supply and 35 percent of all groundwater use in the state. Groundwater use in the region represents about 10 percent of the state's overall water supply for agricultural and urban uses.”¹¹

“Water agencies in the Tulare Lake region have been practicing conjunctive use for many years to manage groundwater and assist dry year supplies. Groundwater recharge is primarily from rivers and natural streambeds, irrigation water percolating below the root zone of irrigated fields, direct recharge from developed ponding basins and water banks, and in-lieu recharge where surface water is made available in-lieu of groundwater pumping. Some water agencies accomplish recharge by directing available water into existing natural streambeds and sloughs, and others encourage application of water, when available, on farmed fields. The Deer Creek and Tule River Authority provides an example of how groundwater management activities can be coordinated with other resources. The authority, in conjunction with the US Bureau of Reclamation, has constructed more than 200 acres of recharge basins as part of its Deer Creek Recharge-Wildlife Enhancement Project. When available, the project takes surplus water during winter months and delivers it to the basins, which serve as winter habitat for migrating waterfowl, creating a significant environmental benefit. Most of the water also recharges into the underlying aquifer, thereby benefiting the local groundwater system.”¹²

Groundwater Quality

Specific objectives outlined in the Water Quality Control Plan are listed as follows:

- **“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

¹¹ California Water Plan Update 2009, Tulare Lake, page TL-9 to TL-10

¹² Ibid. Page TL-10

associated with designated beneficial use(s).”¹³

According to the California Water Plan, the key ground water quality issues include the following.

“Salinity: Salinity is the primary contaminant affecting water quality and habitat in the Tulare Lake region. Because the groundwater basin in the San Joaquin Valley portion of the region is an internally drained and closed basin, salts, much of which are introduced into the basin with imported water supplies, build up in the soil and groundwater. Salt contained in the imported water supply is the primary source of salt circulating in the Tulare Lake region. The California Aqueduct, Friant-Kern Canal, and to a less extent Delta Mendota Canal supply most of the higher quality surface irrigation water in the Tulare Lake region. The quality of this supply may be impaired by the recirculation of salts from the San Joaquin River to the Delta Mendota Canal intake pump, leading to a greater net accumulation of salts in the basin. Delivery data from the two major water projects in California indicate there is a substantial amount of salt being transported from the Delta to other basins throughout the state. Annual import of salt into the Tulare Lake region is estimated to be 1,206 thousand tons of salt. In situ dissolution of salts and pumping from the underlying confined aquifer are important secondary sources.

Sedimentation and Erosion: In the Central Valley, erosion is occurring from the headwaters down to the valley floor. Although naturally occurring, erosion can be accelerated by timber harvest activities, land use conversion, rural development, and grazing. Excessive soil erosion and sediment delivery can impact the beneficial uses of water by (1) silting over fish spawning habitats; (2) clogging drinking water intakes; (3) filling in pools creating shallower, wider, and warmer streams and increasing downstream flooding; (4) creating unstable stream channels; and (5) losing riparian habitat. Timber harvesting in the riparian zone can adversely affect stream temperatures by removing stream shading, a concern for spawning and rearing habitat for salmonids. Thousands of miles of streams are potentially impacted, and the lack of resources has prevented a systematic evaluation of these impacts.

Nitrates and Groundwater Contaminates: Groundwater is a primary water supply, but in many places it is impaired or threatened because of elevated levels of nitrates and salts that are derived principally from irrigated agriculture, dairies, discharges of wastewater to land, and from disposal of sewage from both community wastewater systems and septic tanks. As population has grown, many cities have struggled to fund improvements in wastewater systems. High TDS content of west-side water is due to recharge of streamflow originating from marine sediments in the Coast Range.

Naturally occurring arsenic and human-made organic chemicals—pesticides and industrial chemicals—in some instances have contaminated groundwater that is used as domestic water supplies in this region. In some cases, nitrates are from natural sources. Agricultural pesticides and herbicides have been detected throughout the valley, but

¹³ Water Quality Control Plan for the Tulare Lake Basin, pages III-7 and III-8

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primarily along the east side where soil permeability is higher and depth to groundwater is shallower. The most notable agricultural contaminant is DBCP, a now-banned soil fumigant and known carcinogen once used extensively on grapes.”¹⁴

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.”¹⁵

“Tulare Lake region’s groundwater use rises and falls contingent on the availability of both local and imported surface supplies. The management of water resources within this region is a complex activity and critical to the region’s agricultural operations. Local annual surface supplies are determined by the amount of runoff from the Sierra Nevada watersheds, the flows captured in local reservoirs, and carryover storage over a series of years. Imported surface supply availability is contingent not only on runoff in any year or series of years but also by regulations determining the amount of water that can be pumped month to month from the Sacramento-San Joaquin River Delta due to fishery and other concerns. The recent San Joaquin River settlement will reduce the overall volume of water available for diversion into the Friant-Kern Canal. The new biological opinion on the Operating Criteria and Plan (OCAP) for the SWP and CVP will impact surface water supplies to south-of-Delta water users.”¹⁶

“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.”¹⁷

“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.”¹⁸

“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

¹⁴ California Water Plan Update 2009, Tulare Lake, page TL-22 to TL-24

¹⁵ Water Quality Control Plan for the Tulare Lake Basin, page I-1

¹⁶ California Water Plan Update 2009, Tulare Lake, page TL-15 to TL-17

¹⁷ Tulare County General Plan 2030 Update Background Report, page 10-11

¹⁸ California Water Plan Update 2009, Tulare Lake, page TL-17

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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.”¹⁹

According to the 2009 California Water Plan, water storage has fluctuated between 1998 and 2005. The data suggests that variations occur as a result of changing precipitation levels. See **Table 3.9-1** and **Chart 3.9-1**.

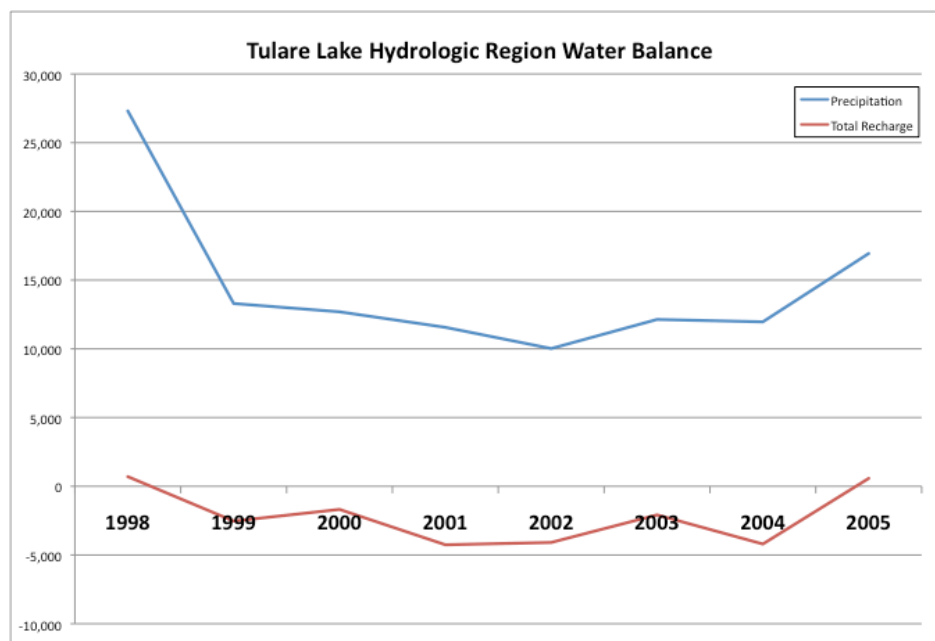
Table 3.9-1
Tulare Lake Hydrologic Water Balance for 1998-2005 (thousand acre-feet)²⁰

Tulare Lake Region	Water Year							
	1998	1999	2000	2001	2002	2003	2004	2005
Water Entering the Region								
Precipitation	27,306	13,298	12,693	11,564	10,021	12,137	11,964	16,939
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	3,716	4,817	5,627	3,696	4,239	5,174	4,816	5,909
Total	31,022	18,115	18,320	15,260	14,260	17,311	16,780	22,848
Water Leaving the Region								
Consumptive Use of Applied Water	5,401	7,486	7,427	7,591	7,938	7,430	8,031	6,655
Outflow to Oregon/Nevada/Mexico	0	0	0	0	0	0	0	0
Exports to Other Regions	1,857	821	1,540	1,093	1,643	1,898	1,961	1,724
Statutory Required Outflow to Salt Sink	0	0	0	0	0	0	0	0
Additional Outflow to Salt Sink	457	456	457	458	305	458	457	300
Evaporation, Evapotranspiration of Native Vegetation, Groundwater Subsurface Outflows, Natural and Incidental Runoff, Ag Effective Precipitation & Other Outflows	22,606	11,885	10,578	10,374	8,462	10,327	10,532	13,596
Total	30,321	20,648	20,002	19,516	18,348	20,113	20,981	22,274
Storage Changes in Region: [+] Water added to storage, [-] Water removed from storage								
Change in Surface Reservoir Storage	438	-595	-57	-141	-161	173	-199	680
Change in Groundwater Storage	263	-1,938	-1,625	-4,115	-3,927	-2,975	-4,002	-106
Total	701	-2,533	-1,682	-4,256	-4,088	-2,802	-4,201	574

¹⁹ Department of Water Resources California Water Plan Update 2009, Tulare Lake, page TL-19

²⁰ Department of Water Resources, 2009. California Water Plan Update, Tulare Lake.

**Figure 3.9-1
Tulare Lake Hydrologic Region Water Balance²¹**



“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.”²² 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.”²³

Irrigation Districts in Tulare County

²¹ Department of Water Resources, 2009. California Water Plan Update, Tulare Lake.

²² Tulare County General Plan 2030 Update Background Report, page 10-11

²³ Ibid., page 10-12

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“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. The list provided by Tulare County RMA (last updated April 30, 2007) 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.”²⁴

**Table 3.9-2
Irrigation Districts in Tulare County²⁵**

Entity	Surface Water	Imported Water Source	Groundwater Extraction
Alpaugh Irrigation District	NA	Friant-Kern Canal (1,000af average)	19,000 af
Alta Irrigation District	King 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 Tulare River Irrigation Dist.	Tule River	Friant-Kern Canal (180,200 af average) Cross Valley Canal (31,000 af average)	NA
Lindsay-Strathmore Irrigation District	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

²⁴ Department of Water Resources, 2009. California Water Plan Update, Tulare Lake., page TL-17

²⁵ Bookman-Edmonston Engineering Inc. Water Resources Management in the Southern San Joaquin Valley, Table A-1.

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.”²⁶

“Flood events in the Tulare Lake region are caused by rainfall, snowmelt, and the resultant rising of normally dry lakes. Although significant progress has been made to contain floodwaters in the region, improvements to the flood control system are still needed to lessen the flood risk to life and property.”²⁷

“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.”²⁸

“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 ordinary floodplain. Confined floodplains can result in significantly higher water elevations and higher flow rates during high runoff and flood events.”²⁹

“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.”³⁰

²⁶ Tulare County General Plan 2030 Update Background Report, page 8-13

²⁷ Department of Water Resources California Water Plan Update 2009, Tulare Lake, page TL-28 to TL-29

²⁸ Tulare County General Plan 2030 Update Background Report, page 8-14

²⁹ Ibid. Page 8-14

³⁰ Ibid. Page 8-17

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.”³¹

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.)”³²

Environmental Protection Agency

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

³¹ U.S. Environmental Protection Agency, Summary of the Clean Water Act – <http://www.epa.gov/lawsregs/laws/cwa.html>. Accessed November, 2014.

³² U.S. Environmental Protection Agency, Summary of the Safe Drinking Water Act – <http://water.epa.gov/lawsregs/rulesregs/sdwa/index.cfm>. Accessed November, 2014.

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.”³³

Army Corps of Engineers (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.”³⁴

National Flood Insurance Program

“In 1968, Congress created the National Flood Insurance Program (NFIP) to help provide a means for property owners to financially protect themselves. The NFIP offers flood insurance to homeowners, renters, and business owners if their community participates in the NFIP. Participating communities agree to adopt and enforce ordinances that meet or exceed FEMA requirements to reduce the risk of flooding.”³⁵

State Agencies & Regulations

The Porter-Cologne Water Quality Control 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 local/regional level.”³⁶

³³ U.S. Environmental Protection Agency. What We Do. <http://www.epa.gov/aboutepa/whatwedo.html>. Accessed October, 2014.

³⁴ U.S. Army Corps of Engineers <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx>. Accessed October, 2014.

³⁵ National Flood Insurance Program. Flood Insurance Program Summary: http://www.floodsmart.gov/floodsmart/pages/about/nfip_overview.jsp. Accessed October, 2014.

³⁶ California Wetlands Information System. Porter-Cologne Water Quality Control Act Summary, http://ceres.ca.gov/wetlands/permitting/Porter_summary.html. Accessed November, 2014.

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.”³⁷

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.”³⁸

“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.”³⁹

California Department of Water Resources

“This Department’s primary 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. Other goals include:

Goal 1 - Develop and assess strategies for managing the State’s water resources, including development of the California Water Plan Update.

Goal 2 - Plan, design, construct, operate, and maintain the State Water Project to achieve maximum flexibility, safety, and reliability.

Goal 3 - Protect and improve the water resources and dependent ecosystems of statewide significance, including the Sacramento-San Joaquin Bay-Delta Estuary.

Goal 4 - Protect lives and infrastructure as they relate to dams, floods, droughts, watersheds impacted by fire and disasters, and assist in other emergencies.

Goal 5 - Provide policy direction and legislative guidance on water and energy issues and educate the public on the importance, hazards, and efficient use of water.

Goal 6 - Support local planning and integrated regional water management through technical and

³⁷ California State Water Board Website, http://www.waterboards.ca.gov/about_us/water_boards_structure/mission.shtml. Accessed November, 2014.

³⁸ Ibid.

³⁹ Central Valley Water Quality Control Board, http://www.swrcb.ca.gov/centralvalley/about_us/. Accessed November, 2014.

financial assistance.

Goal 7 - Perform efficiently all statutory, legal, and fiduciary responsibilities regarding management of State long-term power contracts and servicing of power revenue bonds.

Goal 8 - Provide professional, cost-effective, and timely services in support of DWR's programs, consistent with governmental regulatory and policy requirements.⁴⁰

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)

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 Environmental Health Services Division regulates retail food sales and hazardous waste storage and disposal; inspects contaminated sites and monitors public water systems, which protects and reduces the degradation of groundwater. The Division regulates the production and shipping of milk for Tulare and Kings Counties and also serves as staff to the Tulare County Water Commission appointed by the Board of Supervisors. The goal of HHSA's Environmental Health division is to protect Tulare County's residents and visitors by ensuring that our environment is kept clean and healthy."⁴¹ 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. In addition, all recommendations provided by this Agency will be added as Mitigation Measures to ensure reduction of environmental impacts.

⁴⁰ California Department of Water Resources website, <http://www.water.ca.gov/about/mission.cfm>. Accessed November, 2014.

⁴¹ Tulare County Environmental Health Division, <http://www.tchhsa.org/hhsa/>. Accessed November, 2014.

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.

PF-4.14 Compatible Project Design

The County may ensure proposed development within CACUABs is compatible with future sewer and water systems, and circulation networks as shown in city plans.

AG-1.17 Agricultural Water Resources

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 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-1.1 Groundwater Withdrawal

The County shall cooperate with water agencies and management agencies during land development processes to help promote an adequate, safe, and economically viable groundwater supply for existing and future development within the County. These actions shall be intended to help the County mitigate the potential impact on ground water resources identified during planning and approval processes.

WR-1.5 Expand Use of Reclaimed Wastewater

To augment groundwater supplies and to conserve potable water for domestic purposes, the County shall seek opportunities to expand groundwater recharge efforts.

WR-1.6 Expand Use of Reclaimed Water

The County shall encourage the use of tertiary treated wastewater and household gray water for irrigation of agricultural lands, recreation and open space areas, and large landscaped areas as a means of reducing demand for groundwater resources.

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?

Project Impact Analysis: *Less Than Significant Impact*

The Applicant is not proposing to increase overall lifetime production of the existing mining permit nor is any lateral or depth expansion proposed. All 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)). The Project being proposed is a continuation of existing operations into an adjacent area that is already within the Project boundaries and an increase in potential yearly output. Therefore, it is anticipated that there will not be a significant increase in impacts associated with water quality standards or waste discharge requirements above and beyond existing and/or currently permitted conditions. Further information is provided below.

Septic System

There is an existing septic system and water well on the site. No new or expansion of water or wastewater treatment facilities is anticipated or proposed.

Storm Drainage System

Water that is collected within the site is pumped into an interim sediment basin. There are two interim sediment basins for the mine, one shown on the original permit, and one in the expansion area (See Figure 3.9-2).

With the appropriate water quality permit from the Central Valley Regional Water Quality Control Board (RWQCB) potential impacts related to this specific topic will remain at a less than significant level.

For the existing facility, the applicant has prepared a Storm Water Pollution Prevention Plan (SWPPP) and Storm Water Monitoring Plan (SWMP). Within this SWPPP/SWMP it is noted that the proposed Project will comply with the General Permit for Industrial Dischargers. As part of this compliance the applicant will be required to fulfill the following: (1) demonstrate compliance with permit requirements, (2) evaluate changing conditions and practices at the site to control pollutants in stormwater discharges, (3) implement the SWPPP, and (4) measure effectiveness of Best Management Practices. In addition, the General Permit requires annual testing and reporting of results to the RWQCB. The proposed Project applicant will be required to update these documents with the RWQCB to reflect the proposed expansion of the proposed Project.

Potential sources of pollution⁴² during Project operation include:

- Maintenance and repair (including leaking vehicles and equipment)
- Asphalt plant
- Crushing plant
- Quarry

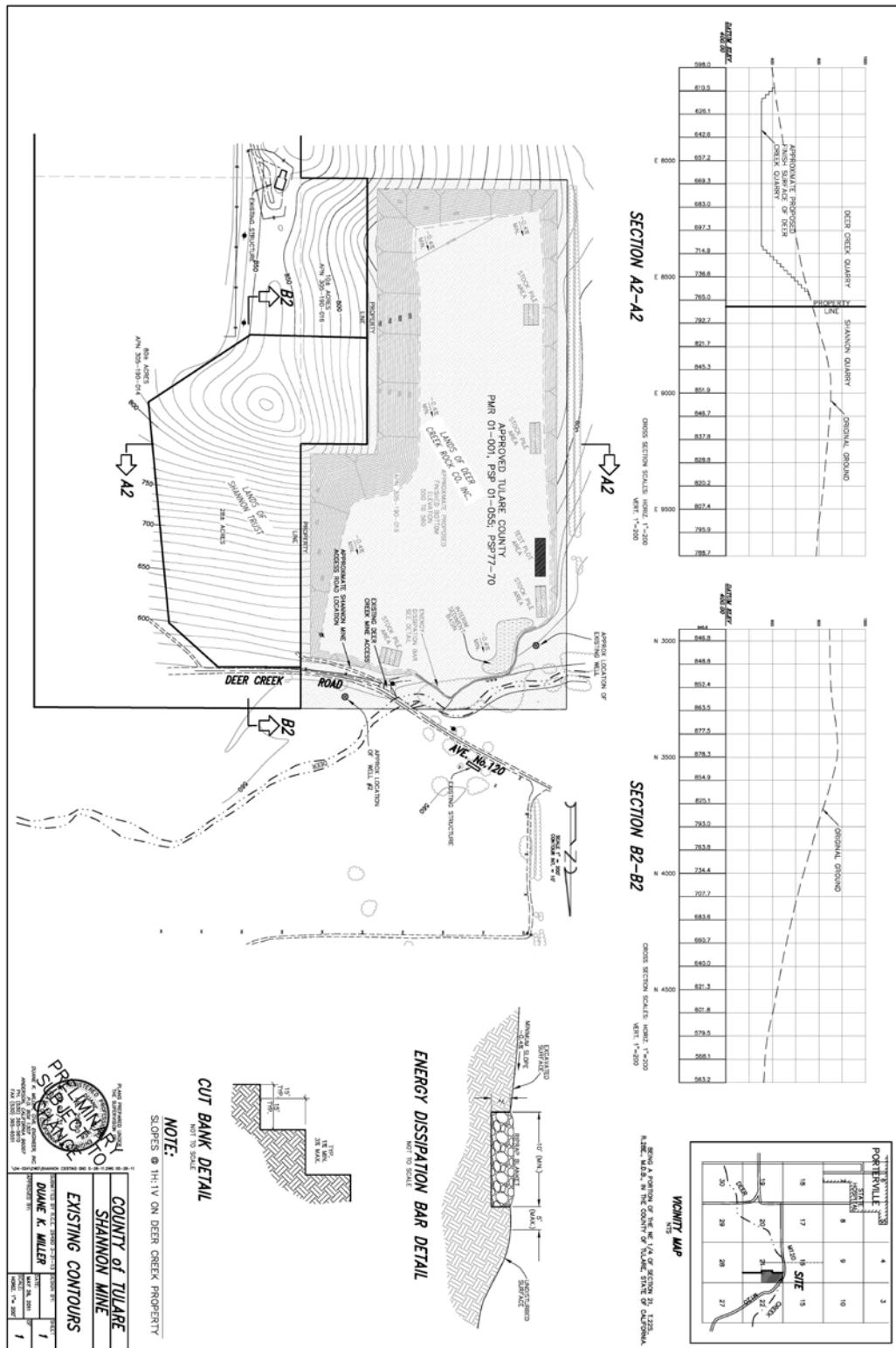
Potential pollutants⁴³ during Project operation include:

- Asphalt Oil
- Oil and Grease
- Petroleum Hydrocarbons
- Propane
- Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)
- Suspended solids
- Volatile Organic Compounds (VOCs)

⁴² Ibid, pages 17-19

⁴³ Ibid.

Figure 3.9-2
Existing Contours



The site SWPPP provides an extensive list of site-specific Best Management Practices (BMPs) ⁴⁴. They are summarized here:

- Mulching
- Seeding
- Protecting drainage conveyances
- Gravel/paved surfaces
- Treatment BMP's for erosion and sediment
- Retention basin
- Silt fences
- Sediment trap
- Good housekeeping measures in erosion control
- Petroleum products and maintenance BMPs
- Other specific measures outlined in the SWPPP

Ground Water Quality

As stated previously, the Applicant is not proposing to increase overall lifetime production of the existing mining permit nor is any lateral or depth expansion proposed. Therefore, it is anticipated that there will not be a significant increase in impacts associated with ground water quality above and beyond existing conditions.

Mining discharges including surface impoundments, tailing ponds, and waste piles are regulated by the Central Valley Regional Water Quality Control Board under Title 27 with prescriptive and performance standards for waste containment, monitoring and closure. (See CCR Title 27). In-active mines (which include abandoned mines) that are threatening or impacting surface and groundwater are regulated primarily by Title 27, State Water Resources Control Board Resolution Order #92-49. This Project poses no threat to ground water as all water is collected and disposed of in accord with Regional Water Quality Control Board rules and regulations.

There is no data available from the California Department of Water Resources with regard to groundwater quality in the immediate vicinity of the proposed Project site. According to the California Department of Public Health's water system permit application, any well that serves drinking water to at least 25 persons for at least 60 days out of the year is a public water system. As the facility does not employ more than 25 workers for more than 60 days a year, the wells are considered a Non-community water system. The proposed Project will utilize the existing water well for potable uses associated with the facility.

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. The Project will result in a ***Less Than Significant Impact***.

⁴⁴ Ibid, pages 20-23

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.

The proposed Project will be required to comply with the all 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 deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?**

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

There will be a less than significant impact related to this Checklist. The proposed project will consume groundwater from an on-site well as its sole source of water. According to the Tulare Lake Basin Plan, Agriculture consumes 30% of the water in the Basin, and 69% from ground water sources.⁴⁵ According to the Air Quality report prepared by First Carbon Solutions for the Project, typical water trucks operate twice daily at 4,000 gallons a in each operation. On a typical day the Project will use 4 truckloads of water, or less, of water, at 2,000 gallons per truck load. During cooler periods, when there is less water, this figure would be lower. In fact, the applicant has various operational days when no water is used. Averaging this use out over the 150 days of warm operational days requiring dust control, at 8,000 gallons a day, the Project will use 1.2 million gallons a year. According to the SMARA permit, employees will use 200 gallons a day, or 600,000 gallons a year based on 20 employees at 150 days per year (a conservative estimate). This totals 1.8 million gallons a year, or 8.6 acre/feet per year.

⁴⁵ Department of Water Resources Water Quality Control Plan for the Tulare Lake Basin, page I-1

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Depending on crop type, mining projects use less water than agricultural uses on the same amount of land, depending on which crop is cultivated, according to the California Water Plan Update 2009 for the Tulare Basin. According to the UC Cooperative Extension Office, a typical citrus orchard will require just slightly over three acre-feet of water per acre during the course of one year (or 977,553 gallons of water) and according to a 1998 UC Cooperative Extension Best Management Report for grape crops between 2.0 and 4.5 acre feet a year, or 3.25 Acre Feet a year on average.⁴⁶ Even taking just 28 acres of citrus, the site could potentially be using upwards of 90 acre feet per year. Thus, the proposed Project's water use of 8.6 acre/feet per year and the impact to the ground water aquifer will be ***Less Than Significant***.

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 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, in a manner which would result in substantial erosion or siltation on- or off-site?**

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

⁴⁶ UC Extension Publication: <http://ucanr.edu/freepubs/finalpage.cfm?s=8230&cat=11&subcat=14> Accessed November, 2014.

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The Project site is located near Deer Creek, however, the Project will not alter or interfere with the course of Deer Creek. According to the site Project SWPPP there are four stormwater flow paths on the property. These are described below:⁴⁷

- The eastern most path contains a very small portion of the mining operation. This area includes runoff down a gravel road and flows from undisturbed ground east of the mine. The amount of runoff is minor and there are no signs of erosion along the flow path. The runoff discharges just east of the entry gate of the facility.
- The main runoff area in terms of acreage are flows that go into the quarry (excavation area) itself. Runoff is from all directions. All flows are retained in the large depression formed by the mining operation.
- The next flow direction is a very linear route along the northern side of the site. This location receives runoff from the main entry road, office, and part of the asphalt plant. This area has a gravel surface. Most of the runoff travels eastward and along a berm that has been constructed between Deer Creek and the facility. There are two locations along this berm where runoff discharges to Deer Creek.
- The last location is the western side of the mine. This location has runoff from the mines stockpiles. The flow path is from north to south. The area is mainly gravel and the flow route follows circulation routes until it discharges into Deer Creek.

The existing use includes erosion control/slope stabilization. In addition, as identified in the previous approved Surface Mining Permit (PMR 09-002), the following conditions apply:

- The maximum depth of excavation is permitted to proceed to 560 feet above median sea level (MSL).
- The maximum steepness of exposed cuts and fills shall meet the standards established in the Improvement Standards of Tulare County and the Project's approved Reclamation Plan.
- The Project shall not interfere with or contaminate any off site water well or domestic water source or be permitted to extend below the level of groundwater (groundwater table) or exceed the maximum proposed depth of excavation, whichever occurs first.
- Any mining slopes exceeding 1:1 (horizontal or vertical) shall be designed and approved by a registered geotechnical engineer or certified engineering geologist applying appropriate "safety factor" in the design to minimize the possibility of slope failure based on the nature and competency of the rock materials being mined. The engineering geologist or geotechnical engineer shall prepare a report concerning the stability of the slopes and make a copy of said report available to the Tulare County RMA.
- The applicant shall maintain a 100 foot minimum buffer (setback) between the mining operation and the active channel and floodplain of Deer Creek in the Project area.
- The applicant shall provide a site specific Soil Erosion and Drainage Control Plan for approval by the Tulare County RMA before commencing mining activities in the

⁴⁷ Deer Creek Rock SWPPP, pages 10-11.

Project area. The plan shall encompass the whole of the operations area and be prepared by a registered professional engineer or certified engineering geologist.

- The mining operations shall not disturb, not introduce materials into the drainage channels of the adjacent intermittent streams.

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. 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.

Cumulative Impact Analysis: ***Less Than Significant 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, no Project-specific impacts related to this Checklist item will occur. ***Less Than Significant Cumulative Impacts*** would occur.

- d) **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?**

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

See Response 3.9 c. 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) **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*

See Response 3.9 c. The Project site is in a rural area with no existing storm drain systems and the Project stormwater drainage system will be entirely self-contained. The Project site has been designed to capture, store and dispose of surface runoff in a manner which will not exceed the capacity of existing or planned stormwater drainage systems, nor will it provide substantial additional sources of polluted runoff. 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: *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.

- f) **Otherwise substantially degrade water quality?**

Project Impact Analysis: *No Impact*

According the EPA, granite quarries are not a known source of water pollution. There is ***No Impact***.

Cumulative Impact Analysis: ***No 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 earlier, the proposed Project does not include elements that could degrade water quality beyond what was discussed in Item 3.9 a). ***No Cumulative Impacts*** 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.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

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

The Proposed Project does not include the construction of any housing units. ***No Project-specific Impacts*** related to this Checklist Item will occur.

The Federal Emergency Management Agency Flood Insurance Rate Map (Community ID 06107C, Panel 1655E) indicates that the site is not within a 100-year flood hazard area.⁴⁸ The Project site is not located in a designated flood hazard area and no residential development is proposed.

For these reasons, the Project's potential impacts are determined to be ***Less Than Significant***.

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.

⁴⁸ FEMA Map Service Center <https://msc.fema.gov/webapp/wcs/stores/servlet/MapSearchResult?storeId=10001&catalogId=10001&langId=-1&panelIDs=06107C0345E&Type=pbp&nonprinted=&unmapped=>. Accessed November, 2014.

The proposed Project does not include any housing units. Therefore, no cumulative impacts 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.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Project Impact Analysis: *No Impact*

The proposed Project site is not located within the 100 year flood zone. Project-specific impacts related to this Checklist Item will be *Less Than Significant*.

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 result in off-site impacts related to flooding. In addition, the proposed Project will not induce additional flooding hazards. Therefore, *No Cumulative Impacts* related to this Checklist Item will occur.

Mitigation Measure(s):

None Required.

Conclusion: *No Impact*

No Project-specific or Cumulative Impacts related to this Checklist Item will occur

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Project Impact Analysis: *No Impact*

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“Two major dams could cause substantial flooding in Tulare County in the event of a failure: Terminus Dam and Success Dam. In addition, there are many smaller dams (including the Sand Creek Dam in Fresno County) and throughout the county that would cause localized flooding in the event of their failing.”⁴⁹ The Project site is not located within the Success Dam inundation area, as shown on Figure 7-3 of the City of Porterville’s 2030 General Plan. This inundation area runs through Porterville, to a location downstream of Corcoran, a distance of approximately 44 miles.”

In addition, the proposed Project does not involve significant water storage or changing the alignment of an established watercourse. ***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. 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, the proposed Project is not located near a major levee or dam. The proposed Project will not have any impacts related to this Checklist item on other off-site parcels. Therefore, ***No Cumulative Impacts*** 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.

j) Inundation by seiche, tsunami, or mudflow?

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

The Project site is relatively flat and is not located near a large body of water, the coast or hillsides. As such, the proposed Project is not subject to inundation by seiche, tsunami, or mudflow. ***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. 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.

⁴⁹ Tulare County General Plan 2030 Update Background Report, page 8-17

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As noted earlier, the proposed Project is not located near a large body of water, the coast or hillsides. The proposed Project will not have any impacts related to this Checklist item on other off-site parcels. *No Cumulative Impacts* 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.

DEFINITIONS/ACRONYMS

Acronyms

(AF)	Acre-feet
(AMP)	Agricultural Management Plan
(CIMIS)	California Irrigation Management Information System
(DWR)	Department of Water Resources
(M&I)	Municipal and Industrial
(MW)	Megawatts
(O&M)	Operation and Maintenance
(TDS)	Total Dissolved Solids
(UWMP)	Urban Water Management Plan
(WSA)	Water Supply Assessment

REFERENCES

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California Wetlands Information System. Porter-Cologne Water Quality Control Act Summary, http://ceres.ca.gov/wetlands/permitting/Porter_summary.html. Accessed November, 2014.
Central Valley Water Quality Control Board, http://www.swrcb.ca.gov/centralvalley/about_us/. Accessed November, 2014.

CEQA Guidelines, Section 15126.2 (a)

Deer Creek Rock SWPPP, pages 10-11.

Department of Water Resources California Water Plan Update 2009, Tulare Lake, page TL-5, 9, 10, 15, 16, 17, 19, 22, 23, 24, 28, 29

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Tulare County Environmental Health Division, <http://www.tchhsa.org/hhsa/>. Accessed November, 2014.

Tulare County General Plan 2030 Update Background Report, pages 8-17, 10-7, 11, 12, 13, 14, 17

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Accessed November, 2014.

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U.S. Environmental Protection Agency, Summary of the Clean Water Act –
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Water Quality Control Plan for the Tulare Lake Basin, page I-1, III-2 through III-7

Land Use and Planning

Chapter 3.10

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts to Land Use and Planning. A detailed review of potential impacts is provided in the following analysis.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to Land Use and Planning. 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 will 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 Land Use and Planning setting 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

¹ CEQA Guidelines, Section 15126.2 (a)

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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:

- Divide Community
- Conflict with Applicable land use plan policy, or regulation of an agency with jurisdiction over the Project
- Conflict with applicable habitat conservation plan

ENVIRONMENTAL SETTING

Tulare County is located in a geographically diverse region with the majestic peaks of the Sierra Nevada framing its eastern region, while its western portion includes the San Joaquin Valley floor, which is very fertile and extensively cultivated. In addition to its agricultural production, the County's economic base also includes agricultural packing and shipping operations. Small and medium size manufacturing plants are located in the western part of the county and are increasing in number. Tulare County contains portions of Sequoia National Forest, Sequoia National Monument, Inyo National Forest, and Kings Canyon National Park. Sequoia National Park is entirely contained within the county.

The County encompasses approximately 4,840 square miles of classified lands (lands with identified uses) and can be divided into three general topographical zones: a valley region; a foothill region east of the valley area; and a mountain region just east of the foothills. The eastern half of the county is generally comprised of public lands, including the Mountain Home State Forest, Golden Trout Wilderness area, and portions of the Dome Land and south Sierra Wilderness areas. Federal lands, which include wilderness, national forests, monuments and parks, along with County parks, make up 52 percent of the County, the largest percentage found in the County. Agricultural uses, which include row crops, orchards, dairies, and grazing lands on the Valley floor and in the foothills total over 2,020 square miles or about 43 percent of the entire County. Urban uses such as incorporated cities, communities, hamlets, other unincorporated urban uses, and infrastructure rights-of-way make up the remaining land in the County.

“Land use in Tulare County is predominately agriculture, and the County is committed to retaining the rich agricultural land. The foothill and mountain regions are controlled predominantly by the State and federal governments. However, as population increases, so does the demand for new housing, retail and commercial space. Agricultural land around the cities is being converted into urban uses. Housing, land, employment and economics are balanced to minimize the amount of agricultural land taken by development. Economic principles tend to take precedence over the conservation of land.”²

² Tulare County Association of Governments, Regional Transportation Plan. 2011. Page 1-11.

“Tulare County has been one of the faster growing counties in the state. Since 1950, its annualized growth rate is 1.8% (2.0% since 1980). Population growth has been primarily in the incorporated cities versus the unincorporated county... As of January 2009, the Department of Finance (DOF) estimates the County population to be 441,481...”³

REGULATORY SETTING

Federal Agencies & Regulations

Federal Endangered Species Act

“Through federal action and by encouraging the establishment of state programs, the 1973 Endangered Species Act provided for the conservation of ecosystems upon which threatened and endangered species of fish, wildlife, and plants depend. The Act:

- authorizes the determination and listing of species as endangered and threatened;
- prohibits unauthorized taking, possession, sale, and transport of endangered species;
- provides authority to acquire land for the conservation of listed species, using land and water conservation funds;
- authorizes establishment of cooperative agreements and grants-in-aid to States that establish and maintain active and adequate programs for endangered and threatened wildlife and plants;
- authorizes the assessment of civil and criminal penalties for violating the Act or regulations;
- authorizes the payment of rewards to anyone furnishing information leading to arrest and conviction for any violation of the Act or any regulation issued there under.”⁴

State Agencies & Regulations

California Department of Fish and Game

“The Department of Fish and Game maintains native fish, wildlife, plant species and natural communities for their intrinsic and ecological value and their benefits to people. This includes habitat protection and maintenance in a sufficient amount and quality to ensure the survival of all species and natural communities. The department is also responsible for the diversified use of fish and wildlife including recreational, commercial, scientific and educational uses.”⁵

California Endangered Species Act

“The California Endangered Species Act (CESA) states that all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a

³ Ibid. Page 1-4

⁴ Federal Endangered Species Act, <http://www.fws.gov/laws/lawsdigest/esact.html>. Accessed August 2014.

⁵ California Department of Fish and Game website, <https://www.wildlife.ca.gov/Explore>. Accessed August 2014.

threatened or endangered designation, will be protected or preserved. The Department will work with all interested persons, agencies and organizations to protect and preserve such sensitive resources and their habitats.”⁶

Local Policy & Regulations

Tulare County Association of Governments (TCAG)

“The Tulare County Association of Governments (TCAG) is responsible for overseeing and planning projects with the county and each of its cities, helping to bring tax money back home to fund bus service, road improvements, projects that will improve our air quality, and more.”⁷ TCAG’s 2009 Regional Blueprint includes a goal of a 25% increase in land use densities facilitated with urban growth and expansion of transportation facilities.

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.

ED-2.2 Land Requirements

The County shall ensure there is capacity for new and expanding businesses by:

1. Reserving sufficient locations for industry, recognizing industry’s need for greater land requirements;
2. Recognizing the need for a variety of locations to avoid creation of a monopoly of the industrial land market and to reflect varying requirements for transportation facilities and utility services; and
3. Reserving land for exclusive industrial use to encourage development of like industries that complement each other and to prevent encroachment on industrial areas by incompatible uses.

ED-3.1 Diverse Economic Base

The County shall actively promote the development of a diversified economic base by continuing to promote agriculture, recreation services, and commerce, and by expanding its efforts to encourage industrial development including the development of energy resources.

PF-1.2 Location of Urban Development

The County shall ensure that urban development only takes place in the following areas:

1. Within incorporated cities and CACUDBs;
2. Within the UDBs of adjacent cities in other counties, unincorporated communities, planned community areas, and HDBs of hamlets;
3. Within foothill development corridors as determined by procedures set forth in Foothill Growth Management Plan;

⁶ California Endangered Species Act, <http://www.dfg.ca.gov/habcon/cesa/>. Accessed August 2014.

⁷ Tulare County Council of Governments (TCAG) Website, <http://www.tularecog.org/>. Accessed 2014.

4. Within areas set aside for urban use in the Mountain Framework Plan and the mountain sub-area plans; and
5. Within other areas suited for non-agricultural development, as determined by the procedures set forth in the Rural Valley Lands Plan.

PF-1.3 Land Uses in UDBs/HDBs

The County shall encourage those types of urban land uses that benefit from urban services to develop within UDBs and HDBs. Permanent uses which do not benefit from urban services shall be discouraged within these areas. This shall not apply to agricultural or agricultural support uses, including the cultivation of land or other uses accessory to the cultivation of land provided that such accessory uses are time-limited through Special Use Permit procedures.

PF-1.4 Available Infrastructure

The County shall encourage urban development to locate in existing UDBs and HDBs where infrastructure is available or may be established in conjunction with development. The County shall ensure that development does not occur unless adequate infrastructure is available, that sufficient water supplies are available or can be made available and that there are adequate provisions for long term management and maintenance of infrastructure and identified water supplies.

PF-2.1 Urban Development Boundaries – Communities

The County shall limit urban development to the area within the designated UDB for each community. Each community's UDB is defined as shown on Figures 2.2-2 thru 2.2-22.

PF-2.8 Inappropriate Land Use

Areas within UDBs are hereby set aside for those types of urban land uses which benefit from urban services. Permanent uses which do not benefit from such urban services shall be discouraged within the UDBs. This is not intended to apply to agricultural or agricultural supported uses, including the cultivation of land or other uses accessory to the cultivation of land, provided that such accessory uses are time-limited through special use permit procedures.

LU-5.1 Industrial Developments

The County shall encourage a wide range of industrial development activities in appropriate locations to promote economic development, employment opportunities, and provide a sound tax base.

LU-5.4 Compatibility with Surrounding Land Use

The County shall encourage the infill of existing industrial areas and ensure that proposed industrial uses will not result in significant harmful impacts to adjacent land uses.

LU-5.7 Industrial Uses Allowed on Resource Land

The County shall allow asphalt batch plants and similar processing facilities that are directly associated with the development of a resource to be located at the site of the resource under the following criteria:

1. Any such site shall be developed under the Special Use Permit process, and
2. The Special Use Permit shall not permit any commercial or industrial uses that are not related to the processing of the resource.

LU-6.2 Buffers

The County shall ensure that residential and other non-compatible land uses are separated and buffered from major public facilities such as landfills, airports, and sewage treatment plants.

ERM-2.9 Compatibility

The County will encourage the development of mineral deposits in a manner compatible with surrounding land uses.

IMPACT EVALUATION

Would the project:

a) Physically divide an established community?

Project Impact Analysis: *No Impact*

The proposed Project is east of the City of Porterville and does not include the construction of a major highway or railroad track. Further, the proposed Project does not require any off-site construction. As the proposed Project will remain within the existing footprint of current operations, no other land beyond the current Project site will be affected. 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 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 is not part of a new transportation facility that could divide a community. *No cumulative Impacts* 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.

- b) **Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?**

Project Impact Analysis: *Less Than Significant Impact*

Tulare County is located in the Central Valley and does not border a coastline. As such, projects located within Tulare County will not impact a local coastal program.

The proposed Project does not include any variances and the expanded use (which involves an increase in the annual extraction rate but not an expansion of land area) is appropriate for the site. Natural resources mining is permitted with a surface mining permit and reclamation plan, in accordance with Chapter 25 of Part VII of the Tulare County Ordinance Code. 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 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 expansion outlined in the proposed use permit request does not include any variances and will not conflict with a policy or plan. *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* related to this Checklist item will occur.

- c) **Conflict with any applicable habitat conservation plan or natural community conservation plan?**

Project Impact Analysis: *Less Than Significant Impact*

As noted in Chapter 3.4, there are two habitat conservation plans that apply in Tulare County. The Kern Water Habitat Conservation Plan only applies to an area in Allensworth (located in the southwestern quadrant of Tulare County) thus the Project site is not subject to this Plan.

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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 described in Section 3.4, Biological Resources. 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 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.

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:

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

REFERENCES

California Department of Fish and Game website, <https://www.wildlife.ca.gov/Explore>. Accessed August 2014.

California Endangered Species Act, <http://www.dfg.ca.gov/habcon/cesa/>. Accessed August 2014.

CEQA Guidelines, Section 15126.2 (a)

Federal Endangered Species Act, <http://www.fws.gov/laws/lawsdigest/esact.html>. Accessed August 2014.

Tulare County Association of Governments, Regional Transportation Plan. 2011. Pages 1-4, 1-11.

Tulare County Council of Governments (TCAG) Website, <http://www.tularecog.org/>. Accessed 2014.

Mineral Resources

Chapter 3.11

SUMMARY OF FINDINGS

The proposed Project will not have any significant impacts related to Mineral Resources. No Mitigation Measures will be required.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to Mineral Resources. 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 Mineral Resources 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

¹ CEQA Guidelines, Section 15126.2 (a)

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 Tulare County 2030 General Plan identifies known Mineral Resource areas. The threshold of significance for this section will include the following:

- Impact a known Mineral Resource
- Site located in a Mineral Resource Zone area (as noted in the General Plan)

ENVIRONMENTAL SETTING

“There is estimated to be a total of 932 million tons of aggregate resources in Tulare County. This figure includes 219 million tons of reserves available for mining and 200 million tons that are located in the hard rock quarries southeast of Porterville. Of that total, 19 million tons are located in Northern Tulare County, which is expected to be depleted by the year 2010 unless new resources are permitted for mining. Lemon Cove has been the most highly extracted area for PCC quality aggregate supplies.”²

“Economically, the most important minerals that are extracted in Tulare County are sand, gravel, crushed rock and natural gas. Other minerals that could be mined commercially include tungsten, which has been mined to some extent, and relatively small amounts of chromite, copper, gold, lead, manganese, silver, zinc, barite, feldspar, limestone, and silica. Minerals that are present but do not exist in the quantities desired for commercial mining include antimony, asbestos, graphite, iron, molybdenum, nickel, radioactive minerals, phosphate, construction rock, and sulfur... The majority of these activities appear to occur in the Sierra Foothill Area.”³

“The following MRZ categories are used by the State Geologist in classifying the State’s lands. The geologic and economic data and the arguments upon which each unit MRZ assignment is based are presented in the mineral land classification report transmitted by the State Geologist to the SMGB...

- A. *MRZ-1*—Areas where adequate geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. This zone is applied where well developed lines of reasoning, based on economic-geologic principles and adequate data, indicate that the likelihood for occurrence of significant mineral deposits is nil or slight.
- B. *MRZ-2a*—Areas underlain by mineral deposits where geologic data show that significant measured or indicated resources are present. As shown on the diagram of the California Mineral Land Classification System, MRZ-2 is divided on the basis of both degree of knowledge and economic factors. Areas classified MRZ-2a contain discovered mineral deposits that are either measured or indicated reserves as determined by such evidence as drilling records, sample analysis,

² Tulare County General Plan 2030 Update Background Report, page 10-18

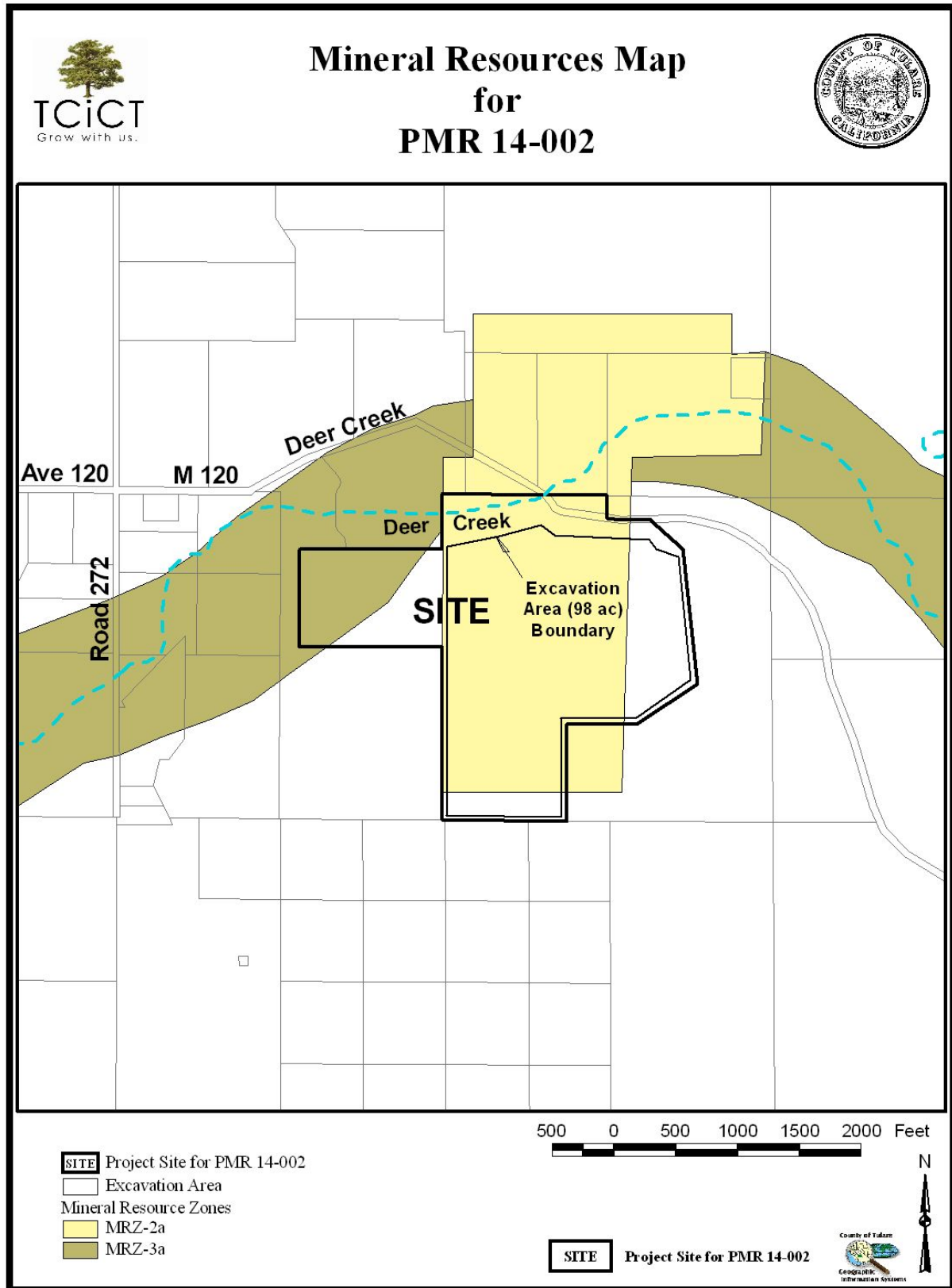
³ Ibid. Page 10-17

- surface exposure, and mine information. Land included in the MRZ-2a category is of prime importance because it contains known economic mineral deposits. A typical MRZ-2a area would include an operating mine, or an area where extensive sampling indicates the presence of a significant mineral deposit.
- C. *MRZ-2b*—Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. Areas classified MRZ-2b contain discovered deposits that are either inferred reserves or deposits that are presently sub-economic as determined by limited sample analysis, exposure, and past mining history. Further exploration work and/or changes in technology or economics could result in upgrading areas classified MRZ-2b to MRZ-2a. A typical MRZ-2b area would include sites where there are good geologic reasons to believe that an extension of an operating mine exists or where there is an exposure of mineralization of economic importance.
- D. *MRZ-3a*—Areas containing known mineral deposits that may qualify as mineral resources. Further exploration work within these areas could result in the reclassification of specific localities into the MRZ-2a or MRZ-2b categories. MRZ-3a areas are considered to have a moderate potential for the discovery of economic mineral deposits. As shown on the diagram of the California Mineral Land Classification System, MRZ-3 is divided on the basis of knowledge of economic characteristics of the resources. An example of a MRZ-3a area would be where there is direct evidence of a surface exposure of a geologic unit, such as a limestone body, known to be or to contain a mineral resource elsewhere but has not been sampled or tested at the current location.
- E. *MRZ-3b*—Areas containing inferred mineral deposits that may qualify as mineral resources. Land classified MRZ-3b represents areas in geologic settings which appear to be favorable environments for the occurrence of specific mineral deposits. Further exploration work could result in the reclassification of all or part of these areas into the MRZ-3a category or specific localities into the MRZ-2a or MRZ-2b categories. MRZ-3b is applied to land where geologic evidence leads to the conclusion that it is plausible that economic mineral deposits are present. An example of a MRZ-3b area would be where there is indirect evidence such as a geophysical or geochemical anomaly along a permissible structure which indicates the possible presence of a mineral deposit or that an ore-forming process was operative.
- F. *MRZ-4*—Areas where geologic information does not rule out either the presence or absence of mineral resources. The distinction between the MRZ-1 and MRZ-4 categories is important for land-use considerations. It must be emphasized that MRZ-4 classification does not imply that there is little likelihood for the presence of mineral resources, but rather there is a lack of knowledge regarding mineral occurrence. Further exploration work could well result in the reclassification of land in MRZ-4 areas to MRZ-3 or MRZ-2 categories.”⁴

Figure 3.11-1
Mineral Resource Zones

⁴ California Department of Conservation, Division of Mines and Geology, “Guidelines for Classification and Designation of Mineral Lands”, <http://www.conservation.ca.gov/smgb/Guidelines/Documents/ClassDesig.pdf>. Accessed August 2014.

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REGULATORY SETTING

Federal Agencies & Regulations

None that apply to the proposed Project.

State Agencies & Regulations

Surface Mining and Reclamation Act of 1975 (SMARA)

“The Surface Mining and Reclamation Act (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.

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.”⁵

State Mining & Geology Board (SMGB)

“The SMGB serves as a regulatory, policy, and appeals body representing the State's interests in geology, geologic and seismologic hazards, conservation of mineral resources and reclamation of lands following surface mining activities. The SMGB operates within the Department of Conservation, and is granted certain autonomous responsibilities and obligations under several statutes including the Alquist-Priolo Earthquake Fault Zoning Act, the Seismic Hazards Mapping Act, and the Surface Mining and Reclamation Act.”⁶

The Office of Mine Reclamation (OMR)

“Created in 1991 to administer the Surface Mining and Reclamation Act of 1975 (SMARA). Established to meet the Act's requirement, OMR provides assistance to cities, counties, state agencies and mine operators for reclamation planning and promotes cost-effective reclamation. OMR strives to reclaim mined lands to a beneficial end-use through the implementation of SMARA, prevent or minimize the adverse environmental effects of mining by providing assistance to lead agencies and miners in the review of reclamation plans, and minimize residual hazards to public health and safety through the Abandoned Mine Lands program.”⁷

⁵ California Surface Mining And Reclamation Act Description, <http://www.conservation.ca.gov/smgb/Regulations/Pages/regulations.aspx>. Accessed August 2014.

⁶ California State Mining & Geology Board, <http://www.conservation.ca.gov/smgb/Pages/Index.aspx>. Accessed August 2014.

⁷ California Office of Mine Regulation, <http://www.conservation.ca.gov/OMR/Pages/Index.aspx>. Accessed August 2014.

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 below.

ERM-2.1 Conserve Mineral Deposits

The County will encourage the conservation of identified and/or potential mineral deposits, recognizing the need for identifying, permitting, and maintaining a 50 year supply of locally available PCC grade aggregate.

ERM-2.2 Recognize Mineral Deposits

The County will recognize as a part of the General Plan those areas of identified and/or potential mineral deposits.

ERM-2.3 Future Resource Development

The County will provide for the conservation of identified and/or potential mineral deposits within Tulare County as areas for future resource development. Recognize that mineral deposits are significantly limited within Tulare County and that they play an important role in support of the economy of the County.

ERM-2.5 Resources Development

The County will promote the responsible development of identified and/or potential mineral deposits.

ERM-2.7 Minimize Adverse Impacts

The County will minimize the adverse effects on environmental features such as water quality and quantity, air quality, flood plains, geophysical characteristics, biotic, archaeological, and aesthetic factors.

ERM-2.8 Minimize Hazards and Nuisances

The County will minimize the hazards and nuisances to persons and properties in the area during extraction, processing, and reclamation operations.

ERM-2.9 Compatibility

The County will encourage the development of mineral deposits in a manner compatible with surrounding land uses.

ERM-2.10 Incompatible Development

Proposed incompatible land uses in the County shall not be on lands containing or adjacent to identified mineral deposits, or along key access roads, unless adequate mitigation measures are adopted or a statement of overriding considerations stating public benefits and overriding reasons for permitting the proposed use are adopted.

ERM-2.11 Conditions of Approval - The County shall establish procedures to ensure compliance with conditions of approval on all active and idle mines.

ERM-2.12 Approved Limits - Tulare County will establish procedures to ensure that vested interest mining operations remain within their approved area and/or production limits.

ERM-2.13 SMARA Requirements

All surface mines in the County, unless otherwise exempted, shall be subject to reclamation plans that meet SMARA requirements. Reclamation procedures shall restore the site for future beneficial use of the land consistent with the Tulare County General Plan, subsequent to the completion of surface mining activities. Mine reclamation costs shall be borne by the mine operator, and guaranteed by financial assurances set aside for restoration procedures.

ERM-3.1 Environmental Contamination - All mining operations in the County shall be required to take precautions to avoid contamination from wastes or incidents related to the storage and disposal of hazardous materials, or general operating activity at the site.

IMPACT EVALUATION

Would the project:

- a) **Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

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

The proposed Project includes expanding the current mining operations. The proposed Project will make these resources more readily available and does not limit the availability to exclusively using rock resources. ***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.

As noted earlier, the proposed Project includes an expansion of a current mining operation. As such, ***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*** related to this Checklist Item will occur.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

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

The majority of the proposed Project site is located within the 2a Mineral Resource Zone (MRZ). A smaller portion of the western site is located within the 3a MRZ. The following policies and implementation measures can be found in the Tulare County General Plan and were developed to promote compatible development near known mineral resource zones:

- ERM-2.7 Minimize Adverse Impacts
- ERM-2.8 Minimize Hazards and Nuisances
- ERM-2.9 Compatibility
- ERM-2.10 Incompatible Development
- ERM-3.2 Limited Mining in Urban Areas
- ERM Implementation Measures #28, 29, 31 and 32.

These policies are designed to conserve and protect known mineral resources, such as the ones found on the proposed Project site⁸. As the proposed Project is in conformance with all of the mitigating policies and implementation measures, the Project is considered compatible development within the established MRZ. As such, ***Less Than Significant 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 will be in conformance with all of the policies and implementation measures outlined in the Environmental Resources Management Element of the Tulare County General Plan. As such, ***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 or Cumulative Impacts*** related to this Checklist Item will occur.

⁸ Tulare County General Plan 2030 Update Recirculated Draft EIR. Page 3.7-25

DEFINITIONS/ACRONYMS

Acronyms

MRZ	Mineral Resource Zone
OMR	Office of Mine Reclamation
SMGB	State Mining & Geology Board
SMARA	Surface Mining and Reclamation Act

REFERENCES

California Department of Conservation, Division of Mines and Geology, “Guidelines for Classification and Designation of Mineral Lands”, which can be accessed at:
<http://www.conservation.ca.gov/smgb/Guidelines/Documents/ClassDesig.pdf>. Accessed August 2014.

California Office of Mine Regulation, which can be accessed at:
<http://www.conservation.ca.gov/OMR/Pages/Index.aspx>. Accessed August 2014.

California State Mining & Geology Board,
<http://www.conservation.ca.gov/smgb/Pages/Index.aspx>. Accessed August 2014.

California Surface Mining And Reclamation Act Description, which can be accessed at:
<http://www.conservation.ca.gov/smgb/Regulations/Pages/regulations.aspx>. Accessed August 2014.

CEQA Guidelines, Section 15126.2 (a)

Tulare County General Plan 2030 Update Background Report, Pages 10-17, 10-18

Tulare County General Plan 2030 Update Recirculated Draft EIR. Page 3.7-25

Noise

Chapter 3.12

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts related to Noise with Mitigation Implementation. A Noise Study Report prepared by consultant VRPA Technologies is included as Appendix “E” of this document which is used as the basis for determining this Project will result in Less than Significant Impact with Mitigation Implementation. A detailed review of potential impacts is provided in the following analysis.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

This section of the Draft Environmental Impact Report (DEIR) 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

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

¹ CEQA Guidelines, Section 15126.2 (a)

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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

“Noise in the community has often been cited as being a health problem, not in terms of actual damage such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities such as sleep, speech, recreation, and tasks demanding concentration or coordination. When community noise interferes with human activities or contributes to stress, public annoyance with the noise source increases, and the acceptability of the environment for people decreases. This decrease in acceptability and the threat to public well-being are the bases for land use planning policies preventing exposure to excessive community noise levels.”²

“Noise sources are commonly grouped into two major categories: transportation and non-transportation noise sources. Transportation noise sources include surface traffic on public roadways, railroad line operations, and aircraft in flight. Non-transportation (or fixed), noise sources, commonly consist of industrial activities, railroad yard activities, small mechanical devices (lawnmowers, leaf blowers, air conditioners, radios, etc.), and other sources not included in the traffic, railroad and aircraft category.”³

“Noise level data collected during continuous monitoring included the hourly Leq and Lmax and the statistical distribution of noise levels over each hour of the sample period. The community noise survey results indicate that typical noise levels in noise-sensitive areas of the unincorporated areas of Tulare County are in the range of 29-65 dB Ldn. As would be expected, the quietest areas are those that are removed from major transportation-related noise sources and industrial or stationary noise sources.”⁴

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 describe mitigation measures for noise if significant impacts are determined to exist. The NSR can be seen in its entirety in Appendix “E” of this DEIR.

² Tulare County Association of Governments 2011 Regional Transportation Plan Draft Subsequent EIR, Page 151

³ Ibid. Page 153

⁴ Tulare County General Plan 2030 Update Background Report, page 8-77

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“Existing traffic noise levels are established based on previously collected traffic data (Table 3.12-1) 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. Tulare County’s criteria shows that mitigation must be considered when the exterior noise exposure level of 60 L_{dn}/CNEL for single family residential and exterior noise exposure level of 65 to 70 L_{dn}/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.

Existing traffic noise levels were evaluated using TNM 2.5. Traffic volumes collected from the traffic report completed for the proposed Project and average vehicle speeds along Avenue 128, Plano Street, Road 264, and Deer Creek Drive were entered into the model to estimate noise levels at various receptors that would be affected by the proposed Project.

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. Tulare County’s General Plan has determined that Project will have a significant impact if it causes or contributes to noise levels that exceed Tulare County’s Land Use Compatibility for Community Noise Environments for sensitive receptors.

To assess existing noise conditions, VRPA Technologies staff compiled current traffic counts and existing geometric conditions in the Deer Creek Rock Co., Inc. Noise Study. Staff conducted noise level measurements within the proposed 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 proposed Project site.”⁵

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 3.12-1 (Figure 4 in the NSR).

⁵ Deer Creek Rock Co., Inc. Noise Study Report, Tulare County” Page 14, prepared by VRPA Technologies September 2014 (See Appendix “E” of this DEIR)

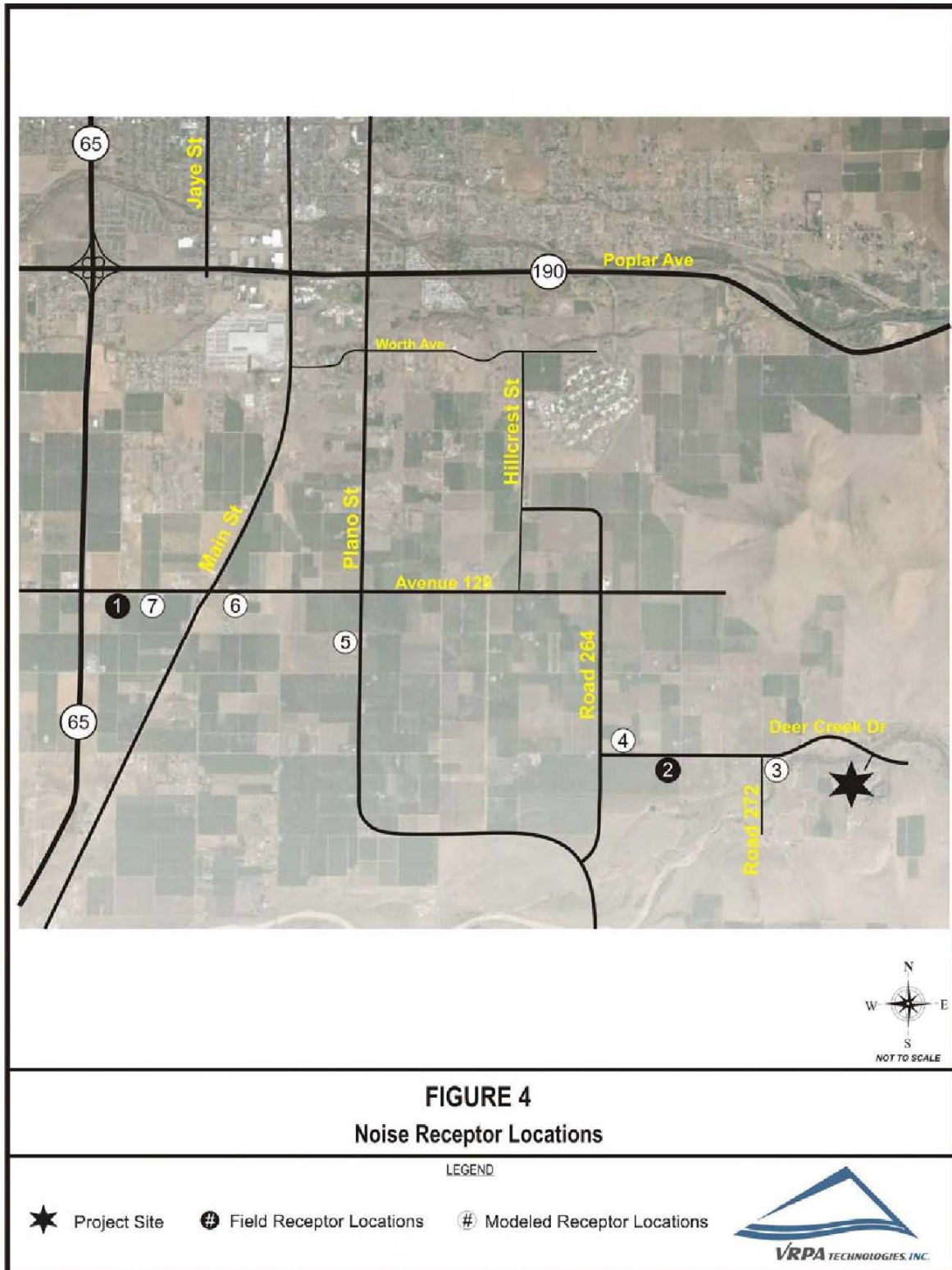
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**Table 3.12-1
Land Use Compatibility for Community Noise Environments⁶**

Land Use Category		Community Noise Exposure-Ldn or CNEL (dB)						
		50	55	60	65	70	75	80
Residential - Low Density Single Family, Duplex, Mobile Homes								
Residential – Multi-Family								
Transient Lodging – Motels, Hotels								
Schools, Libraries, Churches, Hospitals, Nursing Homes								
Auditoriums, Concerts Halls, Amphitheaters								
Sports Arenas, Outdoor Spectator Sports								
Playgrounds, Neighborhood Parks								
Golf Courses, Riding Stables, Water Recreation, Cemeteries								
Office Buildings, Business Commercial and Professional								
Industrial, Manufacturing, Utilities, Agriculture								
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.						

⁶ Appendix E, Table 1, Page 12

Figure 3.12-1
Noise Receptor Locations



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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 3.12-2.⁷ (Table 4 in the NSR)

**Table 3.12-2
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	54.2	39
Road 264	Between Deer Creek Drive and Avenue 116	60.2	80
Plano Street	Between Avenue 116 and Avenue 128	60.2	80
Avenue 128	Between Plano Street and SR 65	61.8	98

“In order to calibrate the TNM 2.5 model, the existing counts (expanded to one hour), lane geometry, and any other pertinent existing conditions were added to the model. The noise level measurements taken in the proposed Project 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 the Existing Plus Project and Future Year calculated noise levels to obtain the predicted noise levels for each study scenario.”⁸

“Traffic volumes, truck mix, and vehicle speeds were used as inputs to the model for the Existing and Existing Plus Project modeled scenarios. Traffic volumes and truck mix were determined by the Traffic Impact Study (TIS) prepared for the proposed Project. Table 5 [Table 3.12-3 of this DEIR] shows the predicted noise levels at the two measured sensitive receptors as a result of adding the Project. Results of the analysis show that none of the sensitive receptors will exceed Tulare County’s Land Use Compatibility for Community Noise Environments for the Existing Plus Project scenario. TNM 2.5 printouts included are provided in Appendix C [of the NSR]⁹ (see Appendix “E” of this DEIR).

⁷ Ibid. 15

⁸ Op. Cit. 15

⁹ Op. Cit. 16

Table 3.12-3
Traffic Noise Impacts for Existing Conditions

Field Receptor ID	Existing Noise Level Leq(h) dBA	Existing Noise Level Modeled Leq(h) dBA	K-Factor (Measured – Modeled =K)	Existing Plus Project Noise Level Leq(h) dBA	Noise Increase (+) or Decrease (-)	Tulare County Noise Standard dBA Ldn	Impact
1	64.8	71.9	-7.1	65.3	0.5	70.0	None
2	47.7	49.0	-1.3	50.2	2.5	60.0	None

For the Existing Plus Project scenario, five (5) additional sensitive receptors were added to the model to evaluate the impacts to other sensitive receptors located within the Project study area. The results are identified in Table 6 [Table 3.12-4 of this DEIR]. Results of the analysis show that none of the sensitive receptors will exceed Tulare County's Land Use Compatibility for Community Noise Environments.”¹⁰

Table 3.12-4
Traffic Noise Impacts for Existing Plus Project Conditions

Field Receptor ID	Development Type	Existing Plus Project Noise Level Leq(h) dBA	Tulare County Noise Standard dBA Ldn	Impact
3	Residential	53.1	60.0	None
4	Residential	56.8	60.0	None
5	Residential	56.0	60.0	None
6	Residential	54.8	60.0	None
7	School	47.3	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

¹⁰ Op. Cit. 16-17

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."¹¹

REGULATORY SETTING

Federal Agencies & Regulations

Federal Highways Administration (FHWA) Highway Traffic Noise Prediction methodology

"In March 1998, the Federal Highway Administration (FHWA) released the Traffic Noise Model, Version 1.0 (FHWA TNM®). It was developed as a means for aiding compliance with policies and procedures under FHWA regulations. Since its release in March 1998, Version 1.0a was released in March 1999, Version 1.0b in August 1999, Version 1.1 in September 2000, Version 2.0 in June 2002, Version 2.1 in March 2003 and the current version, Version 2.5 in April 2004. The FHWA TNM is an entirely new, state-of-the-art computer program used for predicting noise impacts in the vicinity of highways. It uses advances in personal computer hardware and software to improve upon the accuracy and ease of modeling highway noise, including the design of effective, cost-efficient highway noise barriers."¹²

Federal Aviation Administration (FAA)

"Aircraft operated in the U.S. 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. Pursuant to the federal Airport Noise and Capacity Act of 1990, the FAA established a schedule for complete transition to Part 36 "Stage 3" standards by year 2000. This transition schedule applies to jet aircraft with a maximum takeoff weight in excess of 75,000 pounds, and thus applies to passenger and cargo airlines, but not to operators of business jets or other general aviation aircraft."¹³

Federal Railway Administration (FRA) and the Federal Transit Administration (FTA)

"The Federal Railway Administration (FRA) and the Federal Transit Administration (FTA) have published guidance relative to vibration impacts. According to the FRA, fragile buildings can be exposed to groundborne vibration levels of 0.5 PPV without experiencing structural damage.

¹¹ Op. Cit. 20

¹² United States Federal Highway Administration website, Traffic Noise Model, http://www.fhwa.dot.gov/environment/noise/traffic_noise_model/. Accessed October, 2014.

¹³ Tulare County Association of Governments 2011 Regional Transportation Plan Draft Subsequent EIR, page 152

The FTA has identified the human annoyance response to vibration levels as 80 VdB.”¹⁴

State Agencies & Regulations

California Noise Insulation Standards

“The California Noise Insulation Standards found in the California Code of Regulations, Title 24, 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 DNL 45 dB 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 DNL 60 dB.”¹⁵

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, identify a noise exposure 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.”¹⁶

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 dB. The State passby standard for light trucks and passenger cars (less than 4.5 tons gross vehicle rating) is also 80 dB at 15 meters from the centerline.”¹⁷

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 below.

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

¹⁴ Ibid.

¹⁵ Tulare County Association of Governments 2011 Regional Transportation Plan Draft Subsequent EIR, page 153

¹⁶ Ibid., page 152

¹⁷ Ibid.

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, 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) **Exposure of persons to or generation of noise levels 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 With Mitigation*

Existing Traffic Noise Levels

Table 3.12-4 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.¹⁸

¹⁸ Deer Creek Rock Co., Inc. Noise Study Report, Tulare County" Page 14, prepared by VRPA Technologies September 2014 (See Appendix "E" of this DEIR). 15-17

Mining Operations

If during any work shift a miner's noise exposure exceeds the dual hearing protection level, the mine operator must, in addition to the actions required for noise exposures that exceed the permissible exposure level, provide and ensure the concurrent use of both an ear plug and an ear muff type hearing protector. Table 3.12-5 sets out mine operator actions under §62.140 of MSHA's noise standard.¹⁹

**Table 3.12-5
Mining Operation Requirements**

Provision	Condition	Action Required by the Mine Operator
<u>§62.120</u>	Miner's noise exposure is less than the action level	None
<u>§62.120</u>	Miner's exposure equals or exceeds the action level, but does not exceed the permissible exposure level (PEL)	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 hearing protectors, (3) voluntary audiometric testing, (4) training, and (5) record keeping.
<u>§62.130</u>	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.
<u>§62.140</u>	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):

12-1 Provide all hearing protection measures outlined in MSHA's Noise Standard Actions required by Mine Operators

Cumulative Impact Analysis: ***Less Than Significant 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.

“The impacts of the Project were analyzed considering future traffic conditions, approximately twenty years after Project expansion operations have commenced, 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. Traffic conditions without the proposed Project in the Year 2040

¹⁹ 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.

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were estimated using the Tulare County Association of Governments regional travel model.”²⁰

“Tulare County’s General Plan has determined that a Project will have a significant impact if it causes or contributes to noise levels that exceed Tulare County’s Land Use Compatibility for Community Noise Environments for sensitive receptors.”²¹ As depicted in Table 3.12-6 [Table 7 of the NSR, included as Appendix “E” of this DEIR], proposed cumulative Project impacts is *Less Than Significant*.

**Table 3.12-6
Traffic Noise Impacts for Existing Plus Project Plus Cumulative and
Cumulative Year 2040 Without and Plus Project Conditions**

Field Receptor ID	Existing Plus Project Plus Cumulative Noise Level Leq(h) dBA	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	65.3	66.1	66.4	0.3	70.0	None
2	50.2	48.1	50.4	2.3	60.0	None
3	53.1	51.0	53.3	2.3	60.0	None
4	56.8	54.8	57.1	2.3	60.0	None
5	56.0	56.9	57.4	0.5	60.0	None
6	54.8	55.6	55.9	0.3	60.0	None
7	47.3	48.1	48.4	0.3	70.0	None

“Table 8 [Table 3.12-7 of this DEIR] shows the Cumulative 2040 Without Project and Plus Project 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.”²²

²⁰ Deer Rock Creek Co., Inc. Noise Study Report” prepared by VRPA Technologies, September 2014. Page 17 (Also included as Appendix “E” of this DEIR)

²¹ Ibid. 18

²² Op. Cit. 19

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Table 3.12-7
Roadway Segment Noise Levels for Existing Plus Project, Existing Plus Project Plus Cumulative, and Cumulative Year 2040 Without and Plus Project Conditions

Roadway	Segment	Existing Plus Project		Existing Plus Project Cumulative		Cumulative Year 2040 Without Project		Cumulative Year 2040 Plus Project	
		Noise Level Leq(h) dBA @ 80' From Roadway Centerlines	Distance (feet) to 60 Leq(h) dBA From Roadway Centerlines	Noise Level Leq(h) dBA @ 80' From Roadway Centerlines	Distance (feet) to 60 Leq(h) dBA From Roadway Centerlines	Noise Level Leq(h) dBA @ 80' From Roadway Centerlines	Distance (feet) to 60 Leq(h) dBA From Roadway Centerlines	Noise Level Leq(h) dBA @ 80' From Roadway Centerlines	Distance (feet) to 60 Leq(h) dBA From Roadway Centerlines
Deer Creek Drive	Between Road 272 and Road 264	56.7	55	56.7	55	54.5	42	56.8	55
Road 264	Between Deer Creek Drive and Avenue 116	60.8	88	60.8	88	61.7	97	62.2	103
Plano Street	Between Avenue 116 and Avenue 128	60.8	88	60.8	88	61.7	97	62.2	103
Avenue 128	Between Plano Street and SR 65	62.2	103	62.2	103	63.0	113	63.4	118

As seen in Table 3.12-7, *No Significant Cumulative Impacts* are anticipated to occur.

Mitigation Measure(s):

None Required

Conclusion:

Less Than Significant Impact

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Project Impact Analysis:

Less Than Significant Impact

“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. Proposed 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 7 [Table 3.12-8 of this section]. 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.”²³

Table 3.12-8
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 μinch/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 construct activities, train operations, and street traffic.”²⁴ “Despite the perceptibility threshold of about 65 VdB, human reaction to vibration is not significant unless the vibration exceeds 75 VdB according to the United States Department of Transportation.”²⁵ “The nearest residence is approximately 875 feet away from the proposed Projects boundary. Using the highest vibration level shown in Table 10 [Table 3.12-8 of this DEIR] (L_v 87)...the anticipated vibration level at the nearest residence is 57 VdB. As a result, construct[ion] related vibration from the proposed Project is considered ***Less Than Significant***.”²⁶

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.

²³ Op. Cit. 21

²⁴ Op. Cit. 22

²⁵ Op. Cit. 23

²⁶ Op Cit. 24

Mitigation Measure(s):

None Required.

Conclusion: *Less Than Significant Impact*

- c) **A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?**

Project Impact Analysis: *Less Than Significant Impact*

“Under Existing conditions, none of the sensitive receptor locations in both the With and Without Project scenarios exhibit predicted noise impacts that exceed Tulare County’s Land Use Compatibility for Community Noise Environments. A change in the noise level of at least 5 dB is required before any noticeable change in community response would be expected. Table 5 shows that the sensitive receptors will increase by no more than 2.5 Leq dB as a result of the Project. Therefore, impacts from the Project are anticipated to be *Less Than Significant*.”²⁷

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 noted earlier in the response to Item 3.12 a), 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*

- d) **A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?**

Project Impact Analysis: *Less Than Significant Impact*

“There are no construction activities associated with the amendment to the proposed Project’s Permit that would generate an increase in ambient noise levels.

²⁷ Op. Cit. 24

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The Project's traffic contributes approximately 10% of traffic that is anticipated in the Cumulative 2040 scenario. Tulare County's General Plan has determined that a Project will have a significant impact if it causes or contributes to noise levels that exceed Tulare County's Land Use Compatibility for Community Noise Environments for sensitive receptors. Therefore, impacts from the Project are anticipated to be ***Less Than Significant***”²⁸

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***

- e) **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

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

“The Project is not located within two miles of a public airport or public use airport.”²⁹

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 Project is not located within two miles of a public airport or public use airport.

Mitigation Measure(s):

None Required.

Conclusion: ***No Impact***

- f) **For a project within the vicinity of a private airstrip, would the project expose people**

²⁸ Op. Cit.

²⁹ Op. Cit.

residing or working in the project area to excessive noise levels?

Project Impact Analysis: *No Impact*

“The Project is not located within the vicinity of a private airstrip.”³⁰

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 Project is not located within the vicinity of a private airstrip.

Mitigation Measure(s):

None Required.

Conclusion: *No Impact*

DEFINITIONS/ACRONYMS

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 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.”

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

³⁰ Op Cit.

³¹ TCAG 2011 Regional Transportation Plan Draft Subsequent EIR, page 150

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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.”³²

³² Tulare County General Plan 2030 Update Background Report, pages 8-46 to 8-47

REFERENCES

CEQA Guidelines, Section 15126.2 (a)

“Deer Creek Rock Co., Inc. Noise Study Report” prepared by VRPA Technologies, Inc. September 2014 and is included as Appendix “E” of this DEIR.

Tulare County Association of Governments 2011 Regional Transportation Plan Draft Subsequent EIR

Tulare County General Plan 2030 Update, *Background Report*

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.

Population and Housing

Chapter 3.13

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts related to Public Services without 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 Environmental Impact Report (DEIR) addresses potential impacts to Population and Housing. 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 will 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 Population and Housing 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

¹ 2012 CEQA Guidelines, Section 15126.2 (a)

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

- Induce Substantial Population Growth
- Displace Housing
- Displace People

ENVIRONMENTAL SETTING

“Tulare County, California is one of the largest counties in the great and fertile San Joaquin Valley. Geographically it is situated about midway between San Francisco and Los Angeles, the two principal cities of the Pacific Slope. Within the confines of Tulare County are now 4,863 square miles, or 3,158,400 acres.”²

The Tulare County Region has three (3) subregional Housing Market Areas. These three areas are described below:

Visalia/Farmersville/Exeter/Sequoia Park/Dinuba/Cutler/Orosi Market Area:

“Located in northern Tulare County and encompassing Census Tracts 1 through 20. Several cities are located within this market area including Dinuba, Exeter, Farmersville, Visalia (the County’s largest City), and Woodlake. Visalia is the only city within the entire County with two regional shopping centers. A number of unincorporated communities are located within this market area including: Cutler, East Orosi, Orosi, Sultana, Traver, Goshen, West Goshen, Ivanhoe, Lemon Cove, Three Rivers, and other Valley and Sierra Communities. It should be noted that Woodlake and Farmersville are highly defined sub-market areas within this Market Area. These communities have high farmworker households, low median income, and high unemployment rates within Tulare County. The geographic boundary of this market area extends to the Tulare County line in the north, west and east, and generally extends to Avenue 256 in the south.”³

Tulare/Southwest Tulare County Market Area:

“Located in central Tulare County, this Market Area encompasses Census Tracts 21 through 24, 29 through 32, and 42 through 44. The only incorporated city in this Market Area is Tulare, the second largest city in the County. A number of unincorporated cities are also located in this Market Area and include: Tipton, Pixley, Earlimart, and other Valley Communities. Most economic interaction with communities in this market area primarily occurs between the City of Delano located just south of the Tulare/Kern County Line and the City of Visalia to the north. The geographic boundary of this market area extends generally along Avenue 256, the County line to the west and to the south, and

² Tulare County Regional Blueprint, page 4 to 5

³ Final Tulare County 2008 Regional Housing Needs Assessment Plan, page II-2

along Rd. 192/Rd. 176/Rd. 208/SR 65 to the east.”⁴

Lindsay/Strathmore/Porterville/Foothills/Southeast Tulare County Market Area:

“Located in southeast Tulare County, this Market Area encompasses Census Tracts 25 through 28, 33 through 41, and 45. Most economic interaction in this Market Area occurs between the unincorporated communities and the Cities of Lindsay and Porterville. The unincorporated communities in this Market Area include: Strathmore, Cairns Corner, Ducor, Terra Bella, the Tule Indian Reservation, and other Valley and Sierra Communities. The geographic boundary of this market area extends along Avenue 256 to the north, Rd. 192/Rd. 176/Rd. 208/SR 65 to the west, and the County line to the south and east.”⁵

According to the Tulare County Regional Housing Needs Plan, the number of household in Tulare County’s was 110,356 in 2000. In 2007 the number of households was 125,836. The 2014 household projection was 159,514.

**Table 3.13-1
Tulare County Population**

	1980	1990	2000	2008
Tulare County’s Population	245,738	311,921	368,021	435,254

Source: 1980, 1990, 2000 U.S. Census, State of California, Department of Finance, E-1 Population Estimates.

“Affordability problems occur when housing costs become so high in relation to income that households have to pay an excessive proportion of their income for housing, or are unable to afford any housing and are homeless. A household is considered to be overpaying (or cost burdened) if it spends more than 30 percent of its gross income on housing. Severe overpayment occurs when a household spends more than 50 percent of income on housing. Housing costs depend upon many variables, including the type, size, value and/or location of the housing units, the intended tenure of the unit (whether it is to be occupied by owners or renters), and the inclusion or exclusion of one or more utilities, services, property taxes, insurance, and maintenance.”⁶

“Housing costs continue to rise significantly. Since 2000, the median rent has increased 40.9 percent from \$516 to \$727. The monthly owner costs for housing units with a mortgage have seen an even larger escalation going from \$943 to \$1,518 which is a 61 percent increase. The monthly owner costs for those housing units without a mortgage increased by 31 percent, going from \$251 to \$330.”⁷

As noted in the Tulare County 2008 Regional Housing Needs Assessment Plan, “[t]he RHNA Plan recommends that the County provide land use and zoning for approximately 938 units per year in the unincorporated portions of the County. This augmented number was due to the high allocation of housing given to the incorporated cites mainly as a result of the amount of annexations carried out by incorporated cites. The County administratively agreed to increase its

⁴ Final Tulare County 2008 Regional Housing Needs Assessment Plan, page II-2

⁵ Ibid. Page II-4

⁶ 2009 Housing Element, page 36

⁷ Ibid. Page 41

housing share to 7,035 units (938 units per year over the 7-1/2 year RHNA planning period) to alleviate member jurisdictions concerns over high housing numbers within the incorporated cities.”⁸

“The County has made significant progress in meeting the quantifiable goals and projected needs from the 2003 Housing Element... The 7.5-year time frame included a construction boom. The 2002 Regional Housing Needs Plan indicated a housing need of 2,250 units within the unincorporated area; overall growth was much greater than the projected need.”⁹

REGULATORY SETTING

Federal Agencies & Regulations

US Department of Housing and Urban Development (HUD)

“HUD’s mission is to create strong, sustainable, inclusive communities and quality affordable homes for all. HUD is working to strengthen the housing market to bolster the economy and protect consumers; meet the need for quality affordable rental homes; utilize housing as a platform for improving quality of life; build inclusive and sustainable communities free from discrimination; and transform the way HUD does business.”¹⁰

State Agencies & Regulations

California Department of Housing and Community Development (HCD)

HCD’s mission is to “[p]rovide leadership, policies and programs to preserve and expand safe and affordable housing opportunities and promote strong communities for all Californians.”¹¹ “In 1977, the State Department of Housing and Community Development (HCD) adopted regulations under the California Administrative Code, known as the Housing Element Guidelines, which are to be followed by local governments in the preparation of local housing elements. AB 2853, enacted in 1980, further codified housing element requirements. Since that time, new amendments to State Housing Law have been enacted. Each of these amendments has been considered during development of this Housing Element.”¹²

California Relocation Assistance Act

The State of California adopted the California Relocation Assistance Act (*California Government Code* §7260 et seq.) in 1970. This State law, which follows the federal Uniform Relocation Assistance and Real Property Acquisition Act, requires public agencies to provide procedural protections and benefits when they displace businesses, homeowners, and tenants in the process of implementing public programs and projects. This State law calls for fair, uniform,

⁸ Ibid. Page 10

⁹ Ibid. Page 101

¹⁰ HUD Website, <http://portal.hud.gov/hudportal/HUD?src=/about/mission>

¹¹ HCD website, <http://www.hcd.ca.gov/mission.html>

¹² 2009 Housing Element, page 3 to 4

and equitable treatment of all affected persons through the provision of relocation benefits and assistance to minimize the hardship of displacement on the affected persons.

Local Policy & Regulations

Tulare County 2008 Regional Housing Needs Assessment Plan

“The Tulare County Association of Governments (TCAG) was responsible for allocating the State’s projections to each local jurisdiction within Tulare County including the County unincorporated area, which is reflected in this Housing Element. Tulare County has no control over the countywide population and housing projections provided to TCAG when it prepared the Regional Housing Needs Assessment Plan.”¹³

Tulare County Regional Blueprint 2009

This Blueprint includes the following preferred growth scenario principals:

- Increase densities county-wide by 25% over the status quo densities.
- Establish light rail between cities.
- Extend Highway 65 north to Fresno County.
- Expand transit throughout the county.
- Maintain urban separators around cities.
- Growth would be directed toward incorporated cities and communities where urban development exists and where comprehensive services and infrastructure are or will be provided.

Tulare County Housing Authority

“The Housing Authority of the County of Tulare (HATC) has been officially designated as the local public housing agency for the County of Tulare by the Board of Supervisors and was created pursuant to federal and state laws. ...HATC is a unique hybrid: a public sector agency with private sector business practices. Their major source of income is the rents from residents. The HATC mission is “to provide affordable, well-maintained rental housing to qualified low- and very low-income families. Priority shall be given to working families, seniors and the disabled. Tenant self sufficiency and responsibility shall be encouraged. Programs shall be self-supporting to the maximum extent feasible.” HATC provides rental assistance to very low and moderate-income families, seniors and the handicapped throughout the county. HATC offers many different programs, including the conventional public housing program, the housing choice voucher program (Section 8), the farm labor program for families with farm labor income, senior housing programs, and other programs. They also own or manage some individual subsidized rental complexes that do not fall under the previous categories, and can provide information about other affordable housing that is available in Tulare County. All programs are handicap accessible. Almost all of the complexes have 55-year recorded affordability covenants.”¹⁴

¹³ 2009 Housing Element. Page 10

¹⁴ 2009 Housing Element. Page 112

2009-2014 Housing Element Policies

Guiding Principle 4.1 - Support and encourage County ordinances, standards, practices and procedures that promote residential energy conservation.

Policy 1.11

Encourage the development of a broad range of housing types to provide an opportunity of choice in the local housing market.

Policy 1.14

Pursue an equitable distribution of future regional housing needs allocations, thereby providing a greater likelihood of assuring a balance between housing development and the location of employment opportunities.

Policy 1.33

Encourage and support a balance between housing and agricultural needs.

Policy 3.11

Support and coordinate with local economic development programs to encourage a “jobs to housing balance” throughout the unincorporated area.

Policy 4.13 - Promote energy efficiency and water conservation.

Policy 4.14 - Enforce the requirements of County Ordinances regarding the disposal of construction and demolition debris.

IMPACT EVALUATION

Would the project:

- a) **Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

Project Impact Analysis: *Less Than Significant Impact*

The proposed Project does not include new homes. As part of the proposed expansion, the number of employees will increase by up to 27 employees. This increase in the size of this existing business will not induce population growth because of the relative size of the growth. In addition, the Project site is located in a rural area and this increase in the size of this business will not induce nearby parcels to build new residences or create new businesses. *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.

As the proposed expansion will result in no more than 27 new employees, less than significant population growth will occur. ***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*** related to this Checklist item will occur.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

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

There is no housing located on the project site and no housing will be displaced as a result of the proposed Project. 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. 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 above, there is no existing housing on the Project site and the proposed Project will not displace any housing units. No cumulative impacts 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.

c) **Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**

Project Impact Analysis: *No Impact*

The proposed Project does not include the conversion of housing. 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 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 would not convert housing on-site or off-site. As such, no cumulative impacts 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.

REFERENCES

Tulare County 2030 General Plan, August 2012

Tulare County 2009 Housing Element Update, May 2012

HUD Website: <http://portal.hud.gov/hudportal/HUD?src=/about/mission>

HCD Website, <http://www.hcd.ca.gov/mission.html>

Final Tulare County 2008 Regional Housing Needs Assessment Plan, Tulare County Association of Governments, July 2008

2013 CEQA Guidelines

Tulare County Regional Blueprint, TCAG, May 2009

Public Services

Chapter 3.14

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts related to Public Services. A detailed review of potential impacts is provided in the analysis below.

INTRODUCTION

California Environmental Quality Act (CEQA)

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to Land Use and Recreation. As required in Section 15126, all phases of the proposed Project will be considered was part of the potential environmental impact.

The environmental setting provides a description of the Public Services 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, the Tulare County General Plan Background Report and/or the 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.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts related to Public Services. 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

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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 Public Services 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:

- Impact Fire Services
- Impact Police Services
- Impact Schools
- Impact Parks
- Impact Other Public Facilities

ENVIRONMENTAL SETTING

Tulare County Fire Protection

“The [formerly titled] California Department of Forestry and Fire Protection/Tulare County Fire Department (now CalFire/TCFD) serve 145,128 of Tulare County’s population. As Table 7-6 [of the General Plan Background document] shows, dispatchers reported 14,022 responses in 2002, averaging 38.4 calls a day. Fire occurrence data generated by the department indicate a direct relationship between high use areas of the county and fire occurrence. The population increase in the mountain areas have caused increased wildland urban interface problems as well. Structures are being built throughout wildland areas wherein vegetation fires can spread rapidly. Providing adequate fire protection to those structures has become a major undertaking.”²

“..[T]he Tulare County Fire Department responded to 14,022 calls for service in 2002... [A] majority of the calls were for medical emergencies (52 percent) followed by fire calls (20 percent). The remaining calls ranged from dispatch incidents (8.1 percent) to assisting other

¹ CEQA Guidelines, Section 15126.2 (a)

² Tulare County General Plan 2030 Update Background Report, page 7-73

agencies (7.3 percent) to public assistance (3.4 percent).”³

Police Protection

“In 2007, the Tulare County Sheriff’s Department currently had 448 sworn officers serving its unincorporated population (145,128), and generates a level of service ratio of 3.2 officers per 1,000 residents. The ratio is above the accepted standard of 2.0 officers per 1,000 residents set by the Federal Bureau of Investigation. The Sheriff’s Department also has 186 non-sworn clerical and support staff amounting to a total Sheriffs Department staff personnel of 633 employees.”⁴

“Law enforcement protection for the unincorporated county is divided into 22 areas with four stations... [T]he Porterville substation serves the largest number of areas with 10 patrols, followed by the headquarters in Visalia with six, and Cutler-Orosi and Pixley, each with three areas.”⁵

Schools

A total of 48 school districts provide education throughout Tulare County. Of the 48 school districts, seven are unified districts providing educational services for kindergarten through 12th grade. The remaining 41 districts consist of 36 elementary school districts and four high school districts. Many districts only have one school.”⁶

“Total enrolment in Tulare County public schools has increased from about 80,000 to 88,300 students during a nine-year span from 1993 to 2002. On average, the growth rate has remained steady with annual increases approximating two percent.”⁷

Parks

There are a number of Federal, State, and local parks within Tulare County. There are 13 park and recreational facilities operated by Tulare County. A list of these local park facilities is provided in the table below.

³ Tulare County General Plan 2030 Update Background Report., page 7-74

⁴ Ibid. Pages 7-71 to 7-72

⁵ Ibid. Page 7-72

⁶ Ibid. Page 7-75 to 7-76

⁷ Ibid. Page 7-76

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**Table 3.14-1
Recreational Areas in Tulare County**

ID	Recreation Area	Location	Acres	Type of Use/Features
1	Alpaugh Park	Located in Alpaugh on Road 40.	3	Reservations for picnic areas are taken. No entrance fee.
2	Balch Park Campgrounds	20 miles NE of Springville in the Sierras.	160	71 Campsites. No reservations taken; first come first serve basis. Entrance fee for vehicles.
3	Bartlett Park	8 miles east of Porterville on North Drive.	127.5	Reservations for picnic areas are taken. Entrance fee for vehicles.
4	Camp COTYAC	Near Ponderosa in Eastern Tulare County.	8	County of Tulare Youth Adventure Camp (Camp COTYAC). Cabins, lodge with kitchen, restrooms and showers.
5	Cutler Park	5 miles east of Visalia on Highway 216 to Ivanhoe.	50	Reservations for picnic areas are taken. Entrance fee for vehicles.
6	Elk Bayou Park	6 miles SE of Tulare on Avenue 200.	60	Reservations for picnic areas are taken. No fee for day use.
7	Kings River Nature Preserve	2 miles east of Highway 99 on Road 28	85	This park is only for school environmental programs.
8	Ledbetter Park	1 mile northwest of Cutler on Road 124/Hwy 63	11	Reservations for picnic areas are taken. No fee.
9	Mooney Grove Park	2 Miles south of Caldwell Avenue on Mooney Blvd. In South Visalia.	143	Reservations for picnic areas are taken. Paddle boats, playground, baseball diamonds. Home of the End Trail statue. One of the largest oak woodlands in Tulare County. Location of the Agriculture and Farm Labor Museum.
10	Pixley Park	1 mile NE of Pixley on Road 124.	22	Reservations for picnic areas are taken. No fee.
11	Tulare County Museum	In Mooney Grove Park, South Visalia.	8.5	Free admission with park fee. Museum is opened Thursday thru Monday (closed Tuesday and Wednesday).
12	Woodville Park	Located in Avenue 166 in Woodville.	10	Reservations for picnic areas are taken. Day use no entrance fee.
13	West Main Street Park	2 blocks west of County Courthouse on Main Street in Downtown Visalia.	5	Day use no entrance fee.

A more lengthy discussion of recreational facilities is provided in Chapter 3.15 Recreation.

Library

“The Tulare County Public Library System comprises of interdependent branches, grouped by services, geography and usage patterns to provide efficient and economical services to the residents of the county. At present, there are 14 regional libraries and one main branch.”⁸ The nearest branch libraries to the proposed Project site are listed in Table 3.14-2

⁸ Tulare County General Plan 2030 Update Background Report, page 7-96

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Table 3.14-2
Tulare County Libraries

Branch	Address	Service Hours (2010)
Earlimart	780 East Washington Earlimart, CA 93219-2153	Tuesday: 10 am - 1 pm, 2 pm - 6 pm Wednesday: 10 am - 1 pm, 2 pm - 6 pm Thursday: 10 am - 1 pm, 2 pm - 6 pm Friday: 10 am - 1, 2 pm - 6 pm
Exeter	230 East Chestnut Exeter, CA 93221-1712	Tuesday: 11 am - 5 pm; 6 pm - 8 pm Wednesday: 11 pm - 5 pm, 6 pm - 8 pm Thursday: 9 am - 1 pm; 2 pm - 6 pm Friday: 9 am - 1 pm; 2 pm - 6pm
Lindsay	165 North Gale Hill Street Lindsay, CA 93247-2507	Tuesday: 11 pm - 5 pm; 6 pm - 8 pm Wednesday: 9 am - 1 pm; 2 pm - 6 pm Thursday: 11 am - 5 pm; 6 pm - 8 pm Friday: 9 am - 1 pm; 2 pm - 6 pm
Pixley	300 North School Pixley, CA 93256-1011	Tuesday: 9:30 am - 8 pm Wednesday : 9:30am - 5 pm Thursday: 9:30 am - 8 pm Friday: 9:30 am - 3:30 pm Saturday: 10 am - 2 pm
Springville	35800 Highway 190 Springville, CA 93265-0257	Thursday: 11 am - 5 pm , 6 pm - 8 pm Friday: 9 am - 1 pm , 2 pm - 6 pm Saturday: 9 am - 1 pm, 2 pm - 5 pm
Strathmore	19646 Road 230 Strathmore, CA 93267-0595	Tuesday: 9 am - 1 pm, 2 pm - 6 pm Wednesday: 9 am - 1 pm, 2 pm - 6 pm
Terra Bella	23825 Avenue 92 Terra Bella, CA 93270-0442	Monday – Friday: 8:30 am - 2:30 pm
Library hours current as of February 2010		

REGULATORY SETTING

Federal Agencies & Regulations

None that apply to the proposed Project.

State Agencies & Regulations

None that apply to the proposed Project.

Local Policy & Regulations

Tulare County General Plan Policies

The Tulare County General Plan has several policies that apply to projects within County of Tulare. General Plan policies that relate to the proposed Project are listed as follows:

PFS-7.1 Fire Protection

The County shall strive to expand fire protection service in areas that experience growth in order to maintain adequate levels of service.

PFS-7.2 Fire Protection Standards

The County shall require all new development to be adequately served by water supplies, storage, and conveyance facilities supplying adequate volume, pressure, and capacity for fire protection.

PFS-7.3 Visible Signage for Roads and Buildings

The County shall strive to ensure all roads are properly identified by name or number with clearly visible signs.

PFS-7.5 Fire Staffing and Response Time Standards

The County shall strive to maintain fire department staffing and response time goals consistent with National Fire Protection Association (NFPA) standards.

**Table 3.14-3
Fire Staffing and Responses Time Standards⁹**

	Demographics	Staffing/Response Time	% of Calls
Urban	> 1,000 people/sq. mi.	15 FF/9 min.	90
Suburban	500-100 people/sq. mi.	10 FF/10 min.	80
Rural	< 500 people/sq. mi.	6 FF/14 min.	80
Remote*	Travel Dist. > 8 min.	4 FF/no specific response time	90
<i>*Upon assembling the necessary resources at the emergency scene, the fire department should have the capacity to safely commence an initial attack within 2 minutes, 90% of the time. (FF = Fire Fighters)</i>			

PFS-7.6 Provision of Station Facilities and Equipment

The County shall strive to provide sheriff and fire station facilities, equipment (engines and other apparatus), and staffing necessary to maintain the County's service goals. The County shall continue to cooperate with mutual aid providers to provide coverage throughout the County.

PFS-7.8 Law Enforcement Staffing Ratios

The County shall strive to achieve and maintain a staffing ratio of 3 sworn officers per 1,000 residents in unincorporated areas.

PFS-7.9 Sheriff Response Time

The County shall work with the Sheriff's Department to achieve and maintain a response time of:

1. Less than 10 minutes for 90 percent of the calls in the valley region; and
2. 15 minutes for 75 percent of the calls in the foothill and mountain regions.

PFS-7.12 Design Features for Crime Prevention and Reduction

The County shall promote the use of building and site design features as means for crime prevention and reduction.

⁹ Tulare County General Plan 2030 Update, Policy PFS – 7.5.

IMPACT EVALUATION

- a) **Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:**

Fire protection?

Project Impact Analysis: *No Impact*

The County of Tulare Fire Department has 28 stations that are located throughout the County within its most densely populated areas and currently maintains minimal staffing to meet the requirements set forth under NFPA 1720-1721 for a rural area. These requirements consist of one full-time person per station per shift with other paid on-call firefighters. Per the Tulare County Fire Department, while this is sufficient to meet the basin needs of the County, this level of staffing often results in an elevated fire loss value during some emergency conditions when compared with other departments with additional staff support.

The proposed Project site is served by the Doyle Colony Fire Station located at 1551 E. Success Drive, in Porterville approximately four miles northwest of the proposed Project site. The current operation is served by an on-site fire hydrant system that is tied to an existing well. The expansion of operations will not impact fire department response times as the Project expansion will remain on the same site thus distance to the nearest fire station will remain unchanged. *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. 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 significantly impact the fire department's response times. The proposed Project will be served by the Doyle Colony Fire Station located at 1551 E. Success Drive, in Porterville approximately four miles northwest of the proposed Project site. Therefore, *No Cumulative Impacts* related to this Checklist item will occur.

Mitigation Measure(s):

None Required.

Conclusion: ***No Impact***

No Project-specific and Cumulative Impacts related to this Checklist item will occur.

Police protection?

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

The proposed Project is served by the Porterville Substation located at 379 N. 3rd. Street, in Porterville, approximately six miles northwest. The expansion will not increase police response times as the proposed Project will remain on the existing footprint. ***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. 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, the proposed Project will not significantly impact Police Services. As such, ***No Cumulative Impacts*** related to this Checklist item will occur.

Mitigation Measure(s):

None required.

Conclusion: ***No Impact***

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

Schools?

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

The proposed Project does not involve a significant number of new employees. As such, there will be ***No Impact*** to school enrollment.

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 noted earlier, the proposed Project will have no impact on Schools. As such, ***No Cumulative Impacts*** 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.

Parks?

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

The proposed Project is anticipated to result in an increase of 27 new employees. The nearest parks are the J. Claude Nelson Park, approximately four-and-a-half miles northwest and the Eagle's Nest Resort recreational vehicle park, approximately two-and-a-half miles north of the proposed Project site. Even if all employees chose to utilize either park, the park size is sufficient in size to accommodate their use. Therefore, ***Less Than Significant Impacts*** to parks 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.

As noted earlier, the proposed Project will not significantly impact parks. As such, ***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 or Cumulative Impacts*** related to this Checklist item will occur.

Other public facilities?

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

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Other public facilities in proximity to the proposed Project site that were evaluated for their potential to be impacted include water treatment plants, libraries and solid waste disposal facilities.

The proposed Project is not connected to a sewer line and will rely on an existing and a new septic system. The proposed Project will not impact service levels of a waste water treatment facility.

The proposed Project will not result in the creation of new residences. The proposed Project will not result in a significant increase in employees, thus, library service levels will not be impacted.

As such, ***No 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.

As noted earlier, the proposed Project will not impact other public facilities. As such, ***No Cumulative Impacts*** related to this Checklist item will occur.

Mitigation Measure(s):

None Required.

Conclusion: ***No Impact***

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

REFERENCES

CEQA Guidelines, Section 15126.2 (a)

Tulare County General Plan 2030 Update, Policy PFS – 7.5.

Tulare County General Plan 2030 Update Background Report. Pages 7-71, 7-72, 7-73, 7-75, 7-76, 7-96

Recreation

Chapter 3.15

SUMMARY OF FINDINGS

The proposed Project will result in no impacts related to Recreation. No mitigation measures will be required.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to Recreation. 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 Recreational Resources 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

¹ 2013 CEQA Guidelines, Section 15126.2 (a)

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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.

- Increase use of existing recreational facilities
- Include or require additional recreational facilities

ENVIRONMENTAL SETTING

“Tulare County contains several county, state, and federal parks. Aside from parks in the county, there are many open space areas as well. This section will highlight these various parks and open space areas and identify recreational opportunities within them.”² In addition to the 13 parks and recreation facilities that are owned and operated by Tulare County, there are State Parks and Forests, National Parks and National Forests, and trails and recreational areas.

Federal Recreation Areas

Lake Kaweah

“Lake Kaweah was formed after the construction of the Terminus Dam on the Kaweah River in 1962. The lake offers many recreational opportunities including fishing, camping, and boating. Lake Kaweah is located 20 miles east of Visalia on Highway 198 and was constructed by the U.S. Army Corps of Engineers for flood control and water conservation purposes. The lake has a maximum capacity to store 143,000 acre-feet of water. There are a total of 80 campsites at the lake’s Horse Creek Campground, which contains toilets, showers and a playground. Campfire programs are also available. Aside from camping, boat ramps are provided at the Lemon Hill and Kaweah Recreation Areas. Both Kaweah and Horse Creek provide picnic areas, barbecue grills and piped water. Swimming is allowed in designated areas. In addition, there is a one-mile hiking trail between Slick Rock and Cobble Knoll, which is ideal for bird watching.”³

Lake Success

“Lake Success was formed by construction of the Success Dam on the Tule River in 1961. The lake offers many recreational activities including fishing, boating, waterskiing, and picnicking. The U.S. Army Corps of Engineers (USACOE) constructed this reservoir for both flood control and irrigation purposes. The lake has a capacity of 85,000 acre-feet of water. The lake is located eight miles east of Porterville in the Sierra Nevada foothills area. Recreational opportunities

² General Plan Background Report, page 4-1

³ Ibid. Page 4-7

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include ranger programs, camping at the Tule campground, which provides 104 sites, boating, fishing, picnic sites, playgrounds and a softball field. Seasonal hunting is also permitted in the 1,400-acre Wildlife Management Area.”⁴

National Parks and National Forests

“Most of the recreational opportunities in the county are located in Sequoia National Forest, Giant Sequoia National Monument, and in Sequoia and Kings Canyon National Parks (SEKI). Although these parks span adjacent counties, they make a significant contribution to the recreational opportunities that Tulare County has to offer.”⁵

**Table 3.15-1
National Park and Forest Facilities⁶**

Recreation Area	Location	Camping Sites
Sequoia National Forest		
Gray's Meadow	5 miles West of Independence on Onion Valley Road.	52 tent/RV sites
Oak Creek	4 ½ miles NW of Independence off Highway 395.	21 tent/RV sites
Onion Valley	14 miles West of Independence on Onion Valley Road.	29 tent/RV sites
Stony Creek	14 miles SE of Grant Grove on Generals Highway.	49 tent/RV sites
Whitney Portal	13 miles West of Lone Pine on Whitney Portal Road.	43 tent/RV sites
Total		194 sites
Kings Canyon and Sequoia National Park		
Atwell Mill	Sequoia, 19 miles from Highway 198 on Mineral King Road.	21 tent sites
Azalea	Kings Canyon, 3 ½ miles from Kings Canyon Park entrance.	110 tent sites
Buckeye Flat	Sequoia, 11 miles South of Giant Forest of Generals Highway.	28 tent sites
Canyon View	Cedar Grove in Kings Canyon	23 tent sites
Cold Springs	Sequoia, Mineral King Area.	25 tent sites
Crystal Springs	Kings Canyon, ½ mile North of Grant Grove.	67 tent/RV sites
Dorst Creek	Sequoia, 9 miles North of Lodgepole off Generals Highway.	210 tent/RV sites
Lodgepole	Sequoia, 4 miles NE of Cedar Grove.	203 tent/RV sites
Moraine	Kings Canyon, 1 mile East of Cedar Grove.	120 tent/RV sites
Potwisha	Sequoia, 4 miles NE of Ash Mountain entrance off Generals Highway.	42 tent/RV sites
Sentinel	In the Cedar Grove area near the Kings River.	82 tent sites
Sheep Creek	Kings Canyon, 1/2-mile West of Cedar Grove.	111 tent/RV sites
South Fork	Sequoia, 13 miles on South Fork from Highway 198.	10 tent sites
Sunset	In the Grant Grove area 3 miles from Kings Canyon park entrance.	157 tent sites
Total		1,209 sites

Sequoia National Forest

“Sequoia National Forest takes its name from the Giant Sequoia, which is the world’s largest tree. There are more than 30 groves of sequoias in the lower slopes of the park. The park includes over 1,500 miles of maintained roads, 1,000 miles of abandoned roads and 850 miles of trails for hikers, off-highway vehicle users and horseback riders. The Pacific Crest Trail

⁴ Tulare County General Plan Background Report. Page 4-7

⁵ Ibid. Page 4-8

⁶ Tulare County Resource Management Agency, Parks and Recreation Branch, 2008; Automobile Club of Southern California, Tulare County Map.

connecting Canada and Mexico, crosses a portion of the forest, 78 miles of the total 2,600 miles of the entire trail. It is estimated that 10 to 13 million people visit the forest each year.”⁷

Giant Sequoia National Monument

“The Giant Sequoia National Monument was created in 2000 by President Clinton in an effort to preserve 34 groves of ancient sequoias located in the Sequoia National Forest. The Monument includes a total of 327,769 acres of federal land, and provides various recreational opportunities, including camping, picnicking, fishing, and whitewater rafting. According to the Giant Sequoia National Monument Management Plan EIS, the Monument includes a total of 21 family campgrounds with 502 campsites and seven group campgrounds. In addition, there are approximately 160 miles of system trails, including 12 miles of the Summit National Recreation Trail.”⁸

Sequoia and Kings Canyon National Parks (SEKI)

“The U.S. Congress created the Kings Canyon National Park in 1940 and Sequoia National Park in 1890. Because they share many miles of common boundaries, they are managed as one park. The extreme large elevation ranges in the parks (from 1,500 to 14,491 feet above sea level), provide for a wide range of vegetative and wildlife habitats. This is witnessed from exploring Mt. Whitney, which rises to an elevation of 14,491 feet, and is the tallest mountain in the contiguous United States. During the summer months, park rangers lead walks through the parks, and tours of Crystal and Boyden Caves. During the winter, visitors explore the higher elevations of the parks via cross country skis or snowshoes, or hike the trails in the foothills. The SEKI also contains visitor lodges, the majority of which are open year round. According to the National Parks Conservation Association, a combined total of approximately 1.4 million people visit the two parks on an annual basis.”⁹

⁷ General Plan Background Report. Page 4-9

⁸ Ibid.

⁹ Ibid.

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Table 3.15-2
Recreational Areas in Tulare County¹⁰

ID	Recreation Area	Location	Acres	Type of Use/Features
County				
1	Alpaugh Park	Located in Alpaugh on Road 40.	3	Reservations for picnic areas are taken. No entrance fee.
2	Balch Park Campgrounds	20 miles NE of Springville in the Sierras.	160	71 Campsites. No reservations taken; first come first serve basis. Entrance fee for vehicles.
3	Bartlett Park	8 miles east of Porterville on North Drive.	127.5	Reservations for picnic areas are taken. Entrance fee for vehicles.
4	Camp COTYAC	Near Ponderosa in Eastern Tulare County.	8	County of Tulare Youth Adventure Camp (Camp COTYAC). Cabins, lodge with kitchen, restrooms and showers.
5	Cutler Park	5 miles east of Visalia on Highway 216 to Ivanhoe.	50	Reservations for picnic areas are taken. Entrance fee for vehicles.
6	Elk Bayou Park	6 miles SE of Tulare on Avenue 200.	60	Reservations for picnic areas are taken. No fee for day use.
7	Kings River Nature Preserve	2 miles east of Highway 99 on Road 28	85	This park is only for school environmental programs.
8	Ledbetter Park	1 mile northwest of Cutler on Road 124/Hwy 63	11	Reservations for picnic areas are taken. No fee.
9	Mooney Grove Park	2 Miles south of Caldwell Avenue on Mooney Blvd. In South Visalia.	143	Reservations for picnic areas are taken. Paddle boats, playground, baseball diamonds. Home of the End Trail statue. One of the largest oak woodlands in Tulare County. Location of the Agriculture and Farm Labor Museum.
10	Pixley Park	1 mile NE of Pixley on Road 124.	22	Reservations for picnic areas are taken. No fee.
11	Tulare County Museum	In Mooney Grove Park, South Visalia.	8.5	Free admission with park fee. Museum is opened Thursday thru Monday (closed Tuesday and Wednesday).
12	Woodville Park	Located in Avenue 166 in Woodville.	10	Reservations for picnic areas are taken. Day use no entrance fee.
13	West Main Street Park	2 blocks west of County Courthouse on Main Street in Downtown Visalia.	5	Day use no entrance fee.
State				
14	Colonel Allensworth State Historic Park	7 miles west of Earlimart on County Road J22.	na	15 campsites, open year round.
15	Mountain Home State Forest	Located in Sequoia National Forest	na	No reservations taken for campgrounds.
Federal				
16	Lake Kaweah	25 miles east of Visalia on Highway 198.	2,558	Horse Creek Campground, boat ramps, picnic areas, swimming, and hiking.
17	Lake Success	10 miles SE of Porterville on Highway 198.	2,450	Tule Campground, boating, fishing, picnic areas, playgrounds, and softball field. Hunting is permitted in the Wildlife Management Area.
18	Sequoia National Forest	Southeastern portion of Tulare County.	na	Campgrounds include Gray's Meadow, Oak Creek, Onion Valley, Stony Creek, Sunset, and Whitney Portal with over 300 campsites.
19	Giant Sequoia National Monument	Covers areas north and south of Sequoia and Kings Canyon National Parks.	na	
20	Sequoia and Kings Canyon National Parks (SEKI)	Northeastern portion of Tulare County.	na	Campgrounds include Atwell Mill Campground, Buckeye Flat, Cold Springs, Crystal Springs, Dorst Campground, Lodgepole, Moraine, Potwisha, Sheep Creek, and South Fork with over 800 campsites.
Total Acres				5,701

¹⁰ Tulare County Resource Management Agency, Parks and Recreation Branch, 2008; Automobile Club of Southern California, Tulare County Map.

Trails and Wilderness Areas include; the Pacific Crest Trail, the South Sierra Wilderness Area, the Dome Land Wilderness Area, and the Golden Trout Wilderness Area. Other Recreational Facilities include the International Agri-Center and the Tulare County Fairgrounds.

State Parks and Forests

Colonel Allensworth State Park

“The only State Park in Tulare County is Colonel Allensworth State Historic Park discussed in Section 9.3. The park contains a museum and a visitor center addressing the town’s history, as well as camping facilities. Allensworth is the only California town to be founded, financed and governed by African Americans. The small farming community was founded in 1908 by Colonel Allen Allensworth and a group of others dedicated to improving the economic and social status of African Americans. Uncontrollable circumstances, including a drop in the area’s water table, resulted in the town’s demise. With continuing restoration and special events, the town is coming back to life as a state historic park. The park’s visitor center features a film about the site. A yearly rededication ceremony reaffirms the vision of its pioneers.”¹¹

Mountain Home State Forest

“The Mountain Home State Forest is a State Forest managed by the California Department of Forestry and Fire Protection (CDF). The Forest consists of 4,807 acres of parkland containing a number of Giant Sequoias, and is located just east of Porterville. The Forest is a Demonstration Forest, which is considered timberland that is managed for forestry education, research, and recreation. Fishing ponds, hiking trails, and campsites are some of the amenities that can be found in the Forest.”¹²

REGULATORY SETTING

Federal Agencies & Regulations

United States National Park Service (NPS)

“The National Park Service (NPS) is a bureau of the U.S. Department of the Interior. The NPS manages the 397 units of the National Park System. The NPS also helps administer dozens of affiliated sites, the National Register of Historic Places, National Heritage Areas, National Wild and Scenic Rivers, National Historic Landmarks, and National Trails.”¹³

State Agencies & Regulations

California Department of Parks and Recreation

¹¹ General Plan Background Report. Page 4-3

¹² Ibid. Page 4-7

¹³ National Park Service Overview Brochure, Updated 05/11

“California Department of Parks and Recreation manages more than 270 park units, which contain the finest and most diverse collection of natural, cultural, and recreational resources to be found within California. These treasures are as diverse as California: From the last stands of primeval redwood forests to vast expanses of fragile desert; from the lofty Sierra Nevada to the broad sandy beaches of our southern coast; and from the opulence of Hearst Castle to the vestiges of colonial Russia. California State Parks contains the largest and most diverse natural and cultural heritage holdings of any state agency in the nation. State park units include underwater preserves, reserves, and parks; redwood, rhododendron, and wildlife reserves; state beaches, recreation areas, wilderness areas, and reservoirs; state historic parks, historic homes, Spanish era adobe buildings, including museums, visitor centers, cultural reserves, and preserves; as well as lighthouses, ghost towns, waterslides, conference centers, and off-highway vehicle parks. These parks protect and preserve an unparalleled collection of culturally and environmentally sensitive structures and habitats, threatened plant and animal species, ancient Native American sites, historic structures and artifacts . . . the best of California's natural and cultural history.”¹⁴

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-5.2 Park Amenities

The County shall provide a broad range of active and passive recreational opportunities within community parks. When possible, this should include active sports fields and facilities, community center/recreation buildings, children’s play areas, multi-use areas and trails, sitting areas, and other specialized uses as appropriate.

ERM-5.3 Park Dedication Requirements

The County shall require the dedication of land and/or payment of fees, in accordance with local authority and State law (for example the Quimby Act), to ensure funding for the acquisition and development of public recreation facilities.

ERM-5.5 Collocated Facilities

The County shall encourage the development of parks near public facilities such as schools, community halls, libraries, museums, prehistoric sites, and open space areas and shall encourage joint-use agreements whenever possible.

ERM-5.11 Cooperation with Federal and State Agencies

The County shall work with Federal and State agencies that manage land within the County, as appropriate.

¹⁴ California Dept. of Parks and Recreation, http://www.parks.ca.gov/?page_id=91. Accessed August 2014.

IMPACT EVALUATION

- a) **Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

Project Impact Analysis: *Less Than Significant Impact*

Typically, the increased use of parks and recreational facilities are caused by the addition of new housing. No new housing is proposed. Although the proposed Project will result in increase of up to 27 employees, the proposed Project site is not located near a park or recreational facility. In addition, the proposed Project is not located adjacent to a school, community hall, library, museum, or prehistoric site. As such, *Less Than Significant Project-specific Impact* 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 does not include housing. The proposed Project would result in an increase of up to 27 employees, which would not significantly increase the use of parks or recreational facilities. As such *Less Than Significant Cumulative Impacts* related to this Checklist item would occur.

Mitigation Measure(s):

None Required.

Conclusion: *Less Than Significant Impact*

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

- b) **Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

Project Impact Analysis: *No Impact*

The proposed Project does not include new recreational facilities or the expansion of recreational facilities. As such, *No Project-specific Impacts* related to this Checklist item will occur.

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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, the proposed Project does not include new recreational facilities or the expansion of recreational facilities. As such, ***No Cumulative Impacts*** 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.

REFERENCES

Automobile Club of Southern California, Tulare County Map.

California Dept. of Parks and Recreation, http://www.parks.ca.gov/?page_id=91. Accessed August 2014.

CEQA Guidelines, Section 15126.2 (a)

National Park Service Overview Brochure, Updated 05/11

Tulare County General Plan Background Report, page 4-1, 4-3, 4-7, 4-8, 4-9

Tulare County Resource Management Agency, Parks and Recreation Branch, 2008

Transportation/Traffic

Chapter 3.16

SUMMARY OF FINDINGS

The proposed Project will not have any significant impacts related to Transportation and Traffic. A Traffic Impact 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 Less Than Significant Impacts. A detailed review of potential impacts is provided in the following analysis.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

This section of the Draft Environmental Impact Report (DEIR) addresses potential impacts to Transportation and Traffic. 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)

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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.

- Result in a Level of Service (LOS) less than “D”
- Unsafe roadway/circulation design
- Impact Air Traffic
- Dangerous Site Design
- Inadequate Access
- Need for additional Public Transit
- Need for additional Bike Facilities
- Need for additional Pedestrian Facilities

ENVIRONMENTAL SETTING

“Tulare County has two major regional highways, State Highway 99 and 198. State Highway 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.”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,

² Tulare County General Plan 2030 Update, page 13-2

³ Tulare County General Plan 2030 Update Background Report, page 5-4

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as well as local streets and highways within each of the eight cities and several unincorporated communities.”⁴

“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 (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.”⁵

“According to the 2005 Highway Capacity Manual (HCM), published by the Transportation Research Board National Research Council, Level Of Service (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). Interrupted flow facilities have fixed elements that cause an interruption in the flow of traffic such as stop signs, signalized intersections, and arterial roads (Transportation Research Board). The difference between uninterrupted flow and interrupted LOS is defined in the following summary.”⁶

Table 3.16-1
Uninterrupted Traffic Flow Facilities LOS⁷

LOS A	Represents free flow. Individual vehicles are virtually unaffected by the presence of others in the traffic stream.
LOS B	Is in the range of stable flow, but the presence of other vehicles in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.
LOS C	Is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual vehicles becomes significantly affected by interactions with others vehicles in the traffic stream.
LOS D	Is a crowded segment of roadway with a large number of vehicles restricting mobility and a stable flow. Speed and freedom to maneuver are severely restricted and the driver experiences a generally poor level of comfort and convenience.
LOS E	Represents operating conditions at or near level capacity. All speeds are reduced to a low, but relatively uniform value. Small increases in flow will cause breakdowns in traffic movement.
LOS F	Is used to define forced or breakdown flow (stop and go gridlock). This condition exists wherever the amount of traffic approaches a point where the amount of traffic exceeds the amount that can travel to a destination. Operations within queues are characterized by stop and go waves and they are extremely unstable.

⁴ Tulare County General Plan 2030 Update Background Report, page 5-7

⁵ Tulare County General Plan 2030 Update Background Report, page 5-4

⁶ Tulare County Association of Governments Regional Transportation Plan, 2011, page 3-17

⁷ Ibid.

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Table 3.16-2
Interrupted Traffic Flow Facilities LOS

LOS A	Describes operations with average intersection stopped delay of ten seconds or less (how long a driver must wait at a signal before the vehicle can begin moving again).
LOS B	Describes operations with average intersection stopped delay in the range of 10.0 to 20.0 seconds per vehicle, and with reasonably unimpeded operations between intersections.
LOS C	Describes operations with higher average stopped delays at intersections (in the range of 20.0 to 35.0 seconds per vehicle). Stable operations between locations may be more restricted due to the ability to maneuver and change lanes at mid-block locations can be more restrictive than LOS B. Further, longer queues and/or adverse signal coordination may contribute to lower average speeds.
LOS D	Describes operations where the influence of delay is more noticeable (35.0 to 55.0 seconds per vehicle). Intersection stopped delay is longer and the range of travel speeds are about 40 percent below free flow speed. This is caused by inappropriate signal timing, high volumes and some combinations of these.
LOS E	Is characterized by significant approach stopped delay (55.0 to 80.0 seconds per vehicle), and average travel speeds of one-third the free flow speed or lower. These conditions are generally considered to represent the capacity of the intersection or arterial.
LOS F	Characterizes arterial flow at extremely low speeds, with high intersection stopped delay (greater than 80.0 seconds per vehicle). Poor progression, long cycle lengths and high traffic demand volumes may be major contributing factors to this condition. Traffic may be characterized by frequent stop-and-go conditions.

“Public transportation provides an economical and efficient alternative for getting people to work, school and other chosen destinations. In Tulare County, buses are the primary mode of public transportation. Public transportation also takes the form of shared ride taxi, automobile and vanpools; dial-a-ride, and specialized handicapped accessible services. In Tulare County, social service transportation is provided by the following: local transit agencies, demand responsive operators and city/county special programs for senior citizens, mental health organizations and disabled citizens programs. These programs are funded and subsidized through State and federal grants, Local Transportation Funds (LTF), State Transit Assistance Funds (STAF), and local transportation sales tax revenues.”⁸

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 3.16-1 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 two-lane undivided roadway with a posted speed limit of 65 miles per hour (mph) through the study area. According to the California Department of

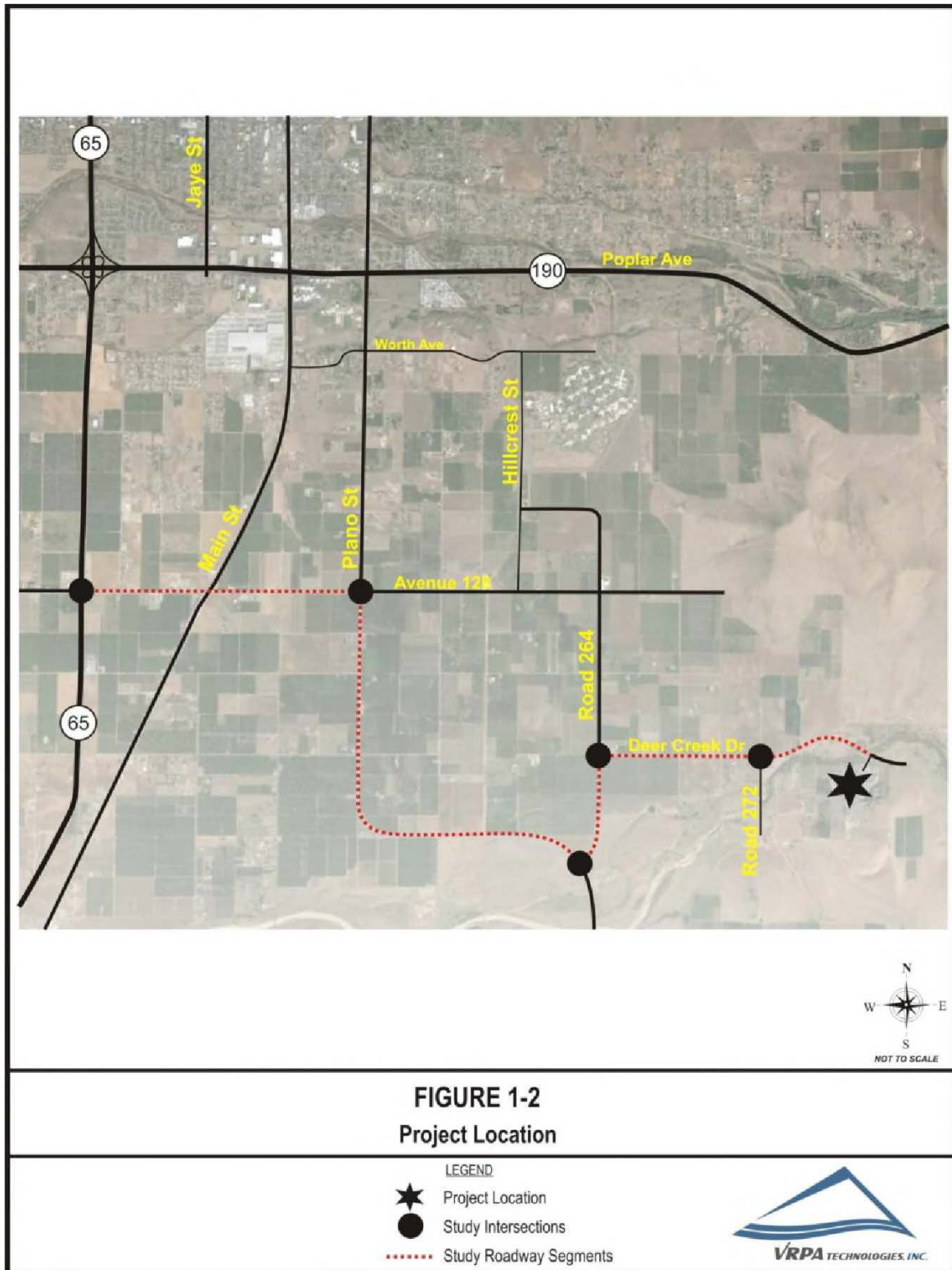
⁸ Tulare County Association of Governments Transportation Plan, page 1-14

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Transportation's website, the average annual daily traffic (AADT) along SR-56 in this area consisted of approximately 15,300 trips on 2012.⁹

⁹ Appendix F – Deer Creek Traffic Study, page 13.

Figure 3.16-1
Roadways, Highways and Study Intersections and Segments



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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.

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).”¹⁰

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

“TCAT has been providing rural route service between various cities and towns in Tulare County since 1981. TCAT retains MV Transportation to provide all of its transit services, which includes fixed route and demand responsive services for inter-city and intra-city service in many small communities throughout the County. TCAT is the most extensive transit system in Tulare County and connects with Dinuba Area Regional Transit (DART), Visalia City Coach (VCC), Tulare InterModal Express (TIME), Porterville City Operated Local Transit (COLT), Kings Area Rural Transit (KART), Kern Regional Transit, Orange Belt and Greyhound bus.”¹¹

Traffic Impact Study Area

A Traffic Impact Study Report (TISR), dated September 2014, was prepared for the Proposed Project by consultant VRPA Technologies, Inc. Within this traffic analysis, the consultant

¹⁰ Tulare County General Plan 2030 Update, page 13-2

¹¹ Tulare County Association of Governments Transportation Plan, page 1-14

outlined a number of roadway segments that may be affected.

Intersections

- State Route (SR) 65 / Avenue 128
- Plano Street / Avenue 128
- Avenue 116 / Road 264
- Deer Creek Drive / Road 264
- Deer Creek Drive / Road 272
- Deer Creek Drive / Project Access

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

Study Scenarios

The TIS completed for the proposed Project includes LOS analysis for the following traffic scenarios:

- Existing 2014 Conditions
- Existing 2014 Plus Project Conditions
- Existing 2014 Plus Project Plus Cumulative Conditions
- Cumulative 2040 without Project Conditions
- Cumulative 2040 with Project Conditions

REGULATORY SETTING

Federal Agencies & Regulations

None that apply to the proposed Project.

State Agencies & Regulations

Caltrans: Transportation Concept Reports

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Caltrans has prepared a number concept reports for State Routes, Interstate Routes, and US Routes. Tulare County is located in Caltrans District 6.

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).”¹²

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
- Passenger Rail and Support Facilities.”¹³

Tulare County Association of Governments (TCAG)

“... [W]ith the passage of Assembly Bill (AB) 69 State law has required the preparation of Regional Transportation Plans (RTPs) to address transportation issues and assist local and state decision makers in shaping California’s transportation infrastructure.”¹⁴ The Tulare County Association of Government has prepared the 2011 Regional Transportation Plan. Specific policies that apply to the Proposed Project are listed as follows:

TRANSPORTATION SYSTEM MANAGEMENT (TSM) Policy 5

Support installation of adequate left and right turning pockets to allow increased storage, as necessary.

¹² Caltrans Guide for the preparation of traffic studies, page ii

¹³ Tulare County General Plan 2030 Update Recirculated Draft Environmental Impact Report, page 3.2-2

¹⁴ Tulare County Association of Governments Transportation Plan, page 1-11

TRANSPORTATION SYSTEM MANAGEMENT (TSM) Policy 6

Encourage improvements in design of signalized intersections to improve turning for large vehicles and circulation flow.

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.

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 an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

Project Impact Analysis: ***Less than Significant Impact***

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 3.16-6. As shown in Table 3.16-6, the current mining permit allows operations of 500,000 tons/year which equates to the existing trip generation shown below. The Project seeks to increase operations to 950,000 tons/year. Therefore, the Project trip generation applied in this analysis considers the net increase of trips associated with the increase in operations.

VRPA Technologies prepared a Traffic Impact Study (TIS) for the proposed Project. The TIS is included as Appendix F.

Level of Service

Intersection Capacity Analysis

"All intersection LOS analyses were estimated using Synchro Software. Various roadway geometrics, traffic volumes, and properties (signal timing, peak hour factors, etc) were input into the Synchro Software program in order to accurately determine the travel delay and LOS for each Study scenario. The intersection LOS and delays reported represent the Synchro outputs. Synchro assumptions, listed below, show the various Synchro inputs and methodologies used in the analysis.

Lane Geometry

- Storage lengths for turn lanes for existing intersections were measured in the field and rounded to the nearest 25 feet.

Traffic Conditions

- The peak hour factor for Existing, Existing Plus Project, and Existing Plus Project Plus Cumulative (Near-Term) conditions were determined using existing counts based on approach of movement.
- The peak hour factor for future scenarios is 0.92.
- Posted roadway speed limits were observed in the field and input into the Synchro network to determine roadway link speeds.
- The Right Turn on Red parameter was set to 'Yes'.
- Heavy vehicle percentages were applied as follows and are based on the HCM default or Caltrans' truck data available on its website:
 - ◆ SR-65 – 9%
 - ◆ All other roadways – 3%

Signal Timing Parameters

- Signal phasing was based on a field review; minimum green and yellow times as well as pedestrian walk and don't walk times were based on traffic signal timing sheets.
- Signal phasing remained constant throughout scenarios unless the project or any other planned improvements are specifically changing an intersection. Lead-Lag optimize was set to "fixed" for all scenarios.
- Traffic signals were assumed to be "actuated and uncoordinated".
- All intersection cycle lengths and offsets were optimized using a cycle length range of 60-120 seconds.

Results of the analysis show that none of the study intersections are currently operating worse than the minimum level of service. Table 3-16.3 shows the intersection LOS for the existing conditions. Synchro Worksheets are provided in the Traffic Impact Study Appendix C of the TIAR. (See Appendix F)¹⁵

¹⁵ Appendix F – Deer Creek Traffic Study, pages 16-17.

TABLE 3-16.3
Existing Intersection Operations

INTERSECTION	CONTROL	PEAK HOUR	EXISTING 2014	
			DELAY	LOS
1. SR-65 / Avenue 128	Signalized	AM	11.1	B
		PM	19.6	B
2. Avenue 128 / Plano Street	All-Way Stop Sign	AM	8.2	A
		PM	8.9	A
3. Avenue 116 / Road 264	One-Way Stop Sign	AM	9.2	A
		PM	9.5	A
4. Deer Creek Drive / Road 264	One-Way Stop Sign	AM	9.1	A
		PM	9.3	A
5. Deer Creek Drive / Road 272	One-Way Stop Sign	AM	8.9	A
		PM	8.9	A
6. Deer Creek Drive / Project Access	One-Way Stop Sign	AM	9.0	A
		PM	8.8	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.

Segment Analysis

“Results of the AM and PM peak hour LOS segment analysis along the existing street and highway system in the project area are reflected in Table 3-16.4. Street segment capacity was determined using information shown in Table 3-16.5, which comes from the Modified Arterial Level of Service Tables included in Appendix A of the TIAR (See Appendix F). Results of the analysis show that none of the road segments are operating worse than the minimum level of service.”¹⁶

¹⁶ Ibid, page 17.

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TABLE 3-16.4
Existing Road Segment Operations

SEGMENT	DESCRIPTION	DIRECTION	PEAK HOUR	EXISTING 2014	
				VOLUME	LOS
1. Avenue 128: SR-65 to Plano Street	Two-lane Undivided	EB	AM	95	B
			PM	205	B
		WB	AM	151	B
			PM	165	B
2. Plano Street (Avenue 116): Avenue 128 to Road 264	Two-lane Undivided	NB	AM	100	B
			PM	135	B
		SB	AM	72	B
			PM	101	B
3. Road 264: Deer Creek Drive to Avenue 116	Two-Lane Undivided	NB	AM	24	B
			PM	20	B
		SB	AM	13	B
			PM	19	B
4. Deer Creek Drive: Road 264 to Road 272	Two-lane Undivided	EB	AM	29	B
			PM	26	B
		WB	AM	22	B
			PM	34	B
5. Deer Creek Drive: Road 272 to Project Access	Two-Lane Undivided	EB	AM	36	B
			PM	20	B
		WB	AM	33	B
			PM	32	B

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

Table 3-16.5
Peak Hour One-Way Volumes

LEVEL OF SERVICE						
LANES	DIVIDED	TYPE	B	C	D	E
1	Undivided	Uninterrupted Flow Highways	240	430	740	1,480
2	Divided	Uninterrupted Flow Highways	1,410	2,210	2,800	3,180
3	Divided	Uninterrupted Flow Highways	2,120	3,320	4,200	4,770

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. Project trip generation is shown in Table 3-16.6. Daily and peak hour Project truck trip generation was provided by the Applicant and is consistent with the daily and peak hour trip limits allowed in the Project's previous Conditions of Approval. As shown in Table 3-16.6, the current mining permit allows operations of 500,000 tons/year which equates to the existing trip generation shown below. The Project seeks to increase operations to 950,000 tons/year. Therefore, the Project trip generation applied in this analysis considers the net increase of trips associated with the increase in operations.

TABLE 3-16.6
Project Trip Generation

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	200	50:50	10	10	20	50:50	10	10	20
	Total	200		10	10	20		10	10	20
Proposed Surface Mining Operation	Deer Creek Rock Co., Inc. ²	375	50:50	19	19	38	50:50	19	19	38
	Total	375		19	19	38		19	19	38
	Net Increase	175		9	9	18		9	9	18

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

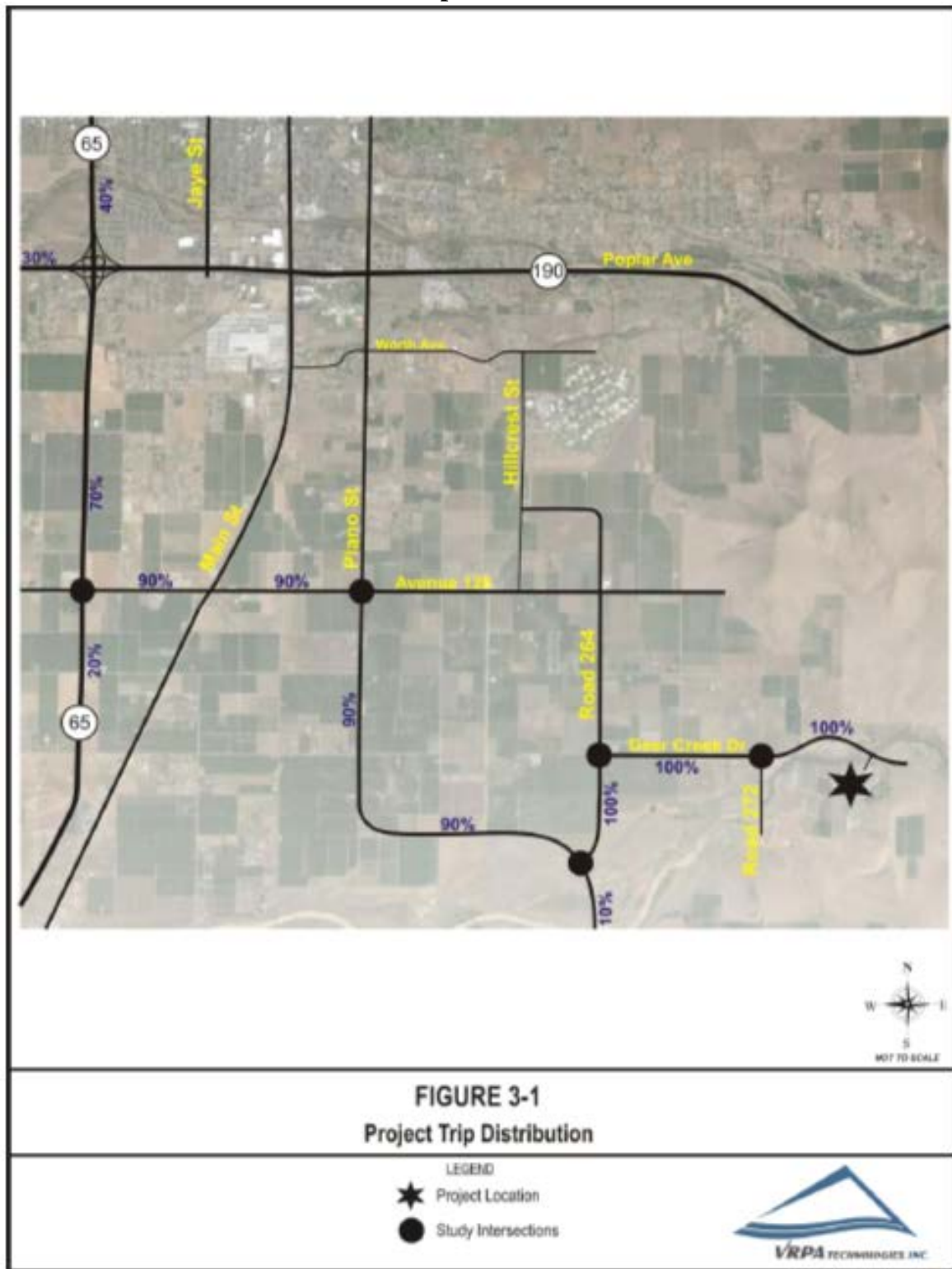
Trip distribution for this Project was estimated and manually distributed based on engineering judgment as well as existing traffic patterns for current Project operations.

Project Traffic

Project traffic as shown in Table 3-16.6 was distributed to the roadway system using the trip distribution percentages shown in Figure 3.16-2.

The capacity analysis for all analysis scenarios was performed assuming a "Passenger Car Equivalent" (PCE) of 2.5:1 for all Project truck trips entering and exiting the facility, which is a conservative estimate while remaining consistent with the Highway Capacity Manual. The PCE's are reflected in the figures (as appropriate) and segment operations tables included in the traffic study.

FIGURE 3.16-2
Trip Distribution



Impacts

Intersection LOS

Results of the LOS intersection analysis along the street and highway system in the Project area from Existing through the Cumulative Year 2040 Plus Project scenario are reflected in Table 3-16.7. Results of the analysis show that none of the study intersections will fall below acceptable levels of service through the year 2040.¹⁷

Segment LOS

Results of the LOS segment analysis along the street and highway system in the Project area from Existing through the Cumulative Year 2040 Plus Project scenario are reflected in Table 3-16.8. Results of the analysis show that none of the roadway segments will fall below acceptable levels of service through the year 2040.¹⁸

Conclusion: *Less Than Significant Impact*

Mitigation

Since the intersection and segment analysis conducted for the traffic impact study resulted in acceptable levels of service for all scenarios, no mitigation is recommended.¹⁹

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 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.

The impacts of the Project were analyzed considering future traffic conditions in 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 the City of Porterville, City of Tulare, City of Visalia and Tulare County. Traffic conditions without the Project in the Year 2040 were estimated using the Tulare County Association of Governments (TCAG) regional travel model.

Cumulative Project Traffic

Traffic impact analyses typically require the analysis of cumulative projects (approved or pending developments that have not yet been built in the vicinity of the Project) in addition to the proposed Project. The only cumulative project included in this TIS is the South County

¹⁷ Appendix F – Deer Creek Traffic Study, page 30.

¹⁸ Ibid.

¹⁹ Ibid, page 4.

Detention Facility which consists of a new maximum security Type II detention facility with 250 cell double occupancy units (500 beds) and 14 special use beds for a total of 514 beds. It is located on the northwest corner of Scranton Avenue and Newcomb Street, which is partially within the City of Porterville and partially within Tulare County.²⁰

Trip generation and distribution information for the cumulative project was based on information found in the corresponding TIS report. Trip generation and distribution information are provided in Appendix D of the TIAR (See Appendix F).

Existing Plus Project Plus Cumulative (Opening Year) Traffic Conditions

An Existing Plus Project Plus Cumulative Scenario was analyzed to include existing traffic plus traffic generated by the Project plus traffic generated by the cumulative project. Based on the analysis, there will be *Less Than Significant* impacts.

Cumulative 2040 Without Project Traffic Conditions

“The impacts of the Project were analyzed considering future traffic conditions in 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 the City of Porterville City of Tulare, City of Visalia and Tulare County. Traffic conditions without the Project in the Year 2040 were estimated using the Tulare County Association of Governments (TCAG) regional travel model. Future traffic forecasts along study area roadway segments were estimated by utilizing methodologies published by Fresno COG using the TurnsW32 program. This process can be summarized as follows:

- The TCAG model for the year 2010 and 2040 was used to estimate the future traffic growth for study area roadway segments. The future growth was adjusted to account for the fact that the base model reflects year 2010, and not 2014 conditions.
- Existing AM and PM peak hour turning movements (adjusted for seasonality) and the adjusted 2040 roadway segment traffic growth forecasts were input to the TurnsW32 program and the program calculated 2040 AM and PM peak hour turning movements, as described in Fresno COB guidelines for determining future year turning movement forecasts (Incremental Method). In cases where model data was unavailable or the future turning movements were projected to be less than existing, the existing turning movement was increased by 10%.

Caltrans provided information on several roadway improvement project in the study area:

- Construction of a roundabout at SR-190 and Road 284 (Reservation Road) – construction date of 2015

²⁰ Ibid, page 32

- Widening of SR-65 from 2 to 4 lanes between Avenue 120 and SR-65/SR-190 interchange – construction date of 2017.

These roadway improvements were assumed in the Cumulative 2040 No Project and Cumulative 2040 Plus Project scenarios only.”²¹

Cumulative 2040 With Project Traffic Conditions

The addition of Project trips, which were distributed to the roadway system using the trip distribution percentages shown in Figure 3.16-2, were added to Cumulative 2040 without Project traffic volumes.

All intersection LOS analyses were estimated using Synchro Software. Various roadway geometrics, traffic volumes, and properties (signal timing, peak hour factors, etc) were input into the Synchro Software program in order to accurately determine the travel delay and LOS for each Study scenario. The intersection LOS and delays reported represent the Synchro outputs.²²

The addition of Project trips, which were distributed to the roadway system using the trip distribution percentages shown in Figure 3.16-2, were added to Cumulative 2040 without Project traffic volumes.

“Based on this information, Table 3.16.7 shows the Levels of Service (LOS) projected for the year 2040, and shows intersections that are expected to fall short of desirable operating conditions for various scenarios. Results of the analysis show that none of the study intersections will fall below acceptable levels of service through the year 2040.

Table 3-16.8 shows the results of the roadway segment LOS analysis. As shown, none of the study segments are expected to fall short of desirable operating conditions for various scenarios.

²¹ Appendix F – Deer Creek Traffic Study, page 27.

²² Ibid., page 27.

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**Table 3.16-7
Intersection Operations**

INTERSECTION	CONTROL	PEAK HOUR	EXISTING 2014		EXISTING PLUS PROJECT		EXISTING PLUS PROJECT PLUS CUMULATIVE		CUMULATIVE 2040 NO PROJECT		CUMULATIVE 2040 PLUS PROJECT	
			DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS
1. SR-65 / Avenue 128	Signalized	AM	11.1	B	12.2	B	12.2	B	10.9	B	11.8	B
		PM	19.6	B	21.7	C	21.7	C	19.6	B	21.7	C
2. Avenue 128 / Plano Street	All-Way Stop Sign	AM	8.2	A	8.4	A	8.4	A	8.4	A	8.6	A
		PM	8.9	A	9.2	A	9.2	A	9.4	A	9.8	A
3. Avenue 116 / Road 264	One-Way Stop Sign	AM	9.2	A	9.3	A	9.3	A	9.1	A	9.1	A
		PM	9.5	A	9.7	A	9.7	A	9.3	A	9.2	A
4. Deer Creek Drive / Road 264	One-Way Stop Sign	AM	9.1	A	9.2	A	9.2	A	8.6	A	9.1	A
		PM	9.3	A	9.4	A	9.4	A	9.1	A	9.1	A
5. Deer Creek Drive / Road 272	One-Way Stop Sign	AM	8.9	A	9.3	A	9.3	A	8.8	A	9.0	A
		PM	8.9	A	9.3	A	9.3	A	8.8	A	9.0	A
6. Deer Creek Drive / Project Access	One-Way Stop Sign	AM	9.0	A	9.3	A	9.3	A	8.9	A	9.0	A
		PM	8.8	A	9.1	A	9.1	A	8.7	A	8.9	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 3.16-8
Segment Operations**

SEGMENT	DESCRIPTION	DIRECTION	PEAK HOUR	EXISTING 2014		EXISTING PLUS PROJECT		EXISTING PLUS PROJECT PLUS CUMULATIVE		CUMULATIVE 2040 NO PROJECT		CUMULATIVE 2040 PLUS PROJECT	
				VOLUME	LOS	VOLUME	LOS	VOLUME	LOS	VOLUME	LOS	VOLUME	LOS
1. Avenue 128: SR-65 to Plano Street	Two-lane Undivided	EB	AM	95	B	115	B	115	B	130	B	150	B
			PM	205	B	225	B	225	B	263	C	283	C
		WB	AM	151	B	171	B	171	B	175	B	195	B
			PM	165	B	185	B	185	B	233	B	253	C
2. Plano Street (Avenue 116): Avenue 128 to Road 264	Two-lane Undivided	NB	AM	100	B	120	B	120	B	136	B	156	B
			PM	135	B	155	B	155	B	195	B	215	B
		SB	AM	72	B	92	B	92	B	108	B	128	B
			PM	101	B	121	B	121	B	141	B	161	B
3. Road 264: Deer Creek Drive to Avenue 116	Two-Lane Undivided	NB	AM	24	B	47	B	47	B	25	B	48	B
			PM	20	B	43	B	43	B	21	B	44	B
		SB	AM	13	B	36	B	36	B	13	B	36	B
			PM	19	B	42	B	42	B	20	B	43	B
4. Deer Creek Drive: Road 264 to Road 272	Two-lane Undivided	EB	AM	29	B	52	B	52	B	31	B	54	B
			PM	26	B	49	B	49	B	28	B	51	B
		WB	AM	22	B	45	B	45	B	23	B	46	B
			PM	34	B	57	B	57	B	37	B	60	B
5. Deer Creek Drive: Road 272 to Project Access	Two-Lane Undivided	EB	AM	36	B	59	B	59	B	37	B	60	B
			PM	20	B	43	B	43	B	22	B	45	B
		WB	AM	33	B	56	B	56	B	34	B	57	B
			PM	32	B	55	B	55	B	32	B	55	B

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

Mitigation Measure(s):

Since the intersection and segment analysis conducted for the traffic impact study resulted in acceptable levels of service for all scenarios, no mitigation is recommended.²³

Conclusion: *Less Than Significant Impact*

- b) **Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**

Project Impact Analysis: *Less than Significant Impact*

“According to General Plan Policy: TC-1.16 Tulare County LOS Standards calls for an LOS of “D” or better. As noted in the Traffic impact study, the Proposed Project would not lower the LOS of intersections in the area below “D”. Additionally, the Regional Transportation Plan, prepared by the TCAG, notes that “[t]he Cities of Visalia, Tulare and Porterville have the most traffic congestion in Tulare County and are candidates for TSM strategies.”²⁴ As the project site is located in a rural area, the Proposed Project would not have an immediate impact on high congestion areas of Tulare County. Potential Project-specific impacts related this Checklist item will be considered less than significant.

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 TIAR, 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 3.16 a), the Proposed Project would have a less than significant cumulative impact in 2040. As such, *Less Than Significant Cumulative Impacts* related to this Checklist item will occur.

- c) **Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?**

Project Impact Analysis: *No Impact*

The nearest airport to the Project site is the Porterville Municipal Airport located over 5 miles to the west. Because of the protracted distance from the airport, the Project would have no impact on air traffic patterns or result in a substantial safety risk associated with the airport. *No Project-specific Impacts* will occur as a result of the proposed Project.

²³ Ibid. Page 4.

²⁴ Tulare County Association of Governments Regional Transportation Plan, page 3-62.

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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.

Because the proposed Project is over 5 miles from the airport, ***No Cumulative Impacts*** 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 design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Project Impact Analysis: ***No 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. 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. ***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. 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 Impacts*** 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: *No 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.

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 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, *No Cumulative Impact* 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.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Project Impact Analysis: *Less than Significant Impact*

The roads adjacent to the surrounding proposed Project site do not include sidewalks, bus stops, bus turnouts, or bike lanes. As most of the additional daily trips will be truck traffic from light and heavy vehicles, it is not anticipated that the proposed project will increase the demand for public transit, bicycle facilities, or pedestrian facilities which would result in a decrease of performance or safety of such facilities.

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 TIAR, Tulare County 2030 General Plan, Tulare

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County General Plan Background Report, Tulare County 2030 General Plan EIR, and the TCAG Regional Transportation Plan.

The roads adjacent to the surrounding Project site do not include sidewalks, bus stops, bus turnouts, or bike lanes. As most of the additional daily trips will be truck traffic from light and heavy vehicles, it is not anticipated that the proposed project will increase the demand for public transit, bicycle facilities, or pedestrian facilities which would result in a decrease of performance or safety of such facilities. Therefore, there will be a ***Less Than Significant Cumulative Impact*** 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.

DEFINITIONS/ACRONYMS

Acronyms

(HCM)	Highway Capacity Manual
(LOS)	Level of Service

REFERENCES

Appendix F – Deer Creek Traffic Study, pages 4, 13, 16, 17, 27, 30, 32

Caltrans Guide for the preparation of traffic studies, page ii

CEQA Guidelines, Section 15126.2 (a)

Tulare County Association of Governments Regional Transportation Plan, 2011, pages 1-11, 1-14, 3-17, 3-62

Tulare County General Plan 2030 Update, page 13-2

Tulare County General Plan 2030 Update Background Report, page 5-4, 7

Tulare County General Plan 2030 Update Recirculated Draft Environmental Impact Report, page 3.2-2

Utilities and Service Systems

Chapter 3.17

SUMMARY OF FINDINGS

The proposed Project will result in less than significant impacts to Utilities and Service Systems 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 Environmental Impact Report (DEIR) addresses potential impacts to Utilities and Service Systems. 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 Utilities and Service Systems setting 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 County 2030

¹ CEQA Guidelines, Section 15126.2 (a)

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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

- Increase wastewater beyond existing treatment capacity per the RWQCB
- Result in the need for waste water infrastructure that would cause impacts
- Result in the need for waste water infrastructure that would cause impacts
- Result in the need for water supplies or entitlements
- Result in the determination by the wastewater provider that it has adequate capacity
- Served by a landfill with sufficient permitted capacity to Project's needs
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs

ENVIRONMENTAL SETTING

"Tulare County and special districts provide many important services to County residents and businesses in unincorporated communities and hamlets such as water, wastewater, storm drainage, solid waste removal, utilities, communications, fire protection, law enforcement, and a number of other community facilities and services (schools, community centers, etc.)."²

"Water districts supply water to communities and hamlets throughout the County. Most communities and some hamlets have wastewater treatment systems; however, several communities including Three Rivers, Plainview, Alpaugh, and Ducor rely on individual septic systems. Storm drainage facilities are generally constructed and maintained in conjunction with transportation improvements or new subdivisions in communities. Solid waste collection in the County is divided into service areas, as determined by the Board of Supervisors, with one license for each area. Southern California Edison provides electric service to the south and central areas of Tulare County while PG&E provides electric service in the north. The [Southern California] Gas Company is the primary provider of natural gas throughout the County."³

The Deer Creek Rock mining facility is served by an existing on-site well, a 10,000 gallon propane tank for natural gas, and an on-site septic system.

REGULATORY SETTING

Federal Agencies & Regulations

Resource Conservation and Recovery Act (RCRA)⁴

² Tulare County General Plan Update 2030, page 14-3

³ Ibid.

⁴ United States Environmental Protection Agency, <http://www.epa.gov/epawaste/laws-regs/rcrahistory.htm>. Accessed September, 2014.

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Congress passed RCRA on October 21, 1976 to address the increasing problems the nation faced from our growing volume of municipal and industrial waste. RCRA, which amended the Solid Waste Disposal Act of 1965, set national goals for:

- Protecting human health and the environment from the potential hazards of waste disposal.
- Conserving energy and natural resources.
- Reducing the amount of waste generated.
- Ensuring that wastes are managed in an environmentally-sound manner.

To achieve these goals, RCRA established three distinct, yet interrelated, programs:

- The solid waste program, under RCRA Subtitle D, encourages states to develop comprehensive plans to manage nonhazardous industrial solid waste and municipal solid waste, sets criteria for municipal solid waste landfills and other solid waste disposal facilities, and prohibits the open dumping of solid waste.
- The hazardous waste program, under RCRA Subtitle C, establishes a system for controlling hazardous waste from the time it is generated until its ultimate disposal — in effect, from “cradle to grave.”
- The underground storage tank (UST) program, under RCRA Subtitle I, regulates underground storage tanks containing hazardous substances and petroleum products.

RCRA banned all open dumping of waste, encouraged source reduction and recycling, and promoted the safe disposal of municipal waste. RCRA also mandated strict controls over the treatment, storage, and disposal of hazardous waste.

State Agencies & Regulations

California Global Warming Solutions Act of 2006 (AB 32)

With the passage of AB 32, the State Board Air Resources Board was required to adopt a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions levels in 1990 to be achieved by 2020. To achieve this requirement, a scoping plan was adopted in 2008 that includes high recycling and zero waste as a way to reduce greenhouse gas emissions from landfills. “As virgin raw materials are replaced with recyclables, a large reduction in energy consumption should be realized. Implementing programs with a systems approach that focus on consumer demand, manufacturing, and movement of products will result in the reduction of greenhouse gas emissions and other co-benefits.”⁵

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 below.

⁵ California Air Resources Board Climate Change Scoping Plan. December, 2008. Page 62.
http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed September, 2014.

PFS-3.1 Private Sewage Disposal Standards

The County shall maintain adequate standards for private sewage disposal systems (e.g., septic tanks) to protect water quality and public health.

PFS-3.4 Alternative Rural Wastewater Systems

The County shall consider alternative rural wastewater systems for areas outside of community UDBs and HDBs that do not have current systems or system capacity. For individual users, such systems include elevated leach fields, sand filtration systems, evapotranspiration beds, osmosis units, and holding tanks. For larger generators or groups of users, alternative systems, including communal septic tank/leach field systems, package treatment plants, lagoon systems, and land treatment, can be considered.

PFS-4.1 Stormwater Management Plans

The County shall oversee, as per Community Plan Content Table PF-2.1 and Specific Plan Content, Hamlet Plans Policy PF-3.3, and Table LU-4.3, the preparation and adoption of stormwater management plans for communities and hamlets to reduce flood risk, protect soils from erosion, control stormwater, and minimize impacts on existing drainage facilities, and develop funding mechanisms as a part of the Community Plan and Hamlet Plan process.

PFS-4.3 Development Requirements

The County shall encourage project designs that minimize drainage concentrations and impervious coverage, avoid floodplain areas, and where feasible, provide a natural watercourse appearance.

PFS-4.4 Stormwater Retention Facilities

The County shall require on-site detention/retention facilities and velocity reducers when necessary to maintain existing (pre-development) storm flows and velocities in natural drainage systems. The County shall encourage the multi-purpose design of these facilities to aid in active groundwater recharge.

PFS-4.5 Detention/Retention Basins Design

The County shall require that stormwater detention/retention basins be visually unobtrusive and provide a secondary use, such as recreation, when feasible.

PFS-4.6 Agency Coordination

The County shall work with the Army Corps of Engineers and other appropriate agencies to develop stormwater detention/retention facilities and recharge facilities that enhance flood protection and improve groundwater recharge.

PFS-4.7 NPDES Enforcement

The County shall continue to monitor and enforce provisions to control non-point source water pollution contained in the U.S. Environmental Protection Agency National Pollution Discharge Elimination System (NPDES) program.

PFS-5.4 County Usage of Recycled Materials and Products

The County shall encourage all industries and government agencies in the County to use recycled materials and products where economically feasible.

PFS-5.8 Hazardous Waste Disposal Capabilities

The County shall require the proper disposal and recycling of hazardous materials in accordance with the County's Hazardous Waste Management Plan.

IMPACT EVALUATION

Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Project Impact Analysis: *Less Than Significant Impact*

The existing facility utilizes an on-site septic tank and leach field for disposal of wastewater generated by employees. The mining operation does not require wastewater treatment. *Less Than Significant 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 requirements of the Central Valley Regional Water Quality Control Board.

The proposed Project will generate a minimal amount of new wastewater to be processed by a permitted wastewater facility (septic tank and leach field). This minimal amount of new wastewater will not require any expansion of a wastewater treatment facility. *Less Than Significant Cumulative Impacts* related to this Checklist Item will occur.

Mitigation Measure(s):

None Required.

Conclusion: *Less Than Significant Impact*

Less Than Significant Project-specific and Cumulative Impacts related to this Checklist Item will occur.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Project Impact Analysis: *No Impact*

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There is an existing septic system and water well on the site. No new or expansion of water or wastewater treatment facilities is anticipated. ***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. This cumulative analysis is based on the requirements of the Central Valley Regional Water Quality Control Board. The proposed Project does not require new or expansion of water or wastewater treatment facilities. ***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.

- c) **Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

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

The proposed Project will not result in a new or an expansion of a local public storm water drainage facility. Storm water on the proposed Project site will be directed to an existing on-site drainage detention basin. This detention basin is sufficient to collect the appropriate amount of stormwater which might collect on the site. As such, no off-site detention basins will be required. ***Less Than Significant Project-specific Impacts*** related to this Checklist Item will be required.

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 Central Valley Regional Water Quality Control Board.

The proposed Project will retain storm water on site. As no offsite storm water impacts will occur, ***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 or Cumulative Impacts* related to this Checklist Item will occur.

- d) **Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?**

Project Impact Analysis: *No Impact*

Water supply for the Project will come from an existing, on-site ground water well. No new or expansion of water or wastewater treatment facilities is anticipated. *No Project-specific Impacts* related to this Checklist Item will occur. Also, see Item 3. 9 b) which indicates that no new or expansion of water facilities is anticipated.

Cumulative Impact Analysis: *No 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 here, and in Item 3.9 b), the proposed Project will result in *No Significant Impact* related to this Checklist Item.

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 a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

Project Impact Analysis: *No Impact*

The Project site currently utilizes an existing septic system. This septic system is adequate to treat the waste water needs of the proposed use. *No Project-specific Impacts* related to this Checklist Item will occur.

Cumulative Impact Analysis: *No Impact*

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The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the requirements of Tulare County Environmental Health.

No connections to a wastewater treatment provider are proposed. *No Cumulative Impacts* 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.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Project Impact Analysis: *No Impact*

The proposed Project does not include activities that will result in solid waste generation beyond typical office use waste. As such, the proposed Project will have *No Project-specific Impacts* related to this Checklist 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, General Plan background Report, and/or Tulare County 2030 General Plan EIR.

As noted earlier, Project level solid waste generation will be limited to typical office waste which will not result in a substantial increase in the amount of waste sent to landfills. Therefore, the proposed Project will result in *No Impact*.

Mitigation Measure(s):

None Required.

Conclusion: *No Impact*

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

g) Comply with federal, state, and local statutes and regulations related to solid waste?

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

The proposed Project does not include the creation or expansion of a solid waste facility. ***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 and the state of California. This cumulative analysis is based on the Federal, State, and Local requirements, including requirements of Cal Recycle, California Air Resources Board, and Tulare County Environmental Health and Human Services Agency (Environmental Health Division).

The proposed Project does not include the creation or expansion of a solid waste facility. ***No Cumulative Impacts*** 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.

REFERENCES

CEQA Guidelines, Section 15126.2 (a)

California Air Resources Board Climate Change Scoping Plan. December, 2008. Page 62.
http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed
September, 2014.

Tulare County General Plan Update 2030, Page 14-3

United States Environmental Protection Agency, <http://www.epa.gov/epawaste/laws-regs/rcrahistory.htm>. Accessed September, 2014.

Mandatory Findings of Significance

Chapter 3.18

SUMMARY OF FINDINGS

None of the conditions stated below under 15065(a) (1)-(4) are present due to the impacts from the proposed Project. The impacts to the Resources discussed as follows are, therefore, *Less Than Significant*.

INTRODUCTION

California Environmental Quality Act (CEQA) Requirements

CEQA Guidelines “Mandatory Findings of Significance” (Section 15065(a)) lists the following potential impacts that need to be addressed by a lead agency:

15065(a): “A lead agency shall find that a project may have a significant effect on the environment and thereby require an EIR to be prepared for the project where there is substantial evidence, in light of the whole record, that any of the following conditions may occur:

- (1) The project has the potential to: substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare or threatened species; or eliminate important examples of the major periods of California history or prehistory.*
- (2) The project has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.*
- (3) The project has possible environmental effects that are individually limited but cumulatively considerable. “Cumulatively considerable” means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.*
- (4) The environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly.”*

Under the California Environmental Quality Act (CEQA), an EIR must be prepared when certain specified impacts may result from construction or implementation/operation of a project. An EIR has been prepared for the proposed Project, which fully addresses all of the Mandatory Findings of Significance, as described below.

Under Section 15065(a) of the CEQA Guidelines, a finding of significance is required if a project “has the potential to substantially degrade the quality of the environment.” In practice, this is the same standard as a significant effect on the environment, which is defined in Section 15382 of the CEQA Guidelines as “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.” This EIR, in its entirety, addresses and discloses potential environmental affects associated with construction and operation of the proposed Project, including direct, indirect, and cumulative impacts related to the following environmental factors:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards-and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities and Service Systems

As summarized in Project Requirements/Mitigation Measures Section, this EIR discusses potential environmental resource impacts, the level of significance prior to mitigation, project requirements that are otherwise required by law or are incorporated as part of the project description, feasible mitigation measures, and the level of significance after the incorporation of mitigation measures.

This section of the Draft Environmental Impact Report (DEIR) meets CEQA requirements by making mandatory findings of significance relative to impacts of the proposed Project site, located in the San Joaquin Valley portion of Tulare County. The “Environmental Setting” section summarizes environmental 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.

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Long Term Impacts

As described in Section 15065(a)(2), a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals. This document addresses the short-term and irretrievable commitment of natural resources to ensure that the consumption is justified on a long-term basis.

Cumulative Impacts

Under Section 15065(a)(1) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to (1) substantially reduce the habitat of a fish or wildlife species; (2) cause a fish or wildlife population to drop below self-sustaining levels; or (3) substantially reduce the number or restrict the range of an endangered, rare, or threatened species. Section 4.3 (Biological Resources) of the EIR fully addresses impacts related to the reduction of the fish or wildlife habitat, the reduction of fish or wildlife populations, and the reduction or restriction of the range of special-status species.

Impacts to Species

Section 15065(a)(1) of the CEQA Guidelines states that a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to eliminate important examples of a major period of California history or prehistory. Section 15065(a)(1) amplifies Public Resources Code 21001(c) requiring that major periods of California history are preserved for future generations. It also reflects the provisions of Public Resource Code Section 21084.1 requiring a finding of significance for substantial adverse changes to historical resources.

Impacts to Historical Resources

Section 15064.5 of the CEQA Guidelines establishes standards for determining the significance of impacts to historical resources and archaeological sites that are an historical resource. Section 4.4 (Cultural Resources) of this EIR (which is supported by a Cultural Resources Technical Report) fully addresses impacts related to California history and prehistory, historic resources, archaeological resources, and paleontological resources.

Impacts on Human Beings

Consistent with Section 15065(a)(4) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. Under this standard, a change to the physical environment that might otherwise be minor must be treated as significant if people will be significantly affected. This factor relates to adverse changes to the environment of human beings generally, and not to effects on particular individuals. While changes to the environment that could indirectly affect human beings will be

represented by all of the designated CEQA issue areas, those that could directly affect human beings include air quality, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, population and housing, public services, transportation/traffic, and utilities, which are addressed in this EIR.

Thresholds of Significance

The geographical area may be countywide, statewide, or nationwide, depending on the nature of the impact. Thresholds of Significance for impacts to biological resources are addressed in detail in Chapter 3.4. of this document. Thresholds of Significance for impacts to cultural resources, including impacts to historic and prehistoric resources, are addressed in Chapter 3.5 of this document.

ENVIRONMENTAL SETTING

“Tulare County... is located in a geographically diverse region with the majestic peaks of the Sierra Nevada framing its eastern region, while its western portion includes the San Joaquin valley floor, which is very fertile and extensively cultivated. Tulare County is the second-leading agricultural-producing county in the U.S. Fresno County is currently (2004) the top producer. In addition to its agricultural production, the county’s economic base also includes agricultural packing and shipping operations.”¹

Native Vegetation

The native vegetation of the Valley is predominately characterized by the purple needlegrass series, valley oak series, vernal pools and wetland communities, and blue oak series. Fauna associated with this section include mule deer (*Odocoileus hemionus*), black-tailed deer (*Odocoileus hemionus columbianus*), coyotes (*Canis latrans*), white-tailed jackrabbits (*Lepus townsendii*), kangaroo rats (*Dipodomys ingens*), kit fox (*Vulpes macrotis*), and muskrats (*Ondatra zibethicus*). Birds include waterfowl, hawks, golden eagles (*Aquila chrysaetos*), owls, white-tailed kites (*Elanus leucurus*), herons, western meadowlark (*Sturnella neglecta*) and California quail (*Callipepla californica*).²

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.”³

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

¹ Tulare County General Plan 2030 Update Background Report, page 1-2

² Ibid. Page 9-10

³ Ibid. Page 9-56

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.

REGULATORY SETTING

Federal Agencies & Regulations

See Chapters 3.4 and 3.5 of this document for federal regulations related to biological and cultural resources; respectively.

State Agencies & Regulations

See Chapters 3.4 and 3.5 of this document for state regulations related to biological and cultural resources; respectively.

Local Policy & Regulations

See Chapters 3.4 and 3.5 of this document for local regulations related to biological and cultural resources; respectively.

IMPACT EVALUATION

Would the project:

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

FINDINGS: IMPACTS TO BIOLOGICAL RESOURCES

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

3.4 a) Less Than Significant Impact

The Biological Evaluation prepared by consultants Live Oak Associates, Inc. (see Appendix “C” of this DEIR) determined that no federal or state listed species would be adversely impacted.

3.4 b) No Impact

Due to the lack of riparian habitat, no impacts related to this Checklist Item will occur.

3.4 c) No Impact

There is no habitat for special study species located on-site. As such, no impacts related to this Checklist Item will occur.

3.4 d) No Impact

The Project site does not serve as a fish or wildlife movement corridor. No impacts related to this Checklist Item will occur.

3.4 e) No Impact

The proposed Project will not conflict with any policies or ordinances protecting biological resources. No impacts related to this Checklist Item will occur.

3.4 f) No Impact:

There are two Habitat Conservation Plans that apply in Tulare County. However, the proposed Project does not conflict with these Plans. No 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, the State of California, and the Western United States. As noted in Chapter 3.4, cumulative impacts related to biological resources will be Less Than Significant.

Mitigation Measure(s):

None Required.

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

Potential Project-specific and cumulative impacts to biological resources will be Less Than Significant.

FINDINGS: IMPACTS TO EXAMPLES OF THE MAJOR PERIODS OF CALIFORNIA HISTORY OR PREHISTORY

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

Chapter 3.5, Cultural Resources, discusses impacts to historic and prehistoric resources. Mitigation Measures have been included in this EIR to address the potential of cultural resources being unearthed as a result of Project-related ground excavation. Consultants Sierra Valley Cultural Planning completed a cultural resources assessment, including a records search and survey which is included as Appendix “D” of this DEIR, which concludes that the

Project would result in Less Than Significant Project-specific Impacts with Mitigation Measures.

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 will be mitigated to a Less Than Significant level, cumulative impacts would also be considered Less Than Significant With Mitigation.

Mitigation Measure(s):

See Mitigation Measures contained in Chapter 3.5.

- 5-1** **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 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.**

- 5-2** **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.**

5-3 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

Potential Project-specific and cumulative impacts to cultural resources will be Less Than Significant With Mitigation.

- b) **Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?**

Project Impact Analysis: *See Chapter 4*

Cumulative impacts are discussed within the analysis of each Checklist Item. In addition, cumulative impacts are summarized in Chapter 4.

Cumulative Impact Analysis: *See Chapter 4*

Cumulative impacts are discussed within the analysis of each Checklist Item. In addition, cumulative impacts are summarized in Chapter 4.

Mitigation Measure(s):

- 1-1 The Project site has an existing berm and shall continue to have and maintain an 8-foot berm along the entire edge of the project site (not including location of the driveway).**

- 3-1 The following air pollution control measures 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 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 for construction workers at all access points.**
 - **All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. Maintain maintenance records onsite and all equipment shall be checked by a certified visible emissions evaluator.**

- 3-2 The following air pollution control measures shall be implemented to reduce emissions from trucks operating on the Project site:**
 - **Minimize truck idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of the California Code of Regulations). Post signs in areas where trucks will park instructing drivers to shut off engines unless in an active queue.**

- 3-3 By the year 2018 or prior to increasing production by 400,000 tons of additional material, the applicant shall ensure that the fleet average NO_x emissions meet the 2019 standard of 3.5 grams of NO_x per brake-horsepower hour.**

- 3-4** By the year 2019 or prior to increasing production by 450,000 tons of additional material, the applicant shall ensure that the fleet average NOx emissions meet the 2020 standard of 2.3 grams of NOx per brake-horsepower hour.
- 5-1** 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.
- 5-2** 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.
- 5-3** 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.**
- 8-1 No truck maintenance or washing shall occur at the site. Heavy equipment maintenance (such as a loader) will occur on a concrete surface or at an offsite location. If such a surface is unavailable or impractical, a drop cloth or other impermeable surface shall be utilized to prevent surface waste discharge that would contribute to soil and groundwater contamination, with any spills immediately cleaned up.**
- 12-1 Provide all hearing protection measures outlined in MSHA's Noise Standard Actions required by Mine Operators**

Conclusion: *See Chapter 4*

Cumulative impacts are discussed within the analysis of each Checklist Item. In addition, cumulative impacts are summarized in Chapter 4.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Project Impact Analysis: ***Less than Significant Impact***

The proposed Project would not result in any impacts to human beings beyond what has already been analyzed in chapter 3.1 to 3.17.

There are no significant environmental adverse effects from this Project to human beings.

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.

There are no significant environmental adverse effects from this Project to human beings.

Mitigation Measure(s):

None Required.

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

There will be No Significant environmental effects which will cause substantial adverse affects to impacts to human beings either directly or indirectly.

REFERENCES

CEQA Guidelines

Tulare County General Plan 2030 Update, August 2012

Tulare County General Plan 2030 Update: Recirculated Draft EIR, February 2010

Summary of Cumulative Impacts

Chapter 4

CUMULATIVE IMPACTS ANALYSIS UNDER CEQA

Section 15355 Cumulative Impacts

“Cumulative impacts” refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

- (a) The individual effects may be changes resulting from a single project or a number of separate projects.
- (b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.”¹

Section 15130 Discussion of Cumulative Impacts

- “(a) An EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in section 15065(a) (3). Where a lead agency is examining a project with an incremental effect that is not “cumulatively considerable,” a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.
 - (1) As defined in Section 15355, a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.
 - (2) When the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR. A lead agency shall identify facts and analysis supporting the lead agency's conclusion that the cumulative impact is less than significant.
 - (3) An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The lead agency shall identify facts and analysis supporting its conclusion that the contribution will be rendered less than cumulatively considerable.

¹ CEQA Guidelines, Section 15355

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- (b) The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact. The following elements are necessary to an adequate discussion of significant cumulative impacts:
- (1) Either:
 - (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or
 - (B) A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such document shall be referenced and made available to the public at a location specified by the lead agency.
 - (2) When utilizing a list, as suggested in paragraph (1) of subdivision (b), factors to consider when determining whether to include a related project should include the nature of each environmental resource being examined, the location of the project and its type. Location may be important, for example, when water quality impacts are at issue since projects outside the watershed would probably not contribute to a cumulative effect. Project type may be important, for example, when the impact is specialized, such as a particular air pollutant or mode of traffic.
 - (3) Lead agencies should define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used.
 - (4) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available, and
 - (5) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.
- (c) With some projects, the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis.
- (d) Previously approved land use documents, including, but not limited to, general plans, specific plans, regional transportation plans, plans for the reduction of greenhouse gas emissions, and local coastal plans may be used in cumulative impact analysis. A pertinent discussion of cumulative impacts contained in one or more previously certified EIRs may be incorporated by reference pursuant to the provisions for tiering and program EIRs. No

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further cumulative impacts analysis is required when a project is consistent with a general, specific, master or comparable programmatic plan where the lead agency determines that the regional or area wide cumulative impacts of the proposed project have already been adequately addressed, as defined in section 15152(f), in a certified EIR for that plan.

- (e) If a cumulative impact was adequately addressed in a prior EIR for a community plan, zoning action, or general plan, and the project is consistent with that plan or action, then an EIR for such a project should not further analyze that cumulative impact, as provided in Section 15183(j).²

Tulare County is the geographic extent for most impact analysis. This geographic area is the appropriate extent because of the following reasons:

1. The proposed Project is in Tulare County and County of Tulare is the Lead Agency;
2. Tulare County General Plan polices applies to the proposed Project.

The basis for other resource specific cumulative impact analysis includes:

- For Air Quality and Green House Gas Emissions it is the San Joaquin Air Basin
- For Biological Resources it is the San Joaquin Valley
- For Hydrology it is the Tulare Lake Basin.

PAST, PRESENT, PROBABLE FUTURE PROJECTS

Tulare County Association of Governments (TCAG) Blueprint Scenario

Under the Tulare County Regional Blueprint Preferred Growth Scenario, TCAG suggested a 25% increase over the status quo scenario to overall density by 2050. The preferred growth scenario principles included directing growth towards incorporated cities and communities where urban development exists and where comprehensive services and infrastructure are/or will be provided. Another relevant preferred scenario is the creation of urban separators around cities. The proposed Project location is outside incorporated areas and would be consistent with the goal of separating urban boundaries.³

Tulare County 2030 General Plan

The Cumulative Analysis outlined in the Tulare County General Plan Update 2030 Recirculated Draft EIR notes regional population growth (which impact was developed by the Tulare County Association of Governments) and a number major projects. Regional population projections are provided in the Table 4-1.⁴

² CEQA Guidelines, Section 15130 (e)

³ Tulare County Associated of Governments Blueprint 2050, Preferred Scenario (2009)

⁴ Tulare County General Plan 2030 Update Recirculated Draft EIR, page 5-4 to 5-5

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Table 4-1
Regional Population Projections and Planning Efforts

Jurisdiction	General Plan Planning Timeframe	General Plan Buildout Population	Significant Environmental Impacts
City of Dinuba	2006-2026	33,750	Farmland conversion; conflicts with agricultural zoning and Williamson Act contracts; conversion of agricultural soils to non-agricultural use; regional air quality impacts; and climate change-greenhouse gases.
City of Woodlake			Unavailable.
City of Visalia	1991-2020	165,000	Air quality; biological resources; land use conflicts; noise; transportation/traffic; mass transit; agricultural resources; water supply; and visual resources.
City of Tulare	2007-2030	134,910	Farmland conversion; aesthetics; water supply; traffic; air quality; global climate change; noise; flooding from levee or dam failure; biological resources; and cultural resources.
City of Farmersville	2002-2025	12,160	Agricultural resources; agricultural land use conflicts; air quality; and traffic circulation.
City of Exeter			Information unavailable at time of analysis.
City of Lindsay	1990-2010	17,500	Air quality and farmland land conversion.
City of Porterville	2006-2030	107,300	Farmland conversion; air quality; noise; and biological resources.
City of Kingsburg	1992-2012	16,740	Farmland conversion and air quality.
City of Delano	2005-2020	62,850	Air quality; noise; farmland conversion; disruption of agricultural production; and conversion of agricultural soils to non-agricultural use.
County of Fresno	2000-2020	1,113,790	Farmland conversion; reduction in agricultural production; cancellation of Williamson Act Contracts; traffic; transit; bicycle facilities; wastewater treatment facilities; storm drainage facilities; flooding; police protection; fire protection; emergency response services; park and recreation facilities; library services; public services; unidentified cultural resources; water supply; groundwater; water quality; biological resources; mineral resources; air quality; hazardous materials; noise; and visual quality.
County of Kern	2004-2020	1,142,000	Air quality; biological resources; noise; farmland conversion; and traffic.
County of Kings*	1993-2005	149,100 (low) 228,000 (high)	Biological resources; wildlife movement; and special status species.

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** The adopted Kings County General Plan did not identify a projected population for 2005. The General Plan does include population projections for 2010, which is included in this table.*

SOURCE: City of Delano, 1999; City of Dinuba, 2008; City of Farmersville, 2003; City of Kingsburg, 1992; City of Lindsay, 1989; City of Porterville, 2007; City of Visalia, 2001, 1991; County of Fresno, 2000; County of Kern, 2004; County of Kings, 2009; DOF, 2007; TCAG, 2008.

In addition to the Regional Growth Projections used for the cumulative impact analysis, the Tulare County General Plan Update 2030 Recirculated Draft EIR noted the following Major Projects

- **Goshen**: Status – GPI allowed to proceed. On March 29, 2006, the Tulare County Resource Management Agency convened a meeting with 30 property owners, land developers, services providers, and their representatives, having a development interest in Goshen. The purpose of the meeting was to “...discuss the potential for joint cooperation amongst the various developers and property owners to achieve a well planned community and to foster the spirit of cooperation” towards completion of the Community Plan update and EIR. The proposed planning study area boundary would add approximately 3,277 acres to the existing Goshen UDB, as opposed to the Draft Goshen Community Plan UDB which adds 422 acres using a needs-based analysis patterned on historical growth trends extrapolated 20 years into the future. The revised boundary incorporates the GPI applicants’ lands, the hamlet of West Goshen, and additional land to be held in reserve for future growth. The applicant’s land excluding Mangano’s “Westfield” totals 661 acres. The area is bounded in the north by Avenues 320 and 312, taking in West Goshen; in the west by Roads 52 and 56; in the south by State Hwy. 198; and in the east by Camp Road and Road 76 at the City of Visalia Sphere of Influence. This ‘study’ area will be the focus of technical analysis that will set a proposed Urban Development Boundary in which build-out will be contemplated for preparation of the new Goshen Community Plan, EIR and Infrastructure Master Plan. Since the study area involves lands not owned or controlled by the developers, the MOU agreement to be negotiated will contain a provision to reimburse the developers for expenses incurred when development authorized by the new plan occurs.
- **Yokohl Ranch**: Status – GPI allowed to proceed in February 2007. On September 13, 2005, the Tulare County Resource Management Agency received a request from the J.G. Boswell Company and the Eastlake Company, to initiate the formal process to amend the Tulare County General Plan, including the Foothill Growth Management Plan (FGMP), to change the land use designation for the 36,000 acre Yokohl Ranch property from ‘Extensive Agriculture’ to ‘Planned Community Area’. According to the applicants, the proposed amendment will result in master planned communities that balance the needs for housing, neighborhood commercial uses, recreation, ranching operations and open space. As such, 40% (14,400 acres) of the ranch is proposed for development with 60% (21,600 acres) of the property to remain as untouched open space and ranchlands. The developed portions of the ranch will include the Village of Yokohl Ranch, an active adult community accessible to Yokohl Drive; and a Ranch Resort Lodge Enclave located in the northern reaches of the site, approximately four miles south of Lake Kaweah.

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- **Rancho Sierra**: Status – GPA approved. The project site consists of 114.6 acres. The site was a golf course facility located on both sides of Liberty Avenue (Avenue 264), east of Road 124, south of the city of Visalia. There are 30 existing homes within the golf course area but not a part of this application. The intended use is to subdivide the site into 175 single family residential lots. The project has been approved.

- **Earlimart**: Status – GPI allowed to proceed January 2006. On September 9, 2005, the Tulare County Resource Management Agency received a request from the Earlimart Development Group, a land development partnership comprised of four business owners with interests in 1,491 acres of private property located both within and outside of the existing Earlimart Urban Development Boundary. The Group is seeking authorization to file an amendment to the Tulare County General Plan, specifically the Earlimart Community Plan (1988). In addition to an updated Community Plan, an Infrastructure Master Plan and Program EIR for the update will also be prepared. The applicants proposed that a 7,680 acre planning study area be established. The area is bounded in the north by Avenue 68 (Deer Creek as a natural boundary), in the south by Avenue 36 (White River as a natural boundary), in the east by Road 144, and in the west by Road 120. This 'study' area will be the focus of technical analysis that will set the proposed Community Plan boundary for which the new Community Plan, EIR and Infrastructure Master Plan will be prepared. Since the study area involves lands not owned or controlled by the Development Group, the MOU agreement to be negotiated will contain a provision to reimburse the Development Group for expenses when development authorized by the new plan occurs. The Earlimart Development Group has indicated that they have contracts with the consulting firms of Hogle-Ireland, Inc., Provost & Pritchard Engineering Group, Inc. and TPG Consulting or other environmental consulting firm, to prepare the General Plan amendment. However, it is important that preparation of the EIR be managed by the County as Lead Agency for the project.

In addition to the Major Projects outlined in the Tulare County General Plan Update 2030 Recirculated Draft EIR, there are a number of other projects that may produce cumulative impacts. These projects are briefly described below.

- **Peña's** – The project is for Peña's Material Recovery Facility (MRF) and Transfer Station (TS)' which currently sits on 18.01 acres that are being rezoned from AE 30 to M1 Light Industrial Zoning, and rezoning 6.7 acres and 11.3 acres from residential and industrial reserve zoning to industrial zoning. The land is currently operated by Peña's Disposal, Inc. and has a previously permitted peak processing capacity of 500 tons per day (TPD). This existing facility serves the unincorporated northern portions of Tulare County and the unincorporated southern portions of Fresno County, and the City of Orange Cove in Fresno County. Within the County of Tulare, the facility serves the cities of Dinuba and Porterville, the communities of Cutler, Orosi, London, Sultana, Traver, Seville and other smaller communities in the area that may need to utilize the facility for the recycling of source-separated recyclables, commingled recyclables, commercial and industrial rubbish, green material and wood wastes, construction and demolition wastes,

and inert debris to assist in reaching the diversion goals of the California Integrated Waste Management Act of 1989 (AB 939).

- **South County Correctional Detention Facility in Porterville** - The project will require a rezoning of the project site, which is half in the County and half in the City of Porterville. The proposed project contains a build-out “footprint” for the proposed facility of approximately 15.0 acres with a new maximum security Type II facility as the primary structure. The project will consist of 250-cell double occupancy units (500 beds) and 14 special use beds for a total of 514 beds. In addition to the main detention facility, the project will also include support service components.

As the site is currently under agricultural production, the project will require new utilities infrastructure (such as electrical, gas, phone, etc.). It will also require streets/roads improvements, potable water systems, wastewater systems, and storm water drainage infrastructure. These will be constructed or expanded to meet facility demands. Where feasible, the project will be extended to connect with existing potable water, wastewater, and storm water drainage infrastructure provided by City of Porterville. However, possible new construction of the above mentioned infrastructure may be necessary, and as such, will be evaluated.

- **Pixley Biogas** - The project is for development of a biogas facility on 2.75 acre portion of an 8 acre parcel. The digester will extract methane gas, via an anaerobic manure digester. The facility will be used to produce 266 MMBTUS per day of biogas via an anaerobic digestion of manure feedstock from nearby dairies. The biogas produced will be used to fuel the Calgren bio-refinery facility, located adjacent and to the south of the project site, which will reduce the Calgren plant consumption of natural gas.
- **Harvest Power** – The project is for a Composting Expansion and Anaerobic Digester. The project will allow a maximum total tonnage for the composting to increase from 156,000 tons per year to a potential 216,000 tons per year. An additional 60,000 tons will be allowed at the proposed anaerobic digester facility. The facility will produce transportation fuel through a compressed natural gas (CNG) refueling station.
- **Orosi Rock** – The project includes concrete a recycling and surface mining operation on 35.13 acres where concrete from various construction projects around the region are delivered for recycling. The project includes transporting up to 800,000 tons of aggregate via 44,000 trips per year heavy-duty truck trips from the operation on an annual basis.

The amendment to the previous permit allows an increase of 1.9 million tons of rock and 2.1 million tons of imported recycled concrete. The total production of aggregate will be 10.8 million tons over the course of the existing 25 year period of the existing permit. Excavating will be limited to 400’ Mean Sea Level (MSL) and the operation will continue blasting by a licensed blaster to break up larger rocks that cannot be moved or broken up by mechanical equipment.

- **Tulare Solar Center** – The project includes the construction of an 80 MW solar photovoltaic facility on up to 800 acres of an approximately 1,144 acre property historically used as agricultural farmland in Tulare County, California. Proposed Project construction generally requires a focus in three major areas. The areas of focus include: (1) The solar field with associated equipment, including solar PV panels/modules, racking systems, inverters, intermediate voltage transformers, access roads, and underground, above-ground, or overhead electrical systems to collect and consolidate power from across the Project; (2) A substation(s) that receives the solar field's electrical production and increases the voltage to match the voltage of the adjacent utility grid via a generator step-up transformer(s), with Project owned gen-tie lines, and (3) Any other electrical interconnection components necessary for the Project's production to reach the utility grid, including disconnect equipment, communications lines (e.g. fiber optics) and a sub-transmission tap line.

SUMMARY OF CUMULATIVE IMPACTS

In this summary section, mitigated impacts and immitigable impacts will be discussed. Checklist item criteria that would result in no impacts or less than significant impacts are discussed in the previous chapter and are not reiterated.

Unavoidable Impacts

There are no significant and unavoidable impacts. All cumulative impacts have been reduced below a level of significance through mitigation.

Less than Significant Impacts with Mitigation

There are a number of cumulative impacts that can be effectively mitigated. These impacts are listed in the Table 4-2.

Table 4-2
Checklist Items with Less than Significant Impacts with Mitigation

Impact Section	Checklist Item No.	Checklist Criteria
Aesthetics	3.1 c)	Substantially degrade the existing visual character or quality of the site and its surroundings
Air Quality	3.3 c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?
Cultural Resources	3.5 a)	Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?
Cultural Resources	3.5 b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?
Cultural Resources	3.5 c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
Cultural Resources	3.5 d)	Disturb any human remains, including those interred outside of formal cemeteries?
Hazards & Hazardous Materials	3.8 b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
Noise	3.12 a)	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact

Cumulative impacts that have less than significant impacts are listed in Table 4-3.

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Table 4-3
Checklist Items with Less Than Significant Impacts

Aesthetics	3.1 d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?
Air Quality	3.3 a)	Would the project conflict with or obstruct implementation of the applicable air quality plan?
Air Quality	3.3 b)	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?
Air Quality	3.3 d)	Expose sensitive receptors to substantial pollutant concentrations?
Air Quality	3.3 e)	Create objectionable odors affecting a substantial number of people?
Biological Resources	3.4 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?
Geology & Soils	3.6 a)	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: <ul style="list-style-type: none"> 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?
Geology & Soils	3.6 b)	Result in substantial soil erosion or the loss of topsoil?
Geology & Soils	3.6 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?
Geology & Soils	3.6 d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?
Greenhouse Gas Emissions	3.7 a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

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Greenhouse Gas Emissions	3.7 b)	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?
Hazards & Hazardous Materials	3.8 a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
Hydrology & Water Quality	3.9 a)	Violate any water quality standards or waste discharge requirements?
Hydrology & Water Quality	3.9 b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?
Hydrology & Water Quality	3.9 c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?
Hydrology & Water Quality	3.9 d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?
Hydrology & Water Quality	3.9 e)	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?
Land Use & Planning	3.10 b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?
Mineral Resources	3.11 a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
Mineral Resources	3.11 b)	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?
Noise	3.12 b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
Noise	3.12 c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
Noise	3.12 d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing

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		without the project?
Population & Housing	3.13 a)	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
Public Services	3.14 a)	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Schools?
Public Services	3.14 a)	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Parks?
Recreation	3.15 a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
Transportation	3.16 a)	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?
Transportation	3.16 b)	Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?
Transportation	3.16 f)	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?
Utilities	3.17 a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
Utilities	3.17 c)	Require or result in the construction of new storm water

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		drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
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No Impact

Cumulative impacts that no impact are listed in Table 4-4.

Table 4-4
Checklist Items with No Impact

Aesthetics	3.1 a)	Have a substantial adverse effect on a scenic vista?
Aesthetics	3.1 b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
Agricultural Lands & Forestry	3.2 a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural uses?
Agricultural Lands & Forestry	3.2 b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?
Agricultural Lands & Forestry	3.2 c)	Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code § 12220(q), timberland (as defined by Public Resources Code § 4526), or timberland zoned Timberland Production (as defined by Government Code § 51104(g))?
Agricultural Lands & Forestry	3.2 d)	Result in the loss of forest land or conversion of forest land to non-forest use?
Agricultural Lands & Forestry	3.2 e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of agricultural use or conversion of forest land to non-forest use?
Biological Resources	3.4 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?
Biological Resources	3.4 c)	Have a substantial adverse effect on federally

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		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?
Biological Resources	3.4 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?
Biological Resources	3.4 e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
Biological Resources	3.4 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?
Geology & Soils	3.6 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?
Hazards & Hazardous Materials	3.8 c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
Hazards & Hazardous Materials	3.8 d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
Hazards & Hazardous Materials	3.8 e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?
Hazards & Hazardous Materials	3.8 f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?
Hazards & Hazardous Materials	3.8 g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
Hazards & Hazardous Materials	3.8 h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with

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		wildlands?
Hydrology & Water Quality	3.9 f)	Otherwise substantially degrade water quality?
Hydrology & Water Quality	3.9 g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?
Hydrology & Water Quality	3.9 h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?
Hydrology & Water Quality	3.9 i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?
Hydrology & Water Quality	3.9 j)	Inundation by seiche, tsunami, or mudflow?
Land Use & Planning	3.10 a)	Physically divide an established community?
Land Use & Planning	3.10 c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?
Noise	3.12 e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?
Noise	3.12 f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?
Population & Housing	3.13 b)	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
Population & Housing	3.13 c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?
Public Services	3.14 a)	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire protection?
Public Services	3.14 a)	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities,

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		<p>need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:</p> <p>Police protection?</p>
Public Services	3.14 a)	<p>Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:</p> <p>Other Public Facilities?</p>
Recreation	3.15 b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?
Transportation	3.16 c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?
Transportation	3.16 d)	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
Transportation	3.16 e)	Result in inadequate emergency access?
Utilities	3.17 b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
Utilities	3.17 d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?
Utilities	3.17 e)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
Utilities	3.17 f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

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Utilities	3.17 f)	Comply with federal, state, and local statutes and regulations related to solid waste?
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REFERENCES

CEQA Guidelines, Section 15130 (e)

Guidelines, Section 15355

Tulare County General Plan 2030 Update Recirculated Draft EIR, page 5-4 to 5-5

Tulare County Associated of Governments Blueprint 2050, Preferred Scenario (2009)

ALTERNATIVES

Chapter 5

INTRODUCTION

CEQA Guidelines §15126.6 require that a reasonable range of Alternatives to the proposed project be discussed in the EIR. Specific requirements include the following:

- CEQA Guidelines §15126.6(a): Alternatives to the proposed Project. An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would 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 evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.
- CEQA Guidelines §15126.6(b): Purpose. Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.
- CEQA Guidelines §15126.6(c): Selection of a range of reasonable alternatives. The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Additional information explaining the choice of alternatives may be included in the administrative record. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.
- CEQA Guidelines §15126.6(d): Evaluation of alternatives. The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project

as proposed.

- CEQA Guidelines §15126.6(e): “No project” alternative.
 - (1) The specific alternative of “no project” shall also be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The no project alternative analysis is not the baseline for determining whether the proposed project's environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline (see Section 15125).
 - (2) The “no project” analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the “no project” alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.
 - (3) A discussion of the “no project” alternative will usually proceed along one of two lines:
 - (A) When the project is the revision of an existing land use or regulatory plan, policy or ongoing operation, the “no project” alternative will be the continuation of the existing plan, policy or operation into the future. Typically this is a situation where other projects initiated under the existing plan will continue while the new plan is developed. Thus, the projected impacts of the proposed plan or alternative plans would be compared to the impacts that would occur under the existing plan.
 - (B) If the project is other than a land use or regulatory plan, for example a development project on identifiable property, the “no project” alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this “no project” consequence should be discussed. In certain instances, the no project alternative means “no build” wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment.
 - (C) After defining the no project alternative using one of these approaches, the lead agency should proceed to analyze the impacts of the no project alternative by projecting what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current

- plans and consistent with available infrastructure and community services.
- CEQA Guidelines §15126.6(f): (f) Rule of reason. The range of alternatives required in an EIR is governed by a “rule of reason” that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making.
 - (1) Feasibility. Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.
 - (2) Alternative locations.
 - (A) Key question. The key question and first step in analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in 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.
 - (B) None feasible. 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.
 - (C) Limited new analysis required. 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) An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative.

“15021. Duty to minimize environmental damage and balance competing public objectives

- (a) CEQA establishes a duty for public agencies to avoid or minimize environmental damage where feasible.
 - (1) In regulating public or private activities, agencies are required to give major consideration to preventing environmental damage.
 - (2) A public agency should not approve a project as proposed if there are feasible alternatives or mitigation measures available that would substantially lessen any significant effects that the project would have on the environment.

- (b) In deciding whether changes in a project are feasible, an agency may consider specific economic, environmental, legal, social, and technological factors.
- (c) The duty to prevent or minimize environmental damage is implemented through the findings required by Section 15091.
- (d) CEQA recognizes that in determining whether and how a project should be approved, a public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social factors and in particular the goal of providing a decent home and satisfying living environment for every Californian. An agency shall prepare a statement of overriding considerations as described in Section 15093 to reflect the ultimate balancing of competing public objectives when the agency decides to approve a project that will cause one or more significant effects on the environment.”¹

FACTORS CONSIDERED IN ANALYSIS OF ALTERNATIVES

In this Alternatives analysis the following criteria will be used:

Evaluation Criteria 1: Project Specific Elements

- The expansion will allow for annual aggregate transporting of 950,000, an increase from 500,000 tons annually;
- Up to seven additional employees, from 20 to 27;
- A maximum of 375 round truck trips per day from a maximum of 200 round truck trips per day;
- Affirm operating hours are 7:00 a.m. to 6:00 p.m., Monday through Friday with an allowance to work on weekends due to utility demands and state and local government paving requirements;
- Total production will be 15 million tons of aggregate over the course of the next 50 years, as approved in PMR 09-002.

Evaluation Criteria 2: Project Objectives

- Increase Aggregate Production and remain within an already approved site and excavation footprint.

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 of construction material.

¹ CEQA Guidelines, Section 15021

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 ANALYSIS

Alternative 1: No Project

This Alternative by definition would not meet the objectives of the proposed Project.

Alternative 2: Alternative Site (Project located on another parcel)

An Alternative Site would have to be similar in quality and quantity of rock material. It would also entail acquisition of an Alternative Site. An Alternative Site has the potential to create the same or more impacts (for example aesthetics, conversion of agricultural land, air quality, biological, cultural, traffic, etc.) at another site which would subsequently be converted into an active mining operation. 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, Valley Air District or Water Quality Control Board), and receive state new mining and reclamation permits from the state 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.

Alternative 3: Reduced Yearly Tonnage

One potential alternative is to allow a Reduced Yearly Tonnage increase. This Alternative would increase the amount of time required to mine the site to the proposed depth. Reclamation would occur later than proposed. 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.

Alternative 4: Reduced Depth

One potential alternative is a Reduced Depth of the proposed Project. This alternative would result in a lower total amount of material mined at the site. Reduced Depth would also be compounded by reduced yearly tonnage and the potential impacts described in Alternative 3.

ALTERNATIVES NOT CONSIDERED

Alternative Site Configuration

Environmental Impact Reports typically analyze site configuration in the Alternatives Analysis. An Alternative site configuration is not analyzed in this report as the structures and equipment locations for mining-related operations are temporary and will shift during the duration of material excavation.

Alternative Materials Excavation

The Project site is not appropriate for the extraction of other mineral resources. There is no readily available information, for instance, that petroleum extraction would be a viable mineral resource at or in the vicinity of this location. In addition, the Tulare County 2030 General Plan noted mineral resource zones located east of Visalia and not in the vicinity of the Project site.

Alternative Reclamation or End Use

The proposed Reclamation Plan includes areas for grazing as is typical for most surface mining projects in agricultural areas. If the site was to be reclaimed to allow crops to be grown on site, a substantial amount of backfill would be required. Importing of fill material would result in increased emissions from earthmoving equipment (such as bulldozers and front loaders) and heavy-duty haul trucks as well as additional traffic impacts on the local roadways. Additional traffic would be greater than total traffic generated from mining-related operations. Imported fill tends to contract and a greater volume of fill will be required than the volume of rock that is exported. Due to the environmental impacts, the Alternative Reclamation or End Use is not being considered.

ALTERNATIVES MATRIX

Table 5-1
Alternatives Analysis Table

	ALTERNATIVE 1 No Project	ALTERNATIVE 2 Alternative Site	ALTERNATIVE 3 Reduced Yearly Tonnage	ALTERNATIVE 4 Reduced Mining Depth
Project Elements	No	Yes	No	No
Meet Objectives	No	Yes	No	No
Minimize Cost	Low Cost	High Cost	Moderate Cost	High Cost
Efficient Business Operations	No	No	No	No
Reduce Significant Impacts	Yes	No	Yes	Unknown

Only Alternatives 1 and 3 could potentially result in less impacts than the proposed Project's. These alternatives; however, would not meet the objectives of the proposed Project.

ALTERNATIVES ANALYZED

Table 5-2 demonstrates the comparative assessment of potential impacts.

Table 5-2
Potential Impact Analysis

	No Project #1	Located at Another Parcel # 2	Reduced Yearly Tonnage # 3	Reduced Mining Depth # 4
Aesthetics	Less	Similar	Similar	Similar
Agriculture and Forestry Resources	Less	Similar	More	Similar
Air Quality	Less	Similar	Similar	Similar
Biological Resources	Similar	Similar	Similar	Similar
Cultural Resources	Similar	Similar	Similar	Similar
Geology and Soils	Less	Similar	Similar	Similar
Greenhouse Gas Emissions	Less	More	More	Similar
Hazards and Hazardous Materials	Less	Similar	Similar	Similar
Hydrology and Water Quality	Less	Similar	Similar	More
Land Use and Planning	Similar	Similar	Similar	Similar
Mineral Resources	Similar	Similar	Similar	Similar
Noise	Less	Similar	Similar	Similar
Population and Housing	Similar	Similar	Similar	Similar
Public Services	Less	Similar	Similar	Similar
Recreation	Similar	Similar	Similar	Similar
Transportation and Traffic	Less	Similar-to-More	Similar	Similar
Utilities and Service Systems	Similar	Similar	Similar	Similar
Mandatory Findings of Significance	Similar	Similar	Similar	Similar

Economic & Social Effects And Growth Inducing Chapter 6

INTRODUCTION

This chapter discusses economic, social and growth inducing effects of the proposed Project. Table 6-1 provides the CEQA requirements and a summary of the impact analysis.

Table 6-1
Summary of Economic, Social and Growth Inducing Impacts

Topic	Summary of Impact	CEQA Requirement
Economic Impact	The proposed Project will not result in negative impacts to the region. It may result in an increase in economic benefits to the region, since the proposed Project will provide up to 7 new jobs.	<i>CEQA does not have specific requirements for evaluating the economic impacts of a proposed Project. Section 15131 of CEQA Guidelines states that “Economic or social information may be included in an EIR or may be presented in whatever form the agency desires.”</i>
Social Impact	The proposed Project will not result in a disproportionate effect on minority populations, low income populations, or Native Americans. The proposed Project does not pose any adverse environmental justice issues that would require mitigation.	<i>The social impacts of a project include environmental justice considerations. California Government Code Section 65040.12 defines Environmental Justice as “the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies.”</i>
Growth Inducing Effect	<i>The proposed Project will not result in significant growth inducing impacts. The proposed Project may result in up to 10 new jobs. The Project will not result in new housing. Growth inducing impacts will be less than significant.</i>	<i>CEQA Guidelines § 15126 (d) makes recommendations for analyzing impacts due to growth inducement, including discussing ways in which the project could foster economic or population growth, the construction of additional housing, or other factors which could remove obstacles to population growth or encourage and facilitate other activities which could impact the environment individually or cumulatively.</i>

Therefore, implementation of the proposed Project will result in less than significant environmental impacts, either individually or cumulatively, caused by either economic, social, or growth inducing effects. No mitigation measures are required.

DEMOGRAPHICS

“Tulare County has one of the highest rates of unemployment in California and the nation, due in large part to the seasonal nature of agricultural employment. “The unemployment rate in the Tulare County was 15.9 percent in February 2013, down from a revised 16.8 percent in January

2013, and below the year-ago estimate of 17.6 percent. This compares with an unadjusted unemployment rate of 9.7 percent for California and 8.1 percent for the nation during the same period.”¹ The general demographic information is found in Table 6-2.

Table 6-2
Profile of General Population and Housing Characteristics, 2010²

Demographic Profile Data	Tulare County
<i>Population</i>	
Total	442,179
% Hispanic or Latino	60.6%
% not Hispanic or Latino	39.4%
White alone	27.5%
Black or African American alone	0.4%
Asian alone	0.2%
Some other race alone	0.1%
Two or more races	1.4%
<i>Housing</i>	
Total housing units	141,696
Occupied Housing Units	130,352
Vacant housing units	11,344
Owner-occupied housing units	76,586 (58.8%)
Renter-occupied housing units	53,766 (41.2%)
Homeowner vacancy rate (%)	2.4%
Renter vacancy rate (%)	5.8%

ECONOMIC IMPACTS

Under CEQA Guidelines 15131, “[e]conomic or social information may be included in an EIR or may be presented in whatever form the agency desires.

- (a) Economic or social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes.
- (b) Economic or social effects of a project may be used to determine the significance of physical changes caused by the project. For example, if the construction of a new freeway or rail line divides an existing community, the construction would be the physical change, but the social effect on the community would be the basis for determining that the effect would be significant. As an additional example, if the construction of a road and the resulting increase in noise in an area disturbed existing religious practices in the area, the disturbance of the religious practices could be used to determine that the construction and

¹ State of California Employment Development Department, Labor Market Information Division, (March 29, 2013) [http://www.calmis.ca.gov/file/1fmonth/visa\\$pd\\$pdf](http://www.calmis.ca.gov/file/1fmonth/visapdpdf). Accessed August, 2014.

² U.S. Census Bureau, 2010 Demographic Profile Data <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed August, 2014.

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use of the road and the resulting noise would be significant effects on the environment. The religious practices would need to be analyzed only to the extent to show that the increase in traffic and noise would conflict with the religious practices. Where an EIR uses economic or social effects to determine that a physical change is significant, the EIR shall explain the reason for determining that the effect is significant.

- (c) Economic, social, and particularly housing factors shall be considered by public agencies together with technological and environmental factors in deciding whether changes in a project are feasible to reduce or avoid the significant effects on the environment identified in the EIR. If information on these factors is not contained in the EIR, the information must be added to the record in some other manner to allow the agency to consider the factors in reaching a decision on the project.”³

Economic Benefits of the proposed Project

The proposed Project will result in up to seven new jobs. As the County of Tulare obtains tax revenue from the sale of the crushed rock and recycled concrete, there is an economic benefit to the County. The proposed Project will allow for the extraction of more rock at an increased pace than the existing use, thus Tulare County will receive more tax revenue.

SOCIAL EFFECTS

Environmental Justice

“The basis for environmental justice lies in the Equal Protection Clause of the U.S. Constitution. The Fourteenth Amendment expressly provides that the states may not “deny to any person within [their] jurisdiction the equal protection of the laws” (U.S. Constitution, amend. XIV, §1).

On February 11, 1994, President Clinton signed Executive Order (E.O.) 12898, titled “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.” The executive order followed a 1992 report by the U.S. Environmental Protection Agency (U.S. EPA) indicating that “[r]acial minority and low-income populations experience higher than average exposures to selected air pollutants, hazardous waste facilities, and other forms of environmental pollution.” Among other things, E.O. 12898 directed federal agencies to incorporate environmental justice into their missions.”⁴

Environmental Justice in Cal Recycle Strategy

The Integrated Waster Management Board has committed to Environmental Justice as noted in their 2001 Strategic Plan. “[T]he Board is committed to protecting the environment and public health and safety in a manner that does not unfairly affect any group. Through the objectives and strategies listed below, we will examine all of our programs and activities to identify opportunities to reach out to low-income and minority populations to ensure that we provide the information and technical assistance needed to participate in a meaningful manner; and to

³ CEQA Guidelines, Section 15131

⁴ General Plan Guidelines, page 22

address the disproportionate impacts of pollution on low-income and minority populations.”⁵

Inappropriateness of Affordable Housing

The proposed Project is located in the AE-40 zone and is subject to the Rural Valley Lands Plan (RVLP) which designates the site for Agriculture. The proposed Project site is not suitable for affordable housing due to the currently allowed agricultural zoning. Typically, affordable housing projects require high-densities to maintain economic and financial viability. Low densities typically do not result in enough income volume to pay for the cost of construction.

Appropriateness of location

The Project site is surrounded agricultural uses. This location is more favorable than an off-site location. The proposed Project site is already being used for the same purpose and re-location or expansion elsewhere would not be economical or environmentally practical. A new mining facility, as opposed to the expansion project, would likely result in adverse land use compatibility impacts. As noted in Chapter 3.10 Land Use & Planning, using the site to accommodate expansion is consistent with the Tulare County 2030 General Plan.

GROWTH INDUCEMENT

As outlined in the CEQA Guidelines § 15126.2 (d), growth-inducing impact of the proposed Project 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.”⁶

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 7 new jobs, most of these are low skill jobs and would be available to any able bodied person. As these jobs will not require high skilled labor, many of the new employees are anticipated to be current, local area residents. As such, the proposed Project will not significantly induce growth.

⁵ Integrated Waster Management Board, Strategic Plan, 2001, page 20

⁶ CEQA Guidelines, Section 15126.2

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See summary in the Table 6-3.

Table 6-3
Growth Impacts

Potential Growth Inducing Impacts	<i>Discussion</i>
Economic/Population Growth	<i>The proposed Project will result in up to 7 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.</i>
Foster the Construction of Additional Housing	<i>The proposed Project will not result in a need for additional housing.</i>
<i>Other Activities</i>	<i>The proposed Project will not induce other growth related activities.</i>

As noted in Table 6-3, less than significant growth inducing impacts are anticipated.

UNMITIGABLE IMPACTS

Chapter 7

NO ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED

Under CEQA Guidelines Section 15126.2 (b), “[w]here 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.”¹ This analysis should include a description of any significant impacts, including those which can be mitigated but not reduced to a level of insignificance.

The proposed Project will not result in a significant and unavoidable impact. All impacts have been found to be Less Than Significant, or have been mitigated to a level considered Less Than Significant.

NO IRREVERSIBLE IMPACTS

Under CEQA Guidelines Section 15126.2 (c), “[u]ses 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 improvement 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 assure that such current consumption is justified. (See Public Resources Code section 21100.1 and Title 14, California Code of Regulations, section 15127 for limitations to applicability of this requirement.)”²

The resources committed to the proposed Project are standard resources necessary for the construction and operation an administrative office to support the existing asphalt plant. Through “green” development practices including air quality, and greenhouse gas emission reductions through material, product choices and through conservation of electricity and water, this proposed Project will reduce the irreversible life-cycle costs of the proposed Project. The proposed Project will be in compliance with the goals of AB32 and the Climate Change Scoping Plan that outlines GHG reductions to 1990 levels.

As contained in CEQA Guidelines Section 15043, “[a] public agency may approve a Project even though the Project would cause a significant effect on the environment, if the agency makes a fully informed and publicly disclosed decision that:

- (a) There is no feasible way to lessen or avoid the significant effect (see Section 15091); and
- (b) Specifically identified expected benefits from the Project outweigh the policy of reducing

¹ CEQA Guidelines, Section 15126.2 (b)

² CEQA Guidelines, Section 15126.2 (c)

or avoiding significant environmental impacts of the Project.”³

“An agency may prepare a statement of overriding considerations. As noted in CEQA Guidelines Section 15093, “CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposed Project against its unavoidable environmental risks when determining whether to approve the Project. If the specific economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposed Project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered acceptable.”⁴

“When the lead agency approves a Project which will result in the occurrence of significant effects which are identified in the final EIR but are not avoided or substantially lessened, the agency shall state in writing the specific reasons to support its action based on the final EIR and/or other information in the record. The statement of overriding considerations shall be supported by substantial evidence in the record.”⁵

“If an agency makes a statement of overriding considerations, the statement should be included in the record of the Project approval and should be mentioned in the notice of determination. This statement does not substitute for, and shall be in addition to, findings required pursuant to Section 15091.”⁶

NO STATEMENT OF OVERRIDING CONSIDERATIONS

Based on the analysis contained in this EIR, There is No Environmental Impacts That Cannot Be Avoided and there is no irreversible impact; therefore, a Statement of Overriding Considerations is not necessary. The Project’s merits and objectives are discussed in the Project Description and are found to be consistent with the intent of Tulare County 2030 General Plan. In addition, the Project’s merits outweigh any unavoidable and unmitigatable impacts warranting a Statement of Overriding Considerations.

PROJECT BENEFIT STATEMENTS

Project Benefit # 1: Increase Aggregate Production

Given aggregate demands in Tulare County and only an 11 to 20 year supply 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 northern portion of the County can only meet its demand for the next 20 years, before other sources of aggregate must be found.

³ CEQA Guidelines, Section 15043

⁴ Ibid., Section 15093 (a)

⁵ Ibid., Section 15093 (b)

⁶ Ibid., Section 15093 (c)

Project Benefit # 2: **Reclamation of Agricultural Land**

Consistent with the Surface Mining and Reclamation Act of 1975 (SMARA, Public Resources Code, Sections 2710-2796) which 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; the Project will be required to reclaim excavation areas that meet SMARA requirements.

Program/Projects Benefit # 3: **Implementation of Countywide General Plan Policies**

Following are the one hundred fifty-one (151) General Plan Policies as they apply to each specific Resource contained in the CEQA Checklist and discussed in Chapter 3 of this document for the Program.

I. AESTHETICS – 11 Policies

SL-1.1 Natural Landscapes - During review of discretionary approvals, including parcel and subdivision maps, the County shall as appropriate, require new development to not significantly impact or block views of Tulare County's natural landscapes. To this end, the County may require new development to:

1. Be sited to minimize obstruction of views from public lands and rights-of- ways,
2. Be designed to reduce visual prominence by keeping development below ridgelines, using regionally familiar architectural forms, materials, and colors that blend structures into the landscape,
3. Screen parking areas from view,
4. Include landscaping that screens the development, and
5. Limit the impact of new roadways and grading on natural settings.

SL-2.1 Designated Scenic Routes and Highways - The County shall protect views of natural and working landscapes along the County's highways and roads by maintaining a designated system of County scenic routes and State scenic highways by:

1. Requiring development within existing eligible State scenic highway corridors to adhere to land use and design standards and guidelines required by the State Scenic Highway Program,
2. Supporting and encouraging citizen initiatives working for formal designation of eligible segments of State Highway 198 and State Highway 190 as State scenic highways,
3. Formalizing a system of County scenic routes throughout the County ..., and
4. Requiring development located within County scenic route corridors to adhere to local design guidelines and standards.

SL-1.2 Working Landscapes - The County shall require that new non-agricultural structures and infrastructure located in or adjacent to croplands, orchards, vineyards, and open rangelands be sited so as to not obstruct important viewsheds and to be designed to reflect unique relationships with the landscape by:

1. Referencing traditional agricultural building forms and materials,
2. Screening and breaking up parking and paving with landscaping, and
3. Minimizing light pollution and bright signage.

LU-7.14 Contextual and Compatible Design - The County shall ensure that new development respects Tulare County's heritage by requiring that development respond to its context, be compatible with the traditions and character of each community, and develop in an orderly fashion which is compatible with the scale of surrounding structures.

SL-2.1 Designated Scenic Routes and Highways - The County shall protect views of natural and working landscapes along the County's highways and roads by maintaining a designated system of County scenic routes and State scenic highways by:

1. Requiring development within existing eligible State scenic highway corridors to adhere to land use and design standards and guidelines required by the State Scenic Highway Program,
2. Supporting and encouraging citizen initiatives working for formal designation of eligible segments of State Highway 198 and State Highway 190 as State scenic highways,
3. Formalizing a system of County scenic routes throughout the County ..., and
4. Requiring development located within County scenic route corridors to adhere to local design guidelines and standards.

LU-5.3 Storage Screening - The County shall require adequate landscaping and screening of industrial storage areas to minimize visual impacts and enhance the quality of the environment.

LU-5.6 Industrial Use Buffer - Unless mitigated, the County shall prohibit new heavy industrial uses to a minimum of 500 feet from schools, hospitals, or populated residential areas (more than 10 dwelling units within a quarter mile diameter area). The buffer area may be used for activities not creating impacts to adjoining sensitive land uses for uses accessory to the heavy industrial use. The establishment of a buffer may not be required when mitigated or may not apply to industrial uses that do not impact adjoining uses identified herein. The buffer area shall be landscaped and maintained.

LU-7.6 Screening - The County shall require landscaping to adequately screen new industrial uses to minimize visual impacts.

LU-7.19 Minimize Lighting Impacts - The County shall ensure that lighting in residential areas and along County roadways shall be designed to prevent artificial lighting from reflecting into adjacent natural or open space areas unless required for public safety.

ERM-5.19 Night Sky Protection - Upon demonstrated interest by a community, mountain service center, or hamlet, the County will determine the best means by which to protect the visibility of the night sky.

ERM-1.15 Minimize Lighting Impacts - The County shall ensure that lighting associated with new development or facilities (including street lighting, recreational facilities, and parking) shall be designed to prevent artificial lighting from illuminating adjacent natural areas at a level greater than one foot candle above ambient conditions.

II. AGRICULTURAL LANDS AND FORESTRY RESOURCES – 8 Policies

AG-1.1 Primary Land Use - The County shall maintain agriculture as the primary land use in the valley region of the County, not only in recognition of the economic importance of agriculture, but also in terms of agriculture's real contribution to the conservation of open space and natural resources.

AG-1.3 Williamson Act - The County should promote the use of the California Land Conservation Act (Williamson Act) on all agricultural lands throughout the County located outside established UDBs. However, this policy carries with it a caveat that support for the Williamson Act as a tax reduction component is premised on continued funding of the State subvention program that offsets the loss of property taxes.

AG-1.5 Substandard Williamson Act Parcels - The County may work to remove parcels that are less than 10 acres in Prime Farmland and less than 40 Acres in Non-Prime Farmland from Williamson Act Contracts (Williamson Act key term for Prime/Non-Prime).

AG-1.6 Conservation Easements - The County shall consider developing an Agricultural Conservation Easement Program (ACEP) to help protect and preserve agricultural lands (including "Important Farmlands"), as defined in this Element. This program may require payment of an in-lieu fee sufficient to purchase a farmland conservation easement, farmland deed restriction, or other farmland conservation mechanism as a condition of approval for conservation of important agricultural land to non-agricultural use. If available, the ACEP shall be used for replacement lands determined to be of statewide significance (Prime or other Important Farmlands), or sensitive and necessary for the preservation of agricultural land, including land that may be a part of a community separator as part of a comprehensive program to establish community separators. The in-lieu fee or other conservation mechanism shall recognize the importance of land value and shall require equivalent mitigation.

AG-1.7 Preservation of Agricultural Lands - The County shall promote the preservation of its agricultural economic base and open space resources through the implementation of resource management programs such as the Williamson Act, Rural Valley Lands Plan, Foothill Growth Management Plan or similar types of strategies and the identification of growth boundaries for all urban areas located in the County.

AG-1.10 Extension of Infrastructure into Agricultural Areas - The County shall oppose extension of urban services, such as sewer lines, water lines, or other urban infrastructure, into areas designated for agriculture use unless necessary to resolve a public health situation. Where necessary to address a public health issue, services should be located in public rights-of-way in order to prevent interference with agricultural operations and to provide ease of access for operation and maintenance. Service capacity and length of lines should be designed to prevent the conversion of agricultural lands into urban/suburban uses.

AG-1.11 Agricultural Buffers - The County shall examine the feasibility of employing agricultural buffers between agricultural and non-agricultural uses, and along the edges of UDBs and HDBs. Considering factors include the type of operation and chemicals used for

spraying, building orientation, planting of trees for screening, location of existing and future rights-of-way (roads, railroads, canals, power lines, etc.), and unique site conditions.

LU-2.6 Industrial Development - Other than provided in Policy LU-2.5: Agricultural Support Facilities, the County shall, and the cities should, through their industrial development policies, approve only those agriculturally-oriented or related industries and uses that can demonstrate, whether by location and/or controlled methods of operation, that they will not adversely affect agricultural production or the County's natural resources. These uses should be located inside UDBs, HDBs, PCAs and regional growth corridors unless necessary for the support of agricultural operations or as provided in Policy LU-2.5: Agricultural Support Facilities.

III. AIR QUALITY – 13 Policies

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 reasonably 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-2.3 Transportation and Air Quality - When developing the regional transportation system, the County shall work with TCAG to comprehensively study methods of transportation which may contribute to a reduction in air pollution in Tulare County. Some possible alternatives that should be studied are:

1. Commuter trains (Light Rail, Amtrak, or High Speed Rail) connecting with Sacramento, Los Angeles, and San Francisco, with attractive services scheduled up and down the Valley,
2. Public transportation such as buses and light rail, to serve between communities of the Valley, publicly subsidized if feasible,
3. Intermodal public transit such as buses provided with bicycle racks, bicycle parking at bus stations, bus service to train stations and airports, and park and ride facilities, and
4. Community transportation systems supportive of alternative transportation modes, such as cycling or walking trails, with particular attention to high-density areas.

AQ-3.4 Landscape - The County shall encourage the use of ecologically based landscape design principles that can improve local air quality by absorbing CO₂, producing oxygen, providing shade that reduces energy required for cooling, and filtering particulates. These principles include, but are not limited to, the incorporation of parks, landscaped medians, and landscaping within development.

AQ-4.1 Air Pollution Control Technology - The County shall utilize the BACM and RACM as adopted by the County to support SJVAPCD air quality attainment plans to achieve and maintain healthful air quality and high visibility standards. These measures shall be applied to new development approvals and permit modifications as appropriate.

AQ-4.2 Dust Suppression Measures - The County shall require developers to implement dust suppression measures during excavation, grading, and site preparation activities consistent with SJVAPCD Regulation VIII – Fugitive Dust Prohibitions. Techniques may include, but are not limited to, the following:

1. Site watering or application of dust suppressants,
2. Phasing or extension of grading operations,
3. Covering of stockpiles,
4. Suspension of grading activities during high wind periods (typically winds greater than 25 miles per hour), and
5. Re-vegetation of graded areas.

AQ-4.3 Paving or Treatment of Roadways for Reduced Air Emissions - The County shall require that all new roads be paved or treated to reduce dust generation where feasible as required by SJVAPCD Regulation VIII, Rule 8061- Paved and Unpaved Roads. For new projects with unpaved roads, funding for roadway maintenance shall be adequately addressed and secured.

AQ-4.5 Public Awareness - The County shall promote public awareness of the seriousness and extent of the existing air quality problems.

AQ-4.6 Asbestos Airborne Toxic Control and Dust Protection - Asbestos is of concern to Tulare County because it occurs naturally in surface deposits of several types of ultramafic materials (materials that contain magnesium and iron and a very small amount of silica). Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining.

IV. BIOLOGICAL RESOURCES – 10 Policies

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.

ERM-2.7 Minimize Adverse Impacts - The County will minimize the adverse effects on environmental features such as water quality and quantity, air quality, flood plains, geophysical characteristics, biotic, archaeological, and aesthetic factors.

V. CULTURAL RESOURCES - 5 Policies

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.

VI. GEOLOGY AND SOILS - 5 Policies

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.

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.

VII. GREENHOUSE GAS EMISSIONS - 4 Policies

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.

Inventory all known, or reasonably discoverable, sources of greenhouse gases in the County, Inventory the greenhouse gas emissions in the most current year available, and those projected for year 2020, and 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.

AQ-1.10 Alternative Fuel Vehicle Infrastructure - County shall support the development of necessary facilities and infrastructure needed to encourage the use of low or zero-emission vehicles (e.g. electric vehicle charging facilities and conveniently located alternative fueling stations, including CNG filling stations).

VIII. HAZARDS AND HAZARDOUS MATERIALS - 4 Policies

HS-4.1 Hazardous Materials - The County shall strive to ensure hazardous materials are used, stored, transported, and disposed of in a safe manner, in compliance with local, State, and Federal safety standards, including the Hazardous Waste Management Plan, Emergency Operations Plan, and Area Plan.

HS-4.3 Incompatible Land Uses - The County shall prevent incompatible land uses near properties that produce or store hazardous waste.

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.

ERM-3.1 Environmental Contamination

All mining operations in the County shall be required to take precautions to avoid contamination from wastes or incidents related to the storage and disposal of hazardous materials, or general operating activity at the site.

IX. HYDROLOGY AND WATER QUALITY - 23 Policies

AG-1.17 Agricultural Water Resources - 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-5.1 Development Compliance with Federal, State, and Local Regulations - The County shall ensure that all development within the designated floodway or floodplain zones conforms with FEMA regulations and the Tulare County Flood Damage Prevention Ordinance. 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-5.2 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 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-5.10 Flood Control Design - The County shall evaluate flood control project involving further channeling, straightening, or lining of waterways until alternative multipurpose modes of treatment, such as wider berm and landscaped levees, in combination with recreation amenities, are studied.

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.

PF-4.14 Compatible Project Design - The County may ensure proposed development within CACUABs is compatible with future sewer and water systems, and circulation networks as shown in city plans.

WR-1.1 Groundwater Withdrawal - The County shall cooperate with water agencies and management agencies during land development processes to help promote an adequate, safe, and economically viable groundwater supply for existing and future development within the County. These actions shall be intended to help the County mitigate the potential impact on ground water resources identified during planning and approval processes.

WR-1.5 Expand Use of Reclaimed Wastewater - To augment groundwater supplies and to conserve potable water for domestic purposes, the County shall seek opportunities to expand groundwater recharge efforts.

WR-1.6 Expand Use of Reclaimed Water - The County shall encourage the use of tertiary treated wastewater and household gray water for irrigation of agricultural lands, recreation and open space areas, and large landscaped areas as a means of reducing demand for groundwater resources.

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.

X. LAND USE AND PLANNING - 12 Policies

ED-2.2 Land Requirements - The County shall ensure there is capacity for new and expanding businesses by:

1. Reserving sufficient locations for industry, recognizing industry's need for greater land requirements;
2. Recognizing the need for a variety of locations to avoid creation of a monopoly of the industrial land market and to reflect varying requirements for transportation facilities and utility services; and
3. Reserving land for exclusive industrial use to encourage development of like industries that complement each other and to prevent encroachment on industrial areas by incompatible uses.

ED-3.1 Diverse Economic Base - The County shall actively promote the development of a diversified economic base by continuing to promote agriculture, recreation services, and commerce, and by expanding its efforts to encourage industrial development including the development of energy resources.

PF-1.2 Location of Urban Development - The County shall ensure that urban development only takes place in the following areas:

1. Within incorporated cities and CACUDBs;
2. Within the UDBs of adjacent cities in other counties, unincorporated communities, planned community areas, and HDBs of hamlets;
3. Within foothill development corridors as determined by procedures set forth in Foothill Growth Management Plan;
4. Within areas set aside for urban use in the Mountain Framework Plan and the mountain sub-area plans; and
5. Within other areas suited for non-agricultural development, as determined by the procedures set forth in the Rural Valley Lands Plan.

PF-1.3 Land Uses in UDBs/HDBs - The County shall encourage those types of urban land uses that benefit from urban services to develop within UDBs and HDBs. Permanent uses which do not benefit from urban services shall be discouraged within these areas. This shall not apply to agricultural or agricultural support uses, including the cultivation of land or other uses accessory to the cultivation of land provided that such accessory uses are time-limited through Special Use Permit procedures.

PF-1.4 Available Infrastructure - The County shall encourage urban development to locate in existing UDBs and HDBs where infrastructure is available or may be established in conjunction with development. The County shall ensure that development does not occur unless adequate infrastructure is available, that sufficient water supplies are available or can be made available and that there are adequate provisions for long term management and maintenance of infrastructure and identified water supplies.

PF-2.1 Urban Development Boundaries – Communities - The County shall limit urban development to the area within the designated UDB for each community. Each community's UDB is defined as shown on Figures 2.2-2 thru 2.2-22.

PF-2.8 Inappropriate Land Use - Areas within UDBs are hereby set aside for those types of urban land uses which benefit from urban services. Permanent uses which do not benefit from such urban services shall be discouraged within the UDBs. This is not intended to apply to agricultural or agricultural supported uses, including the cultivation of land or other uses accessory to the cultivation of land, provided that such accessory uses are time-limited through special use permit procedures.

LU-5.1 Industrial Developments - The County shall encourage a wide range of industrial development activities in appropriate locations to promote economic development, employment opportunities, and provide a sound tax base.

LU-5.4 Compatibility with Surrounding Land Use - The County shall encourage the infill of existing industrial areas and ensure that proposed industrial uses will not result in significant harmful impacts to adjacent land uses.

LU-5.7 Industrial Uses Allowed on Resource Land - The County shall allow asphalt batch plants and similar processing facilities that are directly associated with the development of a resource to be located at the site of the resource under the following criteria:

1. Any such site shall be developed under the Special Use Permit process, and
2. The Special Use Permit shall not permit any commercial or industrial uses that are not related to the processing of the resource.

LU-6.2 Buffers - The County shall ensure that residential and other non-compatible land uses are separated and buffered from major public facilities such as landfills, airports, and sewage treatment plants.

ERM-2.9 Compatibility - The County will encourage the development of mineral deposits in a manner compatible with surrounding land uses.

XI. MINERAL RESOURCES 12 Policies

ERM-2.1 Conserve Mineral Deposits - The County will encourage the conservation of identified and/or potential mineral deposits, recognizing the need for identifying, permitting, and maintaining a 50 year supply of locally available PCC grade aggregate.

ERM-2.2 Recognize Mineral Deposits - The County will recognize as a part of the General Plan those areas of identified and/or potential mineral deposits.

ERM-2.3 Future Resource Development - The County will provide for the conservation of identified and/or potential mineral deposits within Tulare County as areas for future resource

development. Recognize that mineral deposits are significantly limited within Tulare County and that they play an important role in support of the economy of the County.

ERM-2.5 Resources Development - The County will promote the responsible development of identified and/or potential mineral deposits.

ERM-2.7 Minimize Adverse Impacts - The County will minimize the adverse effects on environmental features such as water quality and quantity, air quality, flood plains, geophysical characteristics, biotic, archaeological, and aesthetic factors.

ERM-2.8 Minimize Hazards and Nuisances - The County will minimize the hazards and nuisances to persons and properties in the area during extraction, processing, and reclamation operations.

ERM-2.9 Compatibility - The County will encourage the development of mineral deposits in a manner compatible with surrounding land uses.

ERM-2.10 Incompatible Development - Proposed incompatible land uses in the County shall not be on lands containing or adjacent to identified mineral deposits, or along key access roads, unless adequate mitigation measures are adopted or a statement of overriding considerations stating public benefits and overriding reasons for permitting the proposed use are adopted.

ERM-2.11 Conditions of Approval - The County shall establish procedures to ensure compliance with conditions of approval on all active and idle mines.

ERM-2.12 Approved Limits - Tulare County will establish procedures to ensure that vested interest mining operations remain within their approved area and/or production limits.

ERM-2.13 SMARA Requirements - All surface mines in the County, unless otherwise exempted, shall be subject to reclamation plans that meet SMARA requirements. Reclamation procedures shall restore the site for future beneficial use of the land consistent with the Tulare County General Plan, subsequent to the completion of surface mining activities. Mine reclamation costs shall be borne by the mine operator, and guaranteed by financial assurances set aside for restoration procedures.

ERM-3.1 Environmental Contamination - All mining operations in the County shall be required to take precautions to avoid contamination from wastes or incidents related to the storage and disposal of hazardous materials, or general operating activity at the site.

XII. NOISE – 14

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, 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.

XIII. POPULATION AND HOUSING – 6

Guiding Principle 4.1 - Support and encourage County ordinances, standards, practices and procedures that promote residential energy conservation.

Policy 1.14 - Pursue an equitable distribution of future regional housing needs allocations, thereby providing a greater likelihood of assuring a balance between housing development and the location of employment opportunities.

Policy 1.33 - Encourage and support a balance between housing and agricultural needs.

Policy 3.11 - Support and coordinate with local economic development programs to encourage a “jobs to housing balance” throughout the unincorporated area.

Policy 4.13 - Promote energy efficiency and water conservation.

Policy 4.14 - Enforce the requirements of County Ordinances regarding the disposal of construction and demolition debris.

XIV. PUBLIC SERVICES - 7 Policies

PFS-7.2 Fire Protection Standards - The County shall require all new development to be adequately served by water supplies, storage, and conveyance facilities supplying adequate volume, pressure, and capacity for fire protection.

PFS-7.3 Visible Signage for Roads and Buildings - The County shall strive to ensure all roads are properly identified by name or number with clearly visible signs.

PFS-7.5 Fire Staffing and Response Time Standards - The County shall strive to maintain fire department staffing and response time goals consistent with National Fire Protection Association (NFPA) standards.

PFS-7.6 Provision of Station Facilities and Equipment - The County shall strive to provide sheriff and fire station facilities, equipment (engines and other apparatus), and staffing necessary to maintain the County's service goals. The County shall continue to cooperate with mutual aid providers to provide coverage throughout the County.

PFS-7.8 Law Enforcement Staffing Ratios - The County shall strive to achieve and maintain a staffing ratio of 3 sworn officers per 1,000 residents in unincorporated areas.

PFS-7.9 Sheriff Response Time - The County shall work with the Sheriff's Department to achieve and maintain a response time of:

1. Less than 10 minutes for 90 percent of the calls in the valley region; and
2. 15 minutes for 75 percent of the calls in the foothill and mountain regions.

PFS-7.12 Design Features for Crime Prevention and Reduction - The County shall promote the use of building and site design features as means for crime prevention and reduction.

XV. RECREATION - 5 Policies

ERM-5.2 Park Amenities - The County shall provide a broad range of active and passive recreational opportunities within community parks. When possible, this should include active sports fields and facilities, community center/recreation buildings, children's play areas, multi-use areas and trails, sitting areas, and other specialized uses as appropriate.

ERM-5.3 Park Dedication Requirements - The County shall require the dedication of land and/or payment of fees, in accordance with local authority and State law (for example the Quimby Act), to ensure funding for the acquisition and development of public recreation facilities.

ERM-5.11 Cooperation with Federal and State Agencies - The County shall work with Federal and State agencies that manage land within the County, as appropriate.

ERM-5.15 Open Space Preservation - The County shall preserve natural open space resources through the concentration of development in existing communities, use of cluster development techniques, maintaining large lot sizes in agricultural areas, discouraging conversion of lands currently used for agricultural production, limiting development in areas constrained by natural hazards, and encouraging agricultural and ranching interests to maintain natural habitat in open space areas where the terrain or soil is not conducive to agricultural production.

ERM-5.5 Collocated Facilities - The County shall encourage the development of parks near public facilities such as schools, community halls, libraries, museums, prehistoric sites, and open space areas and shall encourage joint-use agreements whenever possible.

XVI. TRANSPORTATION AND TRAFFIC - 5 Policies

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.

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.

XVII. UTILITIES AND SERVICES SYSTEMS - 7 Policies

PFS-4.1 Stormwater Management Plans - The County shall oversee, as per Community Plan Content Table PF-2.1 and Specific Plan Content, Hamlet Plans Policy PF-3.3, and Table LU-4.3, the preparation and adoption of stormwater management plans for communities and hamlets to reduce flood risk, protect soils from erosion, control stormwater, and minimize impacts on existing drainage facilities, and develop funding mechanisms as a part of the Community Plan and Hamlet Plan process.

PFS-4.3 Development Requirements - The County shall encourage project designs that minimize drainage concentrations and impervious coverage, avoid floodplain areas, and where feasible, provide a natural watercourse appearance.

PFS-4.4 Stormwater Retention Facilities - The County shall require on-site detention/retention facilities and velocity reducers when necessary to maintain existing (pre-development) storm flows and velocities in natural drainage systems. The County shall encourage the multi-purpose design of these facilities to aid in active groundwater recharge.

PFS-4.5 Detention/Retention Basins Design - The County shall require that stormwater detention/retention basins be visually unobtrusive and provide a secondary use, such as recreation, when feasible.

PFS-4.6 Agency Coordination - The County shall work with the Army Corps of Engineers and other appropriate agencies to develop stormwater detention/retention facilities and recharge facilities that enhance flood protection and improve groundwater recharge.

PFS-4.7 NPDES Enforcement - The County shall continue to monitor and enforce provisions to control non-point source water pollution contained in the U.S. Environmental Protection Agency National Pollution Discharge Elimination System (NPDES) program.

PFS-5.8 Hazardous Waste Disposal Capabilities - The County shall require the proper disposal and recycling of hazardous materials in accordance with the County's Hazardous Waste Management Plan.

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References

2014 CEQA Guidelines

Mitigation Monitoring Reporting Program

Chapter 8

This Mitigation Monitoring and Reporting Program (MMRP) has been prepared in compliance with State law and the Environmental Impact Report (EIR) (State Clearinghouse No.) prepared for the project by the County of Tulare.

The California Environmental Quality Act (CEQA) Section 21081.6 requires adoption of a reporting or monitoring program for those measures placed on a project to mitigate or avoid adverse effects on the environment.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 to whom and when compliance will be reported.
- **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.

¹ Public Resource Code §21081.6

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Table 8-1
Mitigation Monitoring Reporting Program

Mitigation Measure		Monitoring Timing/ Frequency	Action Indicating Compliance	Monitorin g Agency	Verification of Compliance		
					Initials	Date	Remarks
Aesthetics							
1-1	The Project site has an existing berm and shall continue to have and maintain an 8-foot berm along the entire edge of the project site (not including location of the driveway).	Ongoing monitoring during operations	Verification by County of incorporation of project design features	County of Tulare Planning Department			
Air Quality							
3-1	The following air pollution control measures 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 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 for construction workers at all access points. • All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. Maintain maintenance records onsite and all equipment shall be checked by a certified visible emissions evaluator.	Approval of permit amendment					
3-2	The following air pollution control measures shall be implemented to reduce emissions from trucks	Approval of permit amendment	Verification by County of incorporation	County of Tulare Planning			

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	<p>operating on the Project site:</p> <ul style="list-style-type: none"> Minimize truck idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of the California Code of Regulations). Post signs in areas where trucks will park instructing drivers to shut off engines unless in an active queue. 		of project design features	Department			
3-3	By the year 2018 or prior to increasing production by 400,000 tons of additional material, the applicant shall ensure that the fleet average NO _x emissions meet the 2019 standard of 3.5 grams of NO _x per brake-horsepower hour.	Approval of permit amendment	Verification by County of incorporation of project design features	County of Tulare Planning Department			
3-4	By the year 2019 or prior to increasing production by 450,000 tons of additional material, the applicant shall ensure that the fleet average NO _x emissions meet the 2020 standard of 2.3 grams of NO _x per brake-horsepower hour.	Approval of permit amendment	Verification by County of incorporation of project design features	County of Tulare Planning Department			
<i>Cultural Resources</i>							
5-1	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	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			

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	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.						
5-2	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.	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			
5-3	Consistent with Section 7050.5 of the California Health and Safety Code and (CEQA Guidelines) Section 15064.5, if human remains of Native	Ongoing monitoring during	Retention of professional paleontologist/	County of Tulare Planning			

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	<p>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:</p> <ol style="list-style-type: none"> 1. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until: <ol style="list-style-type: none"> 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: <ol style="list-style-type: none"> 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 	subsurface excavation	ongoing monitoring/ submittal of Report of Findings, if applicable	and Public Works Department			
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Draft Environmental Impact Report
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	<p>as provided in Public Resources Code section 5097.98, or</p> <p>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.</p> <p>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.</p> <p>b. The descendant fails to make a recommendation; or</p> <p>c. The landowner or his authorized representative rejects the recommendation of the descendent.</p>						
Hazards & Hazardous Material							
8-1	No truck maintenance or washing shall occur at the site. Heavy equipment maintenance (such as a loader) will occur on a concrete surface or at an offsite location. If such a surface is unavailable or impractical, a drop cloth or other impermeable surface shall be utilized to prevent surface waste discharge that would contribute to soil and groundwater contamination, with any spills immediately cleaned up.	Ongoing	During SMARA Permit inspection	County of Tulare Planning Department			
Noise							
12-1	Provide all hearing protection measures outlined in MSHA's Noise Standard Actions required by Mine Operators.	Ongoing monitoring		County of Tulare Planning Department			

Draft Environmental Impact Report
Deer Creek Rock SMARA Permit Amendment Project

Mandatory Findings of Significance (See Mitigation Measures already proposed above for Cultural, and Cumulatively Significant Impacts)

Report Preparation

Chapter 9

INTRODUCTION

Key persons from the County of Tulare and the consulting firms that contributed to preparation of the Draft Environmental Impact Report (Draft EIR) are identified below:

THE COUNTY OF TULARE

This EIR has been prepared by:

Tulare County Resource Management Agency (RMA)
5961 South Mooney Boulevard Visalia, CA 93277
(559) 624-7000

Tulare County Planning Commissioners:

- ❖ John F. Elliott, Commissioner Three Rivers - District 1
- ❖ Nancy Pitigliano, Commissioner Tipton - District 2
- ❖ Bill Whitlatch, Commissioner Visalia - District 3
- ❖ Melvin K. Gong, Commissioner (Vice Chair) Orosi - District 4
- ❖ Wayne O. Millies, Commissioner Springville - District 5
- ❖ Ed Dias, Commissioner (Chair) Visalia – At - Large
- ❖ Gil Aguilar, Commissioner (Alternate) Tulare - District 2

Tulare County Resource Management Agency (RMA)

- ❖ Michael C. Spata, Director
- ❖ Michael Washam, Assistant Director-Planning
- ❖ Hector Guerra, Chief, Environmental Planning Division

RMA Staff assisting in preparing this Document

- ❖ Richard Walker, Planner IV - Environmental Planning Division
- ❖ Susan Simon, Planner III - Environmental Planning Division
- ❖ Chuck Przyblyski, Planner III - Planning and Project Processing Division

Supplemental Staff Support who prepared this Document

- ❖ Emily Bowen, LEED AP, Principal, Crawford & Bowen Planning, Inc.
- ❖ Travis Crawford, AICP, Principal, Crawford & Bowen Planning, Inc.

TECHNICAL STUDIES WERE PREPARED BY THE FOLLOWING:

Live Oak Associates, Inc.:

Biotic Evaluation Amendment to Existing Mining Permits Per Application PMR 14-002 Deer Creek Rock Company Tulare County, California:

- ❖ David J. Hartesveldt, Principal, Senior Biologist

Sierra Valley Cultural Planning:

“Cultural Resources Assessment Report”:

- ❖ C. Kristina Roper, M.A., RPA

First Carbon Solutions:

“Air Quality and Greenhouse Gas Analysis Report”:

- ❖ Dave Mitchell, Branch Manager/Air Quality Services Manager
- ❖ Elena Nuno, Air Quality Scientist

VRPA Technologies, Inc.:

“Traffic Impact Study” and “Noise Study Report”

- ❖ Georgiena Vivian, President/Principal
- ❖ Erik O. Rhehr, PE, Director of Traffic Engineering
- ❖ Jason Ellard, Transportation Engineer
- ❖ Erica Myers, TE, Traffic Engineer

APPENDIX A

NOTICE OF PREPARATION

To: State Clearinghouse From: County of Tulare – RMA
PO Box 3044/ 1400 Tenth St 5961 S Mooney Blvd
Sacramento CA 95814 Visalia CA 93277

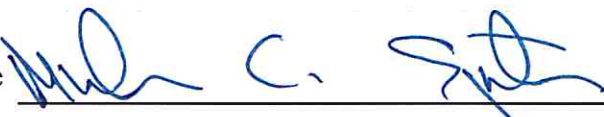
Date: August 7, 2014
Subject: Notice of Preparation (NOP) of an Environmental Impact Report (EIR)
Project Title: Deer Creek Rock Surface Mining Permit and Reclamation Plan (PMR 14-002), County of Tulare, California.
Applicant: Deer Creek Rock Company, Inc.
Project Location: The existing 28 acre Project site is part of the 118 acre property at 27671 Avenue 120 / Road 272, Porterville, CA 93257. The site is located south of Deer Creek Drive, approximately 1/3 mile east of Avenue 120 and Road 272, and includes Assessor Parcel Numbers (APN) 305-190-018, and 305-190-020. The site is in Section 21, Township 22 South, Range 28 East, MDB&M, and can be found within the Success Dam United States Geological Survey (USGS) 7.5 minute topographic quadrangle.

Tulare County Resource Management Agency (RMA) will be the Lead Agency and will prepare an EIR for the Project identified below. We need to know the views of your agency as to the scope and content of the environmental information, which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the following attached materials. Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice. A scoping meeting is scheduled for Thursday, August 21, 2014, 2:30 P.M. in the RMA Main Conference Room, 5961 S Mooney Blvd, Visalia, CA.

Please direct your response to Hector Guerra, Chief Environmental Planner, at the address shown above. He may be contacted by e-mail at hguerra@co.tulare.ca.us or by telephone at (559) 624-7121. Please provide us with the name of a contact person in your agency.

Date 8/7/14 Signature 
Title Hector Guerra, Chief Environmental Planner

Date 8.7.14 Signature 
Title Michael C. Spata, Associate Director/Environmental Assessment Officer

Reference: California Code of Regulations, Title 14, (CEQA Guidelines). Sections 15082(a), 15103, 15375.

Project Description:

The Applicant currently operates a rock and gravel surface mining operation on 28 acres, as permitted by PMR 01-001, PMR 09-002, and PSP 01-055 (ZA). The permit amendments requested by PMR 14-002 will:

- Increase annual production from a maximum of 500,000, to a maximum 950,000 tons per year.
- Increase truck hauling from a maximum of 200 round trips per day, to a maximum 350 round trips per day.
- Result in no increase in the maximum depth of the mine as expansion will occur laterally.
- Allow consistency between PMR 01-001 and PMR 09-002.

There will be lateral expansion of the existing, approved mining area within the existing footprint. The estimated total production will remain at 15,000,000 tons of rock material during the estimated 50-years of operation, and the disturbed Project site area is still proposed to be reclaimed for grazing and agriculture uses.

Location:

The existing 28 acre Project site is part of a 118 acre property at 27671 Avenue 120 / Road 27, Porterville, CA 93257. The site is located south of Deer Creek Drive, approximately 1/3 mile east of Avenue 120 and Road 272, and includes Assessor Parcel Numbers (APN) 305-190-018, and 305-190-020. The site is in Section 21, Township 22 South, Range 28 East, MDB&M, and can be found within the Success Dam United States Geological Survey (USGS) 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 (NGVD). The coordinates of the Project site are - Latitude: N 36° 00' 19", Longitude: W 118° 57' 12".

Surrounding Land Uses and Setting:

The surrounding land uses are predominantly citrus orchards and foothill grazing. Some area properties are within agricultural preserves or under Williamson Act contracts. There are single-family rural residences located on Deer Creek Drive at Road 272. However there are no schools, airports, or scenic roads within a two mile radius of the project site.

Adjacent Zoning and Land Uses		
Site	AE-40	surface mining, grazing land
North	AE-40	grazing land, rural residential
East	AE-40	grazing land, rural residential
South	AE-40	grazing land, rural residential
West	AE-20	surface mining

Zoning and Land Use:

The site is zoned AE-40 (Exclusive Agriculture – 40 acre minimum). Natural resources mining is permitted with a surface mining permit and reclamation plan, in accordance with Chapter 25 of Part VII of the Tulare County Ordinance Code. A portion of the Project site currently supports agricultural grazing, and the

disturbed Project site areas are proposed to be reclaimed for grazing and agriculture uses in the future, pursuant to the Reclamation Plan.

The Project site's land use designation is "Foothill Agriculture". The site is located outside of an Urban Boundary and is subject to the policies of the Foothill Growth Management Plan (FGMP).

Potential Environmental Impacts:

It is anticipated that potentially affected environmental impacts may include: Air Quality, Agricultural Resources, Biological Resources, Cultural Resources, Greenhouse Gas Emissions, Noise, and Transportation/Traffic. Each of these resources will be analyzed in the draft Environmental Impact Report (DEIR).

Air Quality: It is anticipated that the air quality impacts from this Project will primarily come from dust due to mining-related activities, and the exhaust emissions (in the form of diesel particulate matter) from the mine's mobile and operational equipment, and heavy-duty haul trucks. Criteria pollutants and toxic air contaminants will be analyzed as part of an air quality impact study which will be prepared and included as part of the Project DEIR.

Agricultural Resources: The subject site is not located in an Agricultural Preserve and is not subject to the Williamson Act. A reclamation plan has been approved by The California Department of Conservation, and conditioned by Tulare County permits PMR 01-001, PMR 09-002, and PMR 14-002, which requires the applicant to reclaim the disturbed Project areas for grazing and agriculture uses. All potential agricultural resources impacts will be studied and summarized in the Project DEIR.

Cultural Resources: The Project site is a surface mining operation located within and adjacent to an existing surface mining operation. An survey was conducted in February 2006 which determined that impacts to historical, archaeological, paleontological, human remains, and architectural resources is considered to be less than significant. A cultural study will be prepared and included as part of the Project DEIR.

Biological Resources: The Project is surrounded by surface mines, grazing land, and rural residential homes that have resulted in significant land disturbances. A biological survey was completed on May 6, 2009 and concluded that there are 11 special status species known to occur in the general area, and the proposed project would have no effect on such species. A biological assessment will be prepared and included as part of the Project DEIR.

Greenhouse Gas (GHG) Emissions: The Project involves an increase in mining operations and excavated materials that will be processed at the adjacent mining facility. Additional GHG's will occur with the expanded operations. A GHG study will be prepared and included as part of the Project DEIR.

Noise: The Project involves an increase in mining operations and excavated materials that will be processed at the adjacent mining facility. Additional noise will occur with the expanded operations. However, the nearest properties to the mining area are located 1,100 feet to the northwest, therefore the increase in noise is not expected to have a significant impact. A noise study report will be prepared and included as part of the Project DEIR.

Traffic: The Project site has access to County maintained Deer Creek Road through a private access road on the mining site. The Project expansion will increase the maximum daily trips from 200 to 350. A traffic impact study will be prepared and included as part of the Project DEIR.

Reviewing Agencies:

State and Federal:

- U.S. Fish & Wildlife Service
- California Department of Conservation, Division of Land Resource Protection, Office of Mine Reclamation
- California Department of Fish and Wildlife - Region #4
- Central Valley Regional Water Quality Control Board – Region #5
- Caltrans District 6
- San Joaquin Valley Unified Air Pollution Control District

Local:

- Environmental Health and Human Services Agency
- Tulare County Resource Management Agency:
 - Tulare County Flood Control
 - Tulare County Fire
 - Planning Branch (Environmental Planning, Project Review, Building and Housing Divisions)
 - Public Works Branch

The following interested persons/parties are also included in this notification:

Mary Beatie: mbeatie@ppeng.com

Houston Wells: houstonwells@sbcglobal.net

Jim Oliver: joliver@wscg.com

Kevin Oliver: koliver@wscg.com

David Cruce: david@papichconstruction.com

Mitch Brown: mbci@ocsnet.net

Jason Papich: Jason@papichconstruction.com

Mark Brower: mbower@papichconstruction.com

Figures

- **Figure 1: Vicinity Map**
- **Figure 2: Project Aerial**
- **Figure 3: Site Plan (Existing)**
- **Figure 4: Site Plan (Proposed)**

Figure 1 – Vicinity Map
PMR 14-002 (Amendments to PMR 09-002)

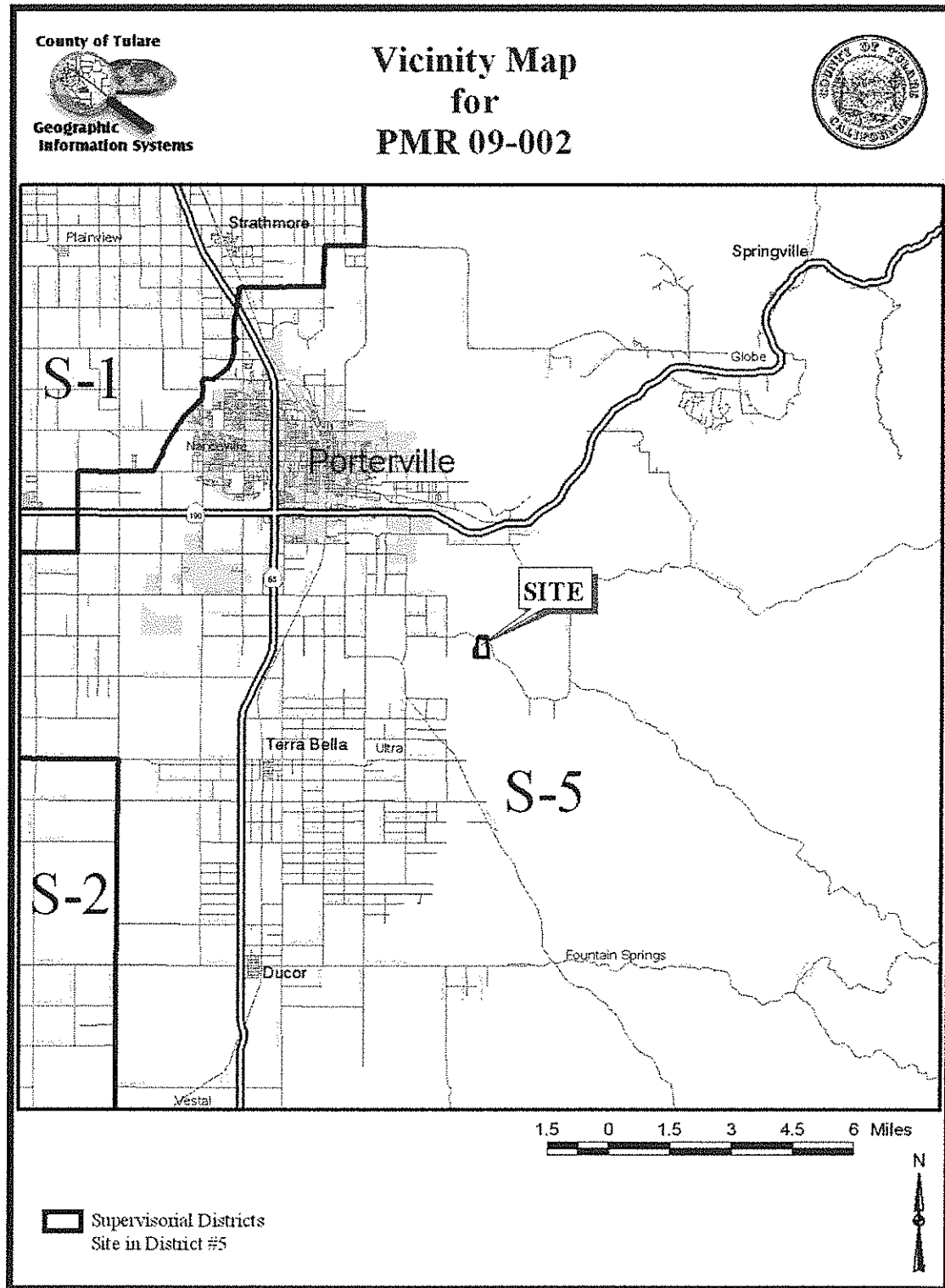


Figure 2 -- Project Aerial
PMR 14-002 (Amendments to PMR 09-002)

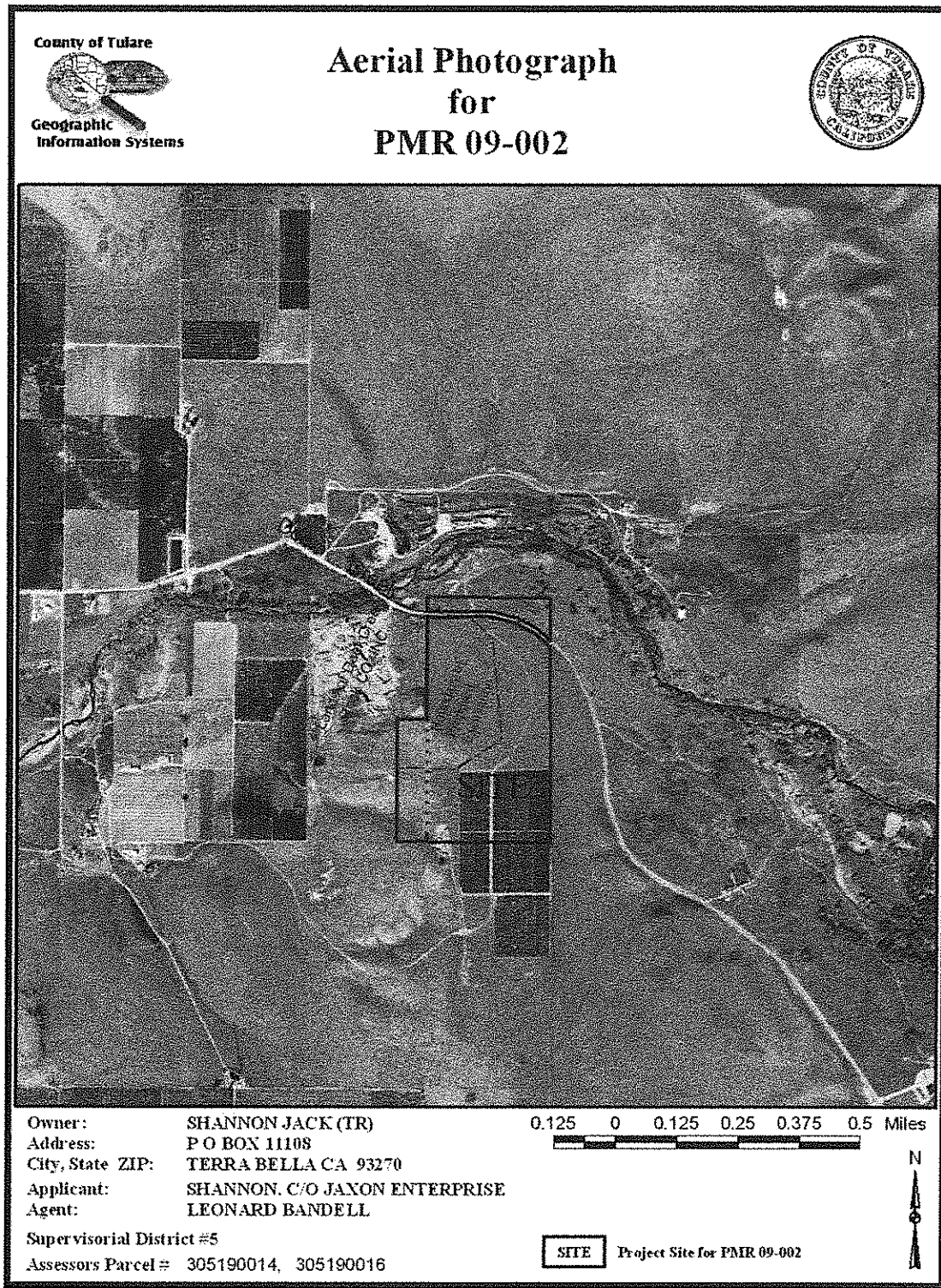
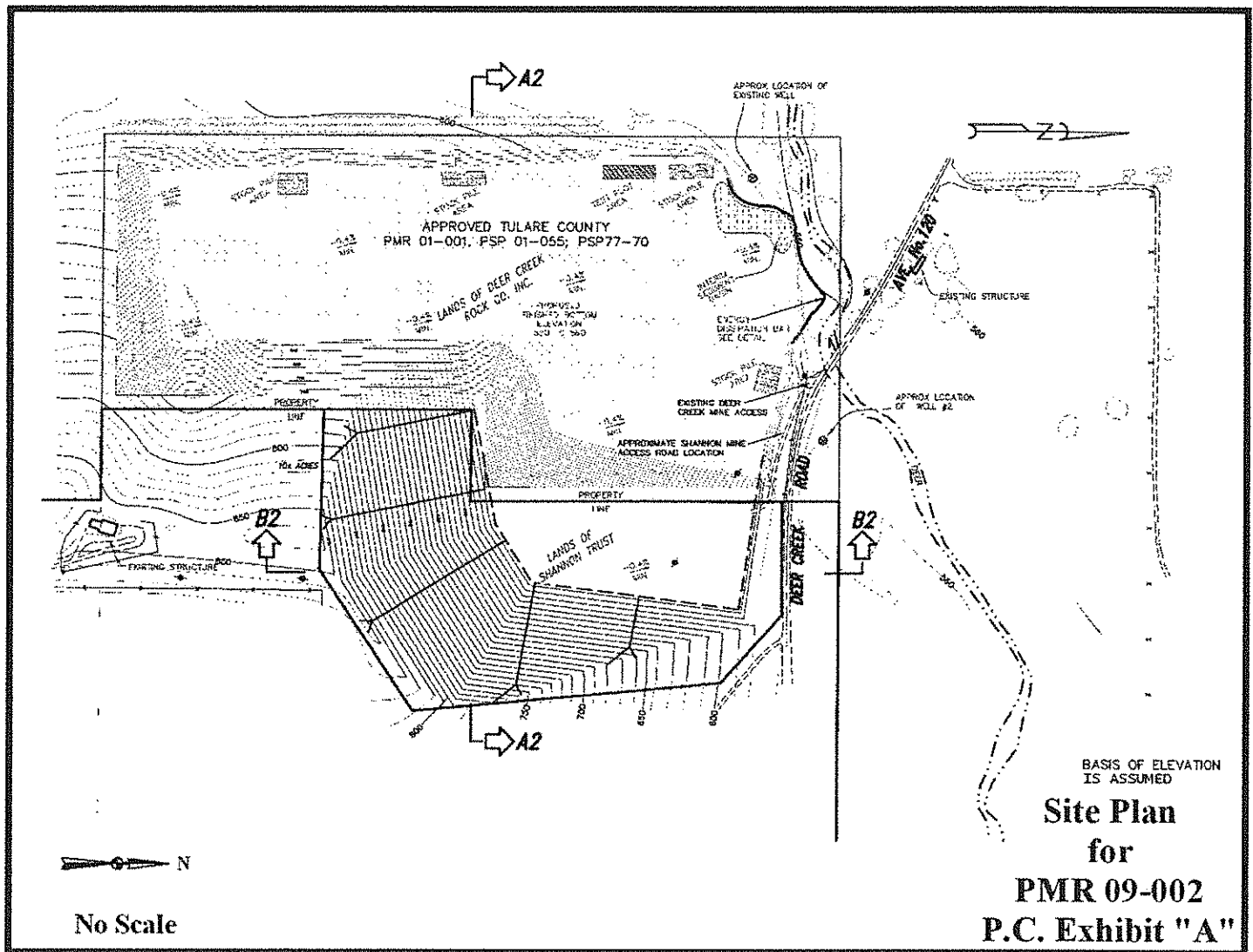
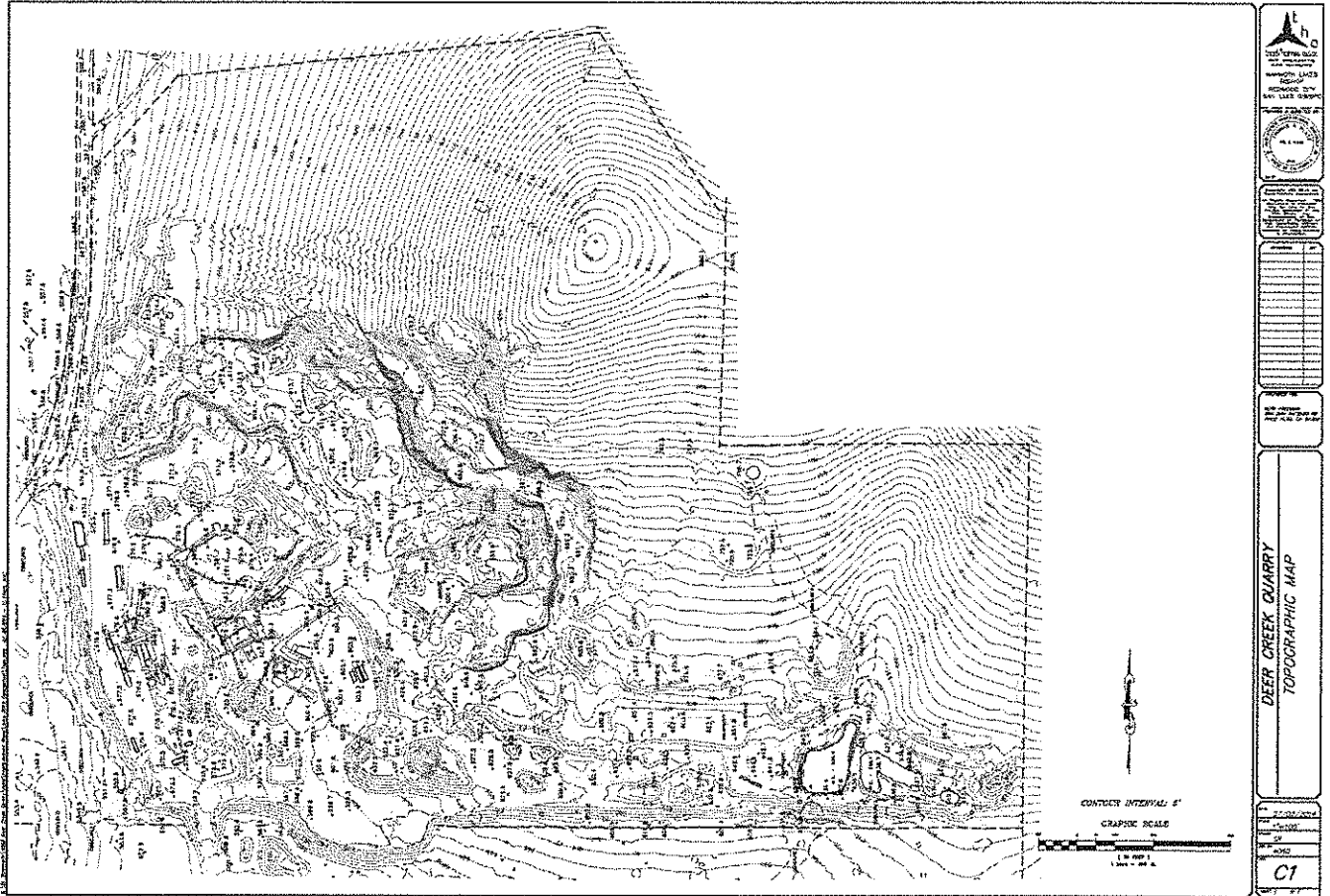


Figure 3 – Site Plan (Existing)
PMR 14-002 (Amendments to PMR 09-002)



PMR 14-002 (Amendments to PMR 09-002)



NOTICE OF PREPARATION

To: State Clearinghouse From: County of Tulare – RMA
PO Box 3044/ 1400 Tenth St 5961 S Mooney Blvd
Sacramento CA 95814 Visalia CA 93277

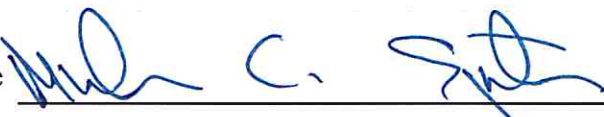
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Subject: Notice of Preparation (NOP) of an Environmental Impact Report (EIR)
Project Title: Deer Creek Rock Surface Mining Permit and Reclamation Plan (PMR 14-002), County of Tulare, California.
Applicant: Deer Creek Rock Company, Inc.
Project Location: The existing 28 acre Project site is part of the 118 acre property at 27671 Avenue 120 / Road 272, Porterville, CA 93257. The site is located south of Deer Creek Drive, approximately 1/3 mile east of Avenue 120 and Road 272, and includes Assessor Parcel Numbers (APN) 305-190-018, and 305-190-020. The site is in Section 21, Township 22 South, Range 28 East, MDB&M, and can be found within the Success Dam United States Geological Survey (USGS) 7.5 minute topographic quadrangle.

Tulare County Resource Management Agency (RMA) will be the Lead Agency and will prepare an EIR for the Project identified below. We need to know the views of your agency as to the scope and content of the environmental information, which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the following attached materials. Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice. A scoping meeting is scheduled for Thursday, August 21, 2014, 2:30 P.M. in the RMA Main Conference Room, 5961 S Mooney Blvd, Visalia, CA.

Please direct your response to Hector Guerra, Chief Environmental Planner, at the address shown above. He may be contacted by e-mail at hguerra@co.tulare.ca.us or by telephone at (559) 624-7121. Please provide us with the name of a contact person in your agency.

Date 8/7/14 Signature 
Title Hector Guerra, Chief Environmental Planner

Date 8.7.14 Signature 
Title Michael C. Spata, Associate Director/Environmental Assessment Officer

Reference: California Code of Regulations, Title 14, (CEQA Guidelines). Sections 15082(a), 15103, 15375.

Project Description:

The Applicant currently operates a rock and gravel surface mining operation on 28 acres, as permitted by PMR 01-001, PMR 09-002, and PSP 01-055 (ZA). The permit amendments requested by PMR 14-002 will:

- Increase annual production from a maximum of 500,000, to a maximum 950,000 tons per year.
- Increase truck hauling from a maximum of 200 round trips per day, to a maximum 350 round trips per day.
- Result in no increase in the maximum depth of the mine as expansion will occur laterally.
- Allow consistency between PMR 01-001 and PMR 09-002.

There will be lateral expansion of the existing, approved mining area within the existing footprint. The estimated total production will remain at 15,000,000 tons of rock material during the estimated 50-years of operation, and the disturbed Project site area is still proposed to be reclaimed for grazing and agriculture uses.

Location:

The existing 28 acre Project site is part of a 118 acre property at 27671 Avenue 120 / Road 27, Porterville, CA 93257. The site is located south of Deer Creek Drive, approximately 1/3 mile east of Avenue 120 and Road 272, and includes Assessor Parcel Numbers (APN) 305-190-018, and 305-190-020. The site is in Section 21, Township 22 South, Range 28 East, MDB&M, and can be found within the Success Dam United States Geological Survey (USGS) 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 (NGVD). The coordinates of the Project site are - Latitude: N 36° 00' 19", Longitude: W 118° 57' 12".

Surrounding Land Uses and Setting:

The surrounding land uses are predominantly citrus orchards and foothill grazing. Some area properties are within agricultural preserves or under Williamson Act contracts. There are single-family rural residences located on Deer Creek Drive at Road 272. However there are no schools, airports, or scenic roads within a two mile radius of the project site.

Adjacent Zoning and Land Uses		
Site	AE-40	surface mining, grazing land
North	AE-40	grazing land, rural residential
East	AE-40	grazing land, rural residential
South	AE-40	grazing land, rural residential
West	AE-20	surface mining

Zoning and Land Use:

The site is zoned AE-40 (Exclusive Agriculture – 40 acre minimum). Natural resources mining is permitted with a surface mining permit and reclamation plan, in accordance with Chapter 25 of Part VII of the Tulare County Ordinance Code. A portion of the Project site currently supports agricultural grazing, and the

disturbed Project site areas are proposed to be reclaimed for grazing and agriculture uses in the future, pursuant to the Reclamation Plan.

The Project site's land use designation is "Foothill Agriculture". The site is located outside of an Urban Boundary and is subject to the policies of the Foothill Growth Management Plan (FGMP).

Potential Environmental Impacts:

It is anticipated that potentially affected environmental impacts may include: Air Quality, Agricultural Resources, Biological Resources, Cultural Resources, Greenhouse Gas Emissions, Noise, and Transportation/Traffic. Each of these resources will be analyzed in the draft Environmental Impact Report (DEIR).

Air Quality: It is anticipated that the air quality impacts from this Project will primarily come from dust due to mining-related activities, and the exhaust emissions (in the form of diesel particulate matter) from the mine's mobile and operational equipment, and heavy-duty haul trucks. Criteria pollutants and toxic air contaminants will be analyzed as part of an air quality impact study which will be prepared and included as part of the Project DEIR.

Agricultural Resources: The subject site is not located in an Agricultural Preserve and is not subject to the Williamson Act. A reclamation plan has been approved by The California Department of Conservation, and conditioned by Tulare County permits PMR 01-001, PMR 09-002, and PMR 14-002, which requires the applicant to reclaim the disturbed Project areas for grazing and agriculture uses. All potential agricultural resources impacts will be studied and summarized in the Project DEIR.

Cultural Resources: The Project site is a surface mining operation located within and adjacent to an existing surface mining operation. An survey was conducted in February 2006 which determined that impacts to historical, archaeological, paleontological, human remains, and architectural resources is considered to be less than significant. A cultural study will be prepared and included as part of the Project DEIR.

Biological Resources: The Project is surrounded by surface mines, grazing land, and rural residential homes that have resulted in significant land disturbances. A biological survey was completed on May 6, 2009 and concluded that there are 11 special status species known to occur in the general area, and the proposed project would have no effect on such species. A biological assessment will be prepared and included as part of the Project DEIR.

Greenhouse Gas (GHG) Emissions: The Project involves an increase in mining operations and excavated materials that will be processed at the adjacent mining facility. Additional GHG's will occur with the expanded operations. A GHG study will be prepared and included as part of the Project DEIR.

Noise: The Project involves an increase in mining operations and excavated materials that will be processed at the adjacent mining facility. Additional noise will occur with the expanded operations. However, the nearest properties to the mining area are located 1,100 feet to the northwest, therefore the increase in noise is not expected to have a significant impact. A noise study report will be prepared and included as part of the Project DEIR.

Traffic: The Project site has access to County maintained Deer Creek Road through a private access road on the mining site. The Project expansion will increase the maximum daily trips from 200 to 350. A traffic impact study will be prepared and included as part of the Project DEIR.

Reviewing Agencies:

State and Federal:

- U.S. Fish & Wildlife Service
- California Department of Conservation, Division of Land Resource Protection, Office of Mine Reclamation
- California Department of Fish and Wildlife - Region #4
- Central Valley Regional Water Quality Control Board – Region #5
- Caltrans District 6
- San Joaquin Valley Unified Air Pollution Control District

Local:

- Environmental Health and Human Services Agency
- Tulare County Resource Management Agency:
 - Tulare County Flood Control
 - Tulare County Fire
 - Planning Branch (Environmental Planning, Project Review, Building and Housing Divisions)
 - Public Works Branch

The following interested persons/parties are also included in this notification:

Mary Beatie: mbeatie@ppeng.com

Houston Wells: houstonwells@sbcglobal.net

Jim Oliver: joliver@wscg.com

Kevin Oliver: koliver@wscg.com

David Cruce: david@papichconstruction.com

Mitch Brown: mbci@ocsnet.net

Jason Papich: Jason@papichconstruction.com

Mark Brower: mbower@papichconstruction.com

Figures

- **Figure 1: Vicinity Map**
- **Figure 2: Project Aerial**
- **Figure 3: Site Plan (Existing)**
- **Figure 4: Site Plan (Proposed)**

Figure 1 – Vicinity Map
PMR 14-002 (Amendments to PMR 09-002)

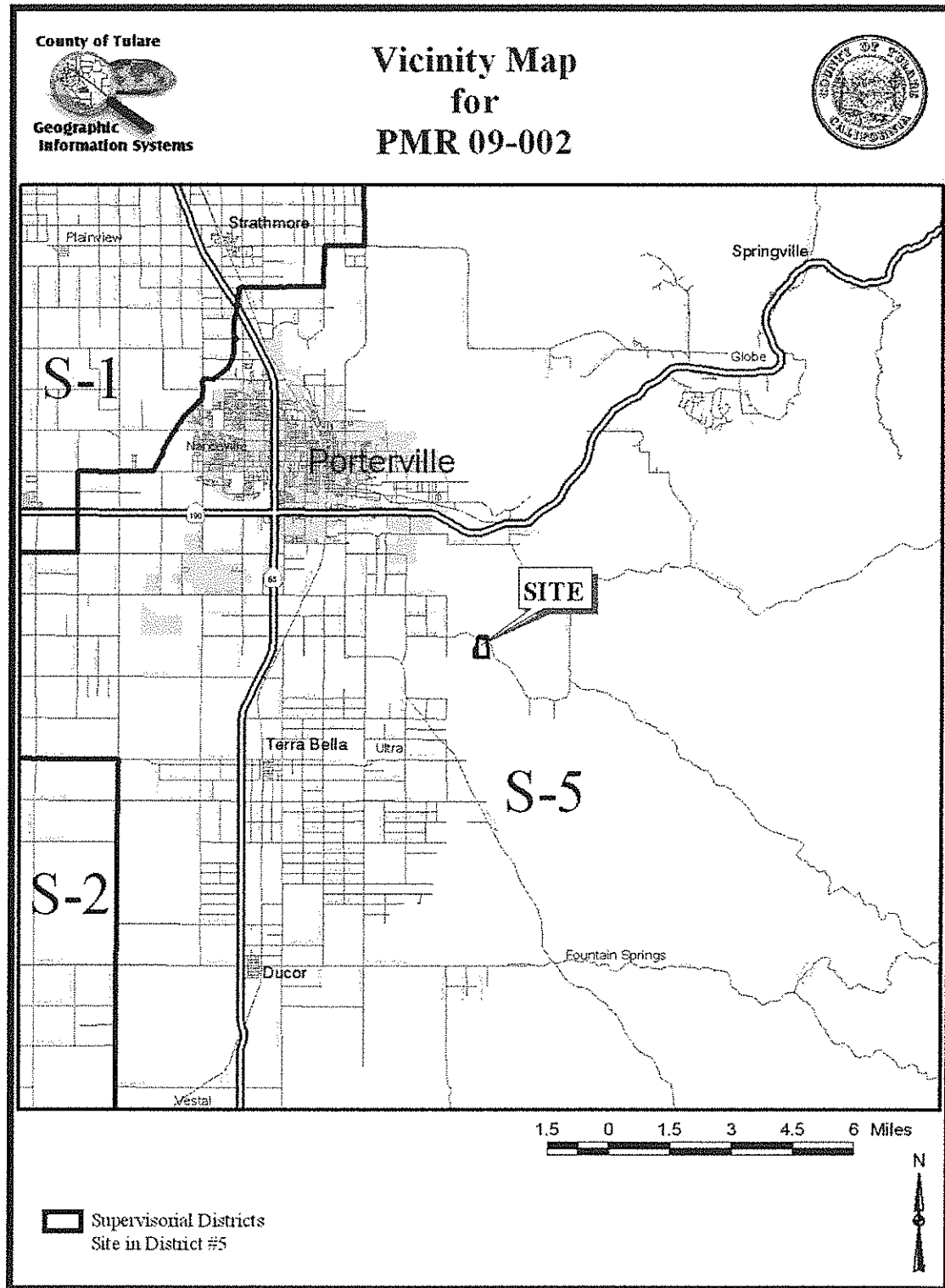


Figure 2 – Project Aerial
PMR 14-002 (Amendments to PMR 09-002)

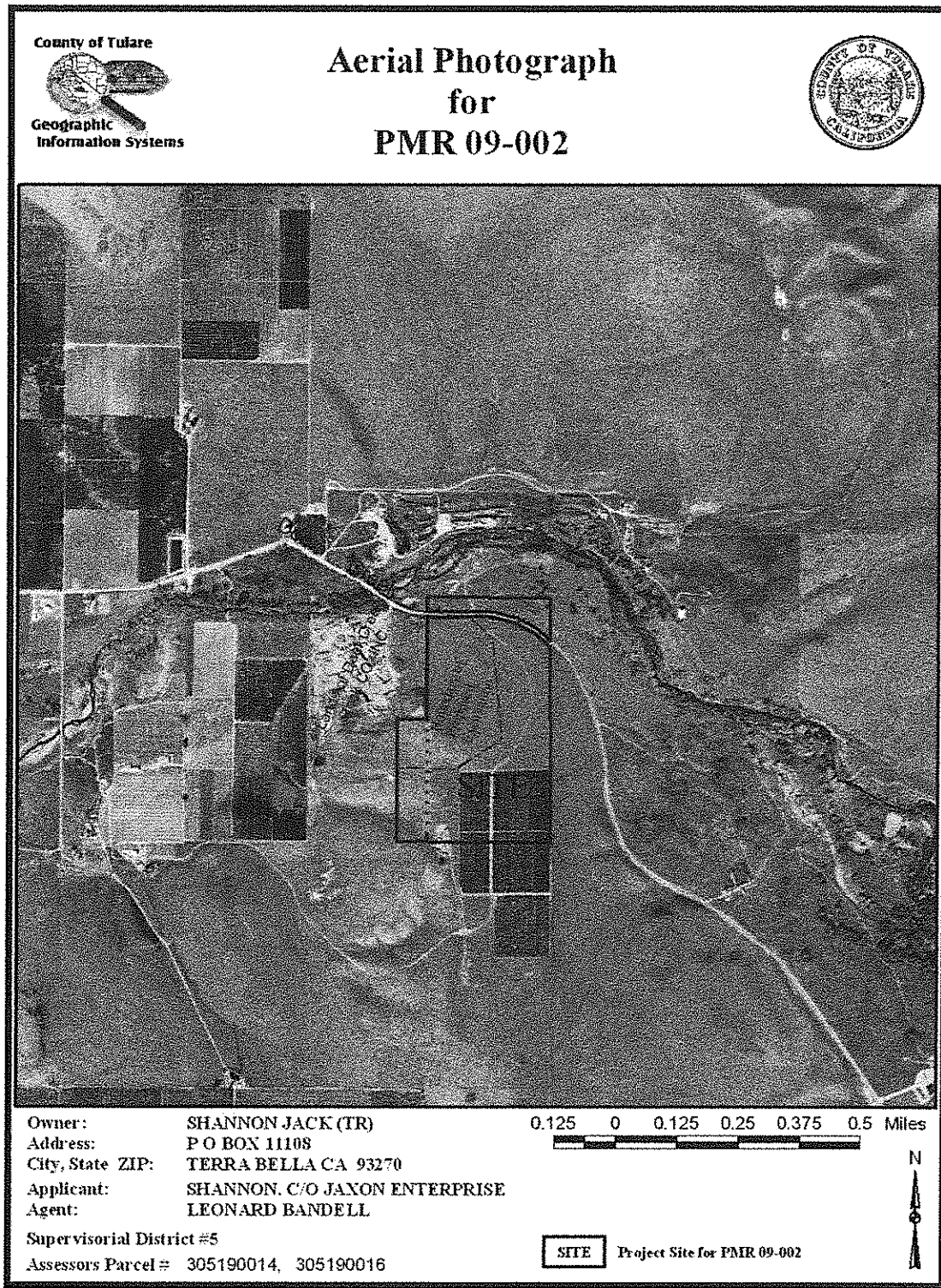


Figure 3 – Site Plan (Existing)
PMR 14-002 (Amendments to PMR 09-002)

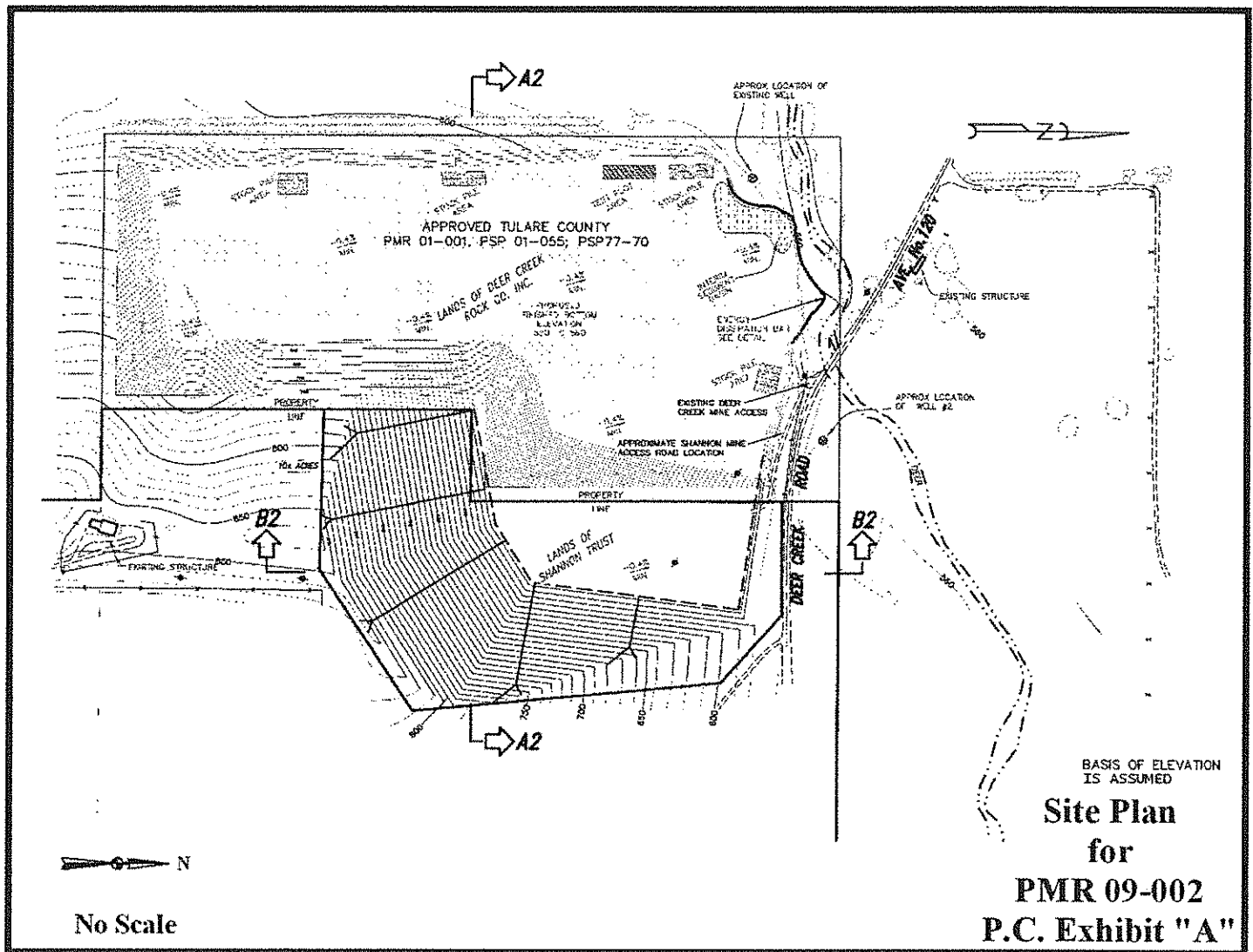
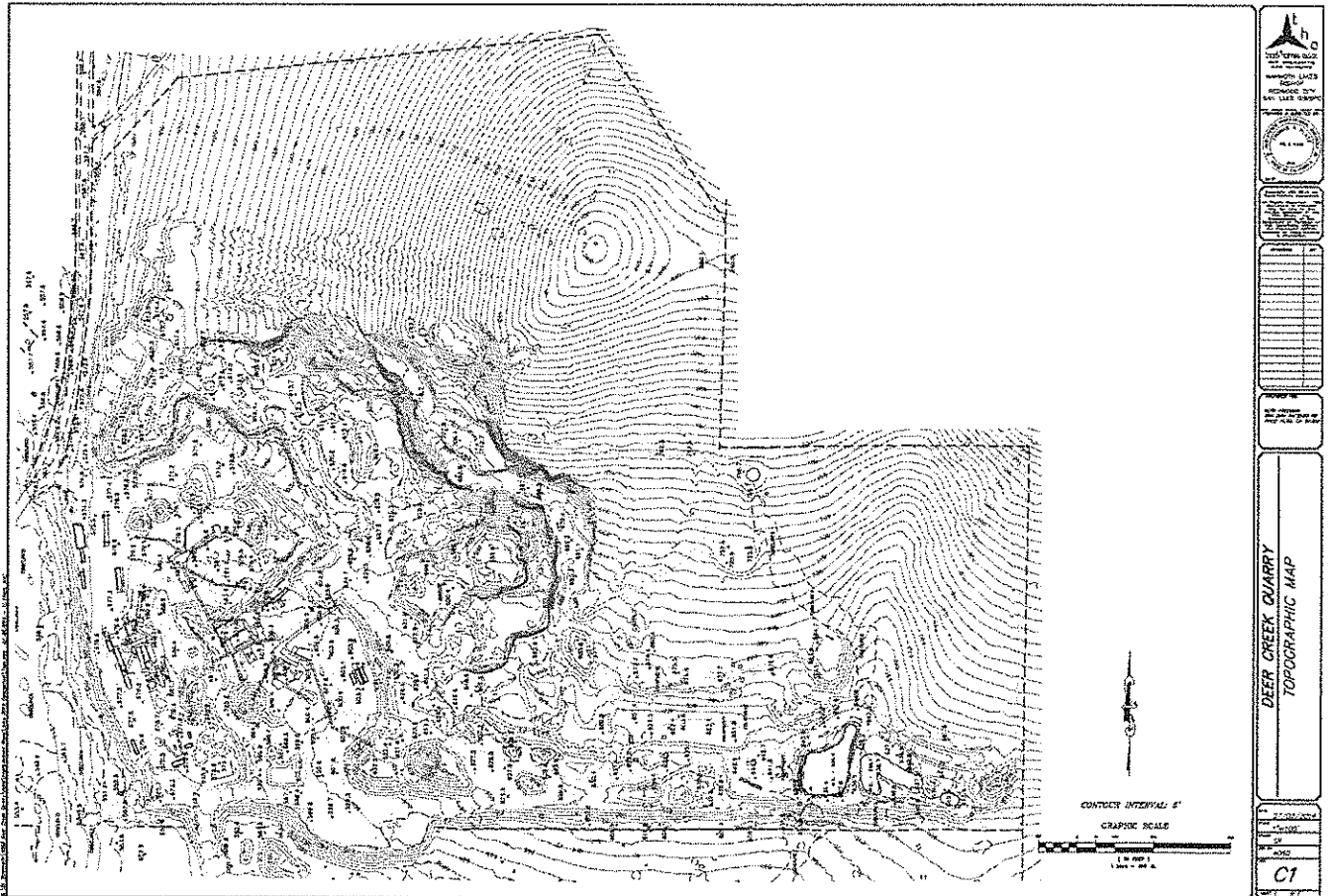
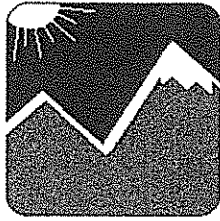


Figure 4 – Site Plan (Proposed)
PMR 14-002 (Amendments to PMR 09-002)





**San Joaquin Valley
Unified Air Pollution Control District**

Date: 27 October 2014

To: Patia Siong, Supervising Air Quality Specialist

From: Glenn Reed, Senior Air Quality Specialist

Subject: Comments on the Health Risk Assessment for the Air Quality and Greenhouse Gas Analysis Report, Deer Creek Rock Company, Inc. Quarry Expansion

Deer Creek Rock Company, Inc. currently operates a quarry and asphalt concrete drum mix plant at 27671 Avenue 120 approximately 2 miles southeast of Porterville, CA. The quarry is permitted by the San Joaquin Valley Air Pollution Control District (the "District") to produce 1.5 million tons per year of aggregate. It is only producing 500,000 tons per year because of limits in the permit from the County of Tulare. The company wishes to revise their County permits to expand production to 950,000 tons per year. The company prepared an *Air Quality and Greenhouse Gas Analysis Report* to support their application. As part of that *Report*, a health risk assessment (HRA) was performed. The District reviewed the HRA. The following are comments on the HRA for the expansion of Deer Creek Rock Company operations:

1. PM_{2.5} emission factors were used to estimate diesel particulate matter (DPM) emissions rather than PM₁₀ emission factors as normally used by the District. Had PM₁₀ emission factors been used, truck travel and idling DPM emissions would have been 1.087 times those estimated by the proponent's consultant. Thus, the maximum cancer risk (i.e., at the residence northwest of the site) would be 10.7 excess cancers in a million which exceeds the District's significance threshold.
2. The District does not require chronic and acute risks from truck travel and idling emissions to be estimated. The cancer risks from DPM emissions are going to be much more significant than any chronic or acute risks.
3. DPM emissions from off-road equipment were modeled as a single point source. Usually, these emissions are modeled as an area source because the emissions can occur at any point within a large area.
4. The analysis includes emissions from on-road haul trucks that travel from the plant entrance to the aggregate loading area where they are loaded and back to the plant entrance and maintenance trucks that travel on a circuit around the

operating area. Two idling points (i.e., at the scale and at the aggregate loading area) are modeled for the on-road haul trucks. A single idling point was modeled for the maintenance trucks at a location distant from the circuit around the operating area. There is no travel path from the circuit to the idling point. It does not appear that any truck travel route or idling points were modeled for the off-road haul trucks that transport material from the operating site to the processing plant.

5. There should be a detailed explanation of the emission estimates. The text does not refer to the emission calculations in the air quality report which does contain detailed calculations. It also does not explain the methodology for calculating the emission rates used in the modeling. Given that meteorological data for Sundays were not modeled, the use of annualized emissions would be inappropriate.
6. The current methodology recommended by the Office of Environmental Health Hazard Assessment does not include the use of diurnal or day of the week scalars for emissions.
7. The year with the highest emissions should be modeled. It appears that only 2015 emissions were modeled. Yet, the increase in production will not be complete until 2019.

Given the above comments, it is not possible to conclude that risks to which sensitive receptors would be exposed are less than significant. If the risks are significant after the above comments are addressed in a revised HRA, mitigation measures must be considered.

DEPARTMENT OF TRANSPORTATION**DISTRICT 6**

1352 WEST OLIVE AVENUE
P.O. BOX 12616
FRESNO, CA 93778-2616
PHONE (559) 488-7396
FAX (559) 488-4088
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Tulare County
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Agency

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2135-IGR/CEQA

NOP FOR DEIR

PMR 14-002

DEER CREEK ROCK MINE EXPANSION

SCH # 2014081023

Mr. Hector Guerra
Chief Environmental Planner
Tulare County Resource Management Agency
5961 S. Mooney Blvd.
Visalia, CA 93277

Dear Mr. Guerra:

Thank you for the opportunity to review the Notice of Preparation (NOP) for the draft Environmental Impact Report (DEIR) for the Deer Creek Mine Expansion proposal. The project proposes to increase existing annual production from 500,000 tons per day to a maximum of 950,000 tons per day and increase truck hauling from 200 trips per day to a maximum of 350 trips per day. The 28 acre site is located southeast of Porterville, approximately 1/3 mile east of the Avenue 120 (aka: Deer Creek Drive) and Road 272 intersection, approximately 5 miles east of the State Route (SR) 65/Avenue 124 intersection and 3 miles south of the SR 190/Road 284 intersection. Caltrans has the following comments:

As indicated in the NOP on page 4, a Traffic Impact Study will be prepared as part of the DEIR. Caltrans suggest that a TIS scope be completed prior to start of the TIS. Caltrans is available to meet with the County and project consultant to review the scope if necessary. Please send the scope and the TIS to Caltrans for review.

If you have any other questions, please call me at (559) 488-7396.

Sincerely,

A handwritten signature in black ink, appearing to read "David Deel".

DAVID DEEL
Associate Transportation Planner
North Planning Branch

APPENDIX B



Air Quality and Greenhouse Gas Analysis Report Deer Creek Rock Company, Inc. Quarry Expansion

Prepared for:
Deer Creek Rock Company, Inc.
P.O. Box 994248
Redding, CA, 96099-4248
530.241.2112

Contact: Leonard Bandell, Vice-President

Prepared by:
FirstCarbon Solutions
7265 N. First Street, Suite 101
Fresno, CA 93720
559.246.3732

Contact: Dave Mitchell, Air Quality Services Manager
Author: Elena Nuño, Air Quality Scientist

November 17, 2014

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ACRONYMS AND ABBREVIATIONS

$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
AB	Assembly Bill
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
CalEEMod	California Emissions Estimator Model
CEQA	California Environmental Quality Act
CO	carbon monoxide
CO ₂	carbon dioxide
Diesel PM	diesel particulate matter
District	San Joaquin Valley Air Pollution Control District
EPA	Environmental Protection Agency
MTCO ₂ e	metric tons of carbon dioxide equivalent
MMTCO ₂ e	million metric tons of carbon dioxide equivalent
NO _x	nitrogen oxides
PM _{2.5}	particulate matter less than 2.5 microns in diameter
PM ₁₀	particulate matter less than 10 microns in diameter
ppm	parts per million
ppt	parts per trillion
ROG	reactive organic gases
SB	Senate Bill
SO _x	sulfur oxides
VOC	volatile organic compounds

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SECTION 1: EXECUTIVE SUMMARY

1.1 - Purpose and Analysis Approach

The following air quality and greenhouse gas analysis was prepared to evaluate whether the estimated criteria air pollutant and greenhouse gas emissions generated from the project would cause significant impacts to air resources in the project area. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.).

Tulare County is currently processing an amendment to PMR 01-001, PSP 01-055(ZA), and PMR 09-002, and requested Deer Creek Rock Company, Inc. to provide an air quality analysis to satisfy CEQA requirements. This analysis satisfies requirements for the CEQA Environmental Checklist Form/Initial Study including addressing the five (5) criteria for Section III: Air Quality of the CEQA Environmental Checklist, and the two (2) criteria for Section VII: Greenhouse Gas Emissions.

The San Joaquin Valley Air Pollution Control District (District) is a Responsible Agency under CEQA for projects where the District will approve a discretionary air quality permit for the project. In this case, the project will remain within the approved limits of their existing permits and the District would not be considered a Responsible Agency. However, the District is considered an expert commenting agency that is expected to review the environmental document prepared by the County for adequacy.

The methodology follows District recommendations for quantification of emissions and evaluation of potential impacts to air resources. The District prepared a Guide for Assessing and Mitigating Air Quality Impacts in 2002 (District's 2002 Guide). The District is currently in the process of updating that Guide and published a draft 2014 Guide in June 2014. This analysis follows the 2002 Guide.

A separate Health Risk Assessment to assess the impacts of toxic air contaminant (TAC) emissions was also prepared in August 2014 for the proposed project and the results of the analysis are incorporated herein. The Health Risk Assessment examined the potential health risks associated with diesel particulate matter. These TACs result primarily from on-road and off-road diesel fueled equipment.

A court decision for the Environmental Impact Report (EIR) prepared for the Kaweah South Gravel Mine Project in Tulare County (Kaweah South EIR), an unrelated project, provides guidance for this project since it was a mine project in Tulare County. In the Court Ruling on Writ filed for Valley Citizens for Water v. County of Tulare, Case No. 05-215123, in 2006.¹ The findings from that court case were reviewed and this analysis incorporates applicable guidance presented in the court case as follows:

1. The Kaweah South EIR did not estimate operational emissions. This analysis will estimate operational emissions from the project.

¹ Website: http://bosagendas.co.tulare.ca.us/MG285022/AS285024/AI285051/DO285072/DO_285072.PDF

2. According to the Court, the Kaweah South EIR “speculates that having a local source of aggregate will be beneficial to air quality by eliminating trips to Bakersfield, Coalinga, and Fresno. However, the County does not provide any information documenting the actual air emission savings garnered from having a local source of aggregate or that having the proposed mine will significantly reduce longer truck trips to obtain aggregate given the high demand in the Visalia area.” Although it is also of the opinion of the applicant that this Deer Creek Rock Company project will also reduce trip lengths by providing a local source of aggregate, because there is no evidence in that regard, reductions are not applied.
3. According to the Court, the Kaweah South EIR “failed to quantify emissions from the total truck and employee trips.” This analysis for the Deer Creek Rock Company project fully quantifies emissions from truck and employee trips.
4. According to the Court, the Kaweah South EIR “failed to adequately analyze cumulative impacts from the proposed gravel mine . . . the regional setting description does not identify related sources of emissions or reference any emission summary . . . It does not describe or analyze related sources of pollutants as required by CEQA.” This analysis for the Deer Creek Rock Company Quarry Expansion project fully addresses cumulative emissions, as described in Impact AIR-3 of this report.

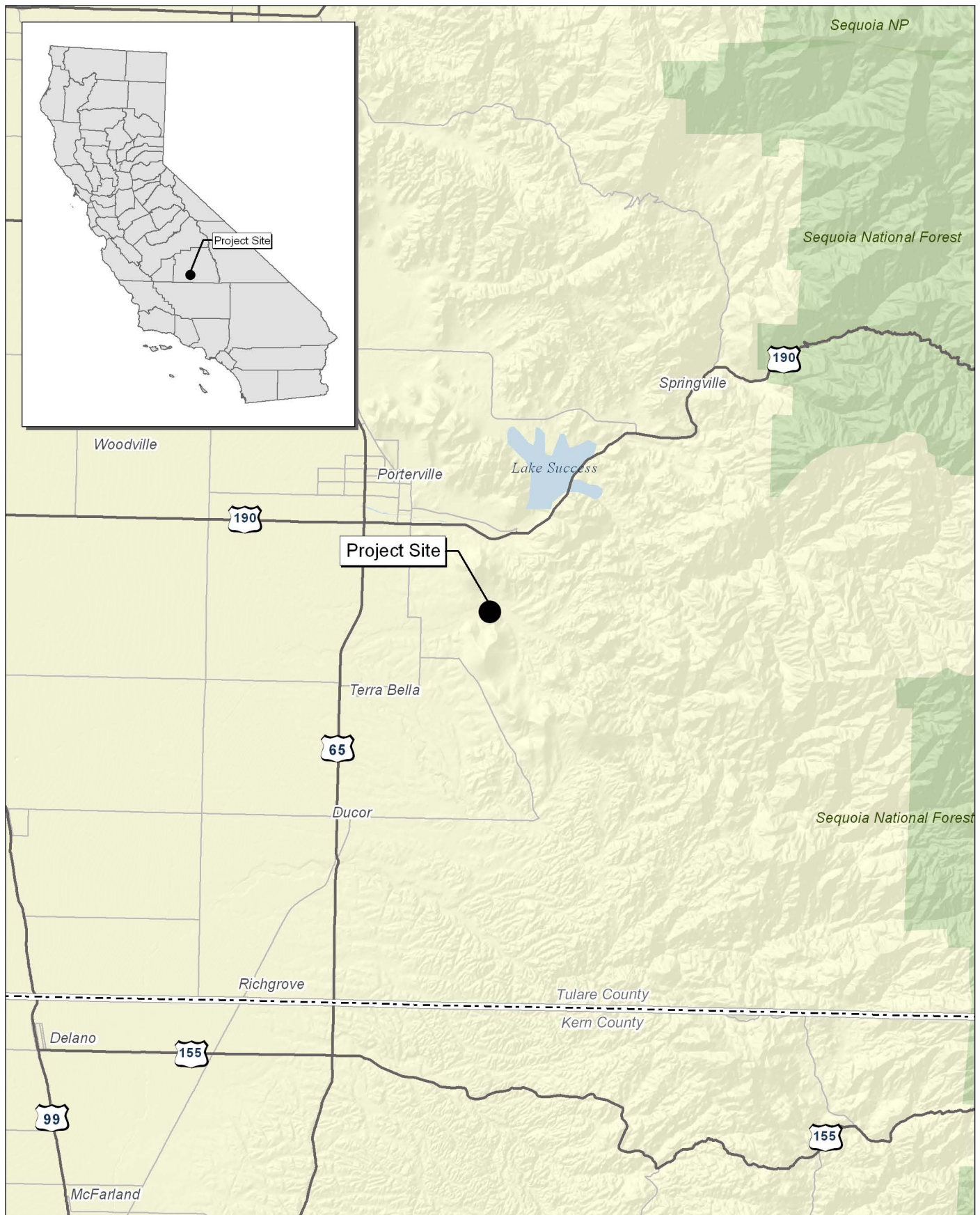
1.2 - Project Description

1.2.1 - Location

The proposed project is located in the southern portion of the San Joaquin Valley in unincorporated Tulare County, California approximately 2 miles southeast of the City of Porterville (Exhibit 1) on an existing rock, sand, and gravel mining operation that is currently operating. Specifically, the proposed project is located at 27671 Avenue 120, approximately 0.5 mile east of Road 272 (Exhibit 2). The project site encompasses approximately 117.42 acres of which approximately 98 acres would be mined through the duration of the project life. The project has an estimated project life of 50 years. The project site is located on Assessor’s Parcel Number (APN) 305-190-021. The project site is within the jurisdiction of the County of Tulare.

1.2.2 - Existing Conditions

Deer Creek Rock Company, Inc. (applicant) currently operates an existing surface mining operation and asphalt concrete drum mix plant on 98 acres of a 117.42-acre site. The amount of material currently produced on the site is 500,000 tons. Approximately 20,000 (40,000 round-trip) heavy-duty diesel haul trucks access the site during the operating year (based on 225 operating days) to haul the material away. A number of stationary, off-road and on-road equipment currently operates on the project site as detailed below.



Source: Census 2000 Data, The CaSIL.



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Exhibit 1 Regional Location Map

DEER CREEK ROCK COMPANY, INC.
DEER CREEK ROCK COMPANY QUARRY EXPANSION
AIR QUALITY AND GREENHOUSE GAS ANALYSIS REPORT

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Source: Google Earth Pro, 2014.



Exhibit 2 Local Vicinity Map Aerial Base

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1.2.3 - Proposed Project

The proposed project would amend Tulare County permits covering mining operations for PM 01-001, PSP 01-055(ZA), and PMR 09-002. Specifically, the amendments would allow: (1) the expansion of production for the hard rock mine and asphalt concrete drum mix plant from 500,000 tons per year to 950,000 tons per year (over a five-year period), (2) affirm the operating hours are from 7:00 a.m. Mondays to 6:00 p.m. Fridays, with an allowance to work on weekends due to utility demands and state and local government paving requirements, and (3) increase heavy-duty diesel haul truck trips per day from 100 to 187.5 (from 200 to 375 round-trips) (over a five-year period). The proposed project would operate through the year 2062, which is the estimated mining operation completion date. The project site would be reclaimed to grazing land pursuant to the existing approved reclamation plan.

1.2.4 - Land Use Designation

The land use designation of the site is AE-40, Exclusive Agriculture Zone, 40-acre minimum.

1.2.5 - Project Size

The applicant currently operates the surface mining operation and asphalt concrete drum mix plant on 98 acres of a 117.42-acre site. As shown in Exhibit 2, the project is currently active in the northern portion of the project site.

1.2.6 - Sensitive Receptors

The sensitive receptors are presented in Table 1. The nearest school is Alta Vista Elementary School in Porterville, 3.6 miles north of the project site.

Table 1: Sensitive Receptors

Sensitive Receptor	Distance and Direction to Nearest Project Boundary (feet)
On-site Residence	0
House east of Road 272	1,031 feet northwest of northern boundary
House on Deer Creek Drive	1,667 feet east of southern boundary
Houses at intersection of Deer Creek Drive (Avenue 120) and Road 272	2,605 feet east of northern boundary
Source: Estimated using aerial photography (Google Earth), 2014	

1.3 - Summary of Analysis Results

Impact AIR-1: The project would not conflict with or obstruct implementation of the applicable air quality plan. **Less than significant.**

- Impact AIR-2:** The project would not violate air quality standards or contribute substantially to an existing or projected air quality violation. **Less than significant.**
- Impact AIR-3:** The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors). **Less than significant.**
- Impact AIR-4:** The project would not expose sensitive receptors to substantial pollutant concentrations. **Less than significant impact.**
- Impact AIR-5:** The project would not create objectionable odors affecting a substantial number of people. **Less than significant impact**
- Impact GHG-1:** The project would generate direct and indirect greenhouse gas emissions that would not result in a significant impact on the environment. **Less than significant impact.**
- Impact GHG-2:** The project would not conflict with any applicable plan, policy or regulation of an agency adopted to reduce the emissions of greenhouse gases. **Less than significant impact.**

1.4 - Mitigation Measures Applied to the Project

The project would exceed District thresholds of significance for oxides of nitrogen (NO_x) in years four (2018) and five (2019), when additional production increases by 400,000 and 450,000 tons of material processed, respectively. The major source of NO_x emissions from the project are attributable to the on-road diesel trucks. The next major source of NO_x emissions are from the off-road equipment. No new equipment is required to accommodate the increase in throughput proposed for the project. However, the applicant is subject to ARB's In-Use Off-Road regulation that requires the turnover or retrofit of existing off-road equipment. The In-Use Off-Road Diesel regulation would require a 68-percent reduction in NO_x emissions by the year 2020. The required reductions for off-road equipment are stringent and will require significant capital to achieve. The applicant has committed to accelerating compliance with regulations for the years four (2018) and five (2019) to reduce emissions to less than significant levels. Mitigation Measures MM AIR-1 through MM AIR-4 would ensure that the required reductions are achieved as throughput is increased.

- MM AIR-1** The following air pollution control measures 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 for construction workers at all access points.

- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. Maintain maintenance records onsite to All equipment shall be checked by a certified visible emissions evaluator.

- MM AIR-2** The following air pollution control measures shall be implemented to reduce emissions from trucks operating on the project site:
- Minimize truck idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of the California Code of Regulations). Post signs in areas where trucks will park instructing drivers to shut off engines unless in an active queue.
- MM AIR-3** By the year 2018 or prior to increasing production by 400,000 tons of additional material, the applicant shall ensure that the fleet average NO_x emissions meet the 2019 standard of 3.5 grams of NO_x per brake-horsepower hour.
- MM AIR-4** By the year 2019 or prior to increasing production by 450,000 tons of additional material, the applicant shall ensure that the fleet average NO_x emissions meet the 2020 standard of 2.3 grams of NO_x per brake-horsepower hour.

1.5 - Standard Conditions

District Rules and Regulations

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

- Rule 2201 – New and Modified Stationary Source Review
- Rule 2520 – Federally Mandated Operating Permits
- Rule 4001 – New Source Performance Standards
- Rule 4002 – National Emission Standards for Hazardous Air Pollutants
- Rule 4101 – Visible Emissions
- Rule 4102 – Nuisance
- Rule 4702 – Internal Combustion Engines – Phase 2
- Rule 4801 – Sulfur Compounds
- Regulation VIII – Fugitive PM₁₀ Prohibitions; Rules 8011-8081

Note that District Rule 9510 – Indirect Source Review – does not apply to the project because it is a project on a facility whose primary functions are subject to Rule 2201 or Rule 2010.

California Air Resources Board Regulations

Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 horsepower and Greater. Effective February 19, 2011, each fleet shall comply with weighted reduced particulate matter emission fleet averages by compliance dates listed in the regulation.

ARB Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

adopts new section 2485 within Chapter 10, Article 1, Division 3, title 13 in the California Code of Regulations. The measure limits the idling of diesel vehicles to reduce emissions of toxics and criteria pollutants. The driver of any vehicle subject to this section: (1) shall not idle the vehicle's primary diesel engine for greater than five minutes at any location; and (2) shall not idle a diesel-fueled auxiliary power system for more than five minutes to power a heater, air conditioner, or any ancillary equipment on the vehicle if it has a sleeper berth and the truck is located within 100 feet of a restricted area (homes and schools).

ARB Final Regulation Order, Requirements to Reduce Idling Emissions from New and In-Use Trucks,

requires that new 2008 and subsequent model-year heavy-duty diesel engines be equipped with an engine shutdown system that automatically shuts down the engine after 300 seconds of continuous idling operation once the vehicle is stopped, the transmission is set to "neutral" or "park," and the parking brake is engaged. If the parking brake is not engaged, then the engine shutdown system shall shut down the engine after 900 seconds of continuous idling operation once the vehicle is stopped and the transmission is set to "neutral" or "park." Any project trucks manufactured after 2008 would be consistent with this rule, which would ultimately reduce air emissions.

ARB Regulation for In-Use Off-Road Diesel Vehicles. On July 26, 2007, the California Air Resources Board (ARB) adopted a regulation to reduce diesel PM and NO_x 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 5 consecutive minutes, requires reporting and labeling, and requires disclosure of the regulation upon vehicle sale. The ARB enforces that part of the rule with fines up to \$10,000 per day for each vehicle in violation. Performance requirements of the rule are based on a fleet's average NO_x 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 to 5,000 horsepower), and 2019 for small fleets (2,500 horsepower or less).

Statewide Truck and Bus Rule. On December 12, 2008, the ARB approved this regulation to reduce emissions from existing on-road diesel trucks and buses operating in California. This regulation applies to all on-road heavy-duty diesel-fueled vehicles with a gross vehicle weight rating greater than 14,000 pounds, agricultural yard trucks with off-road certified engines, and certain diesel fueled shuttle vehicles of any gross vehicle weight rating. Out-of-state trucks and buses that operate in California are also subject. Under the regulation, older, heavier trucks, i.e. those with pre-2000 year engines and a gross vehicle weight rating greater than 26,000 pounds, are required to have installed a particulate matter filter and must be replaced with a 2010 engine between 2015 and 2020, depending on the model year. By 2015, all heavier pre-1994 trucks must be upgraded to 2010 engines and newer trucks are thereafter required to be replaced over the next 8 years. Older, more polluting trucks are required to be replaced first, while trucks that already have relatively clean 2007-2009 engines are not required to be replaced until 2023. Lighter trucks (14,001 to 26,000 pounds) must adhere to a similar schedule, and will all be replaced by 2020. Furthermore, nearly all trucks that are not required under the Truck and Bus Regulation to be replaced by 2015 are required to be upgraded with a particulate matter filter by that date.

ARB Airborne Toxic Control Measure. 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 one 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.

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SECTION 2: ENVIRONMENTAL AND REGULATORY SETTING

2.1 - Environmental Setting

The project is located in the San Joaquin Valley Air Basin (Air Basin). Regional and local air quality is impacted by topography, dominant airflows, atmospheric inversions, location, and season. The following section describes these conditions as they pertain to the Air Basin.

2.1.1 - San Joaquin Valley Air Basin

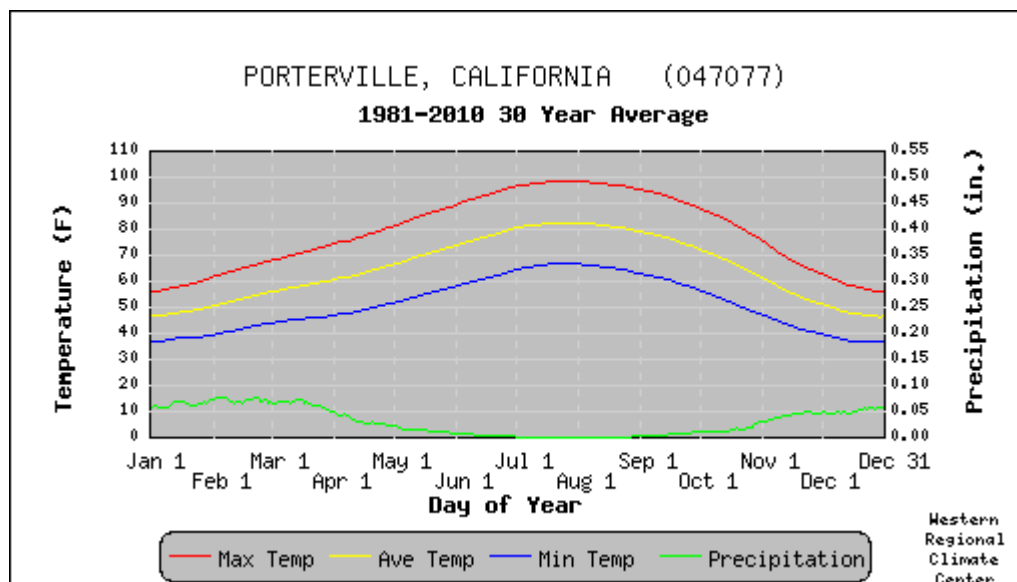
The information in this section is primarily from the District's GAMAQI and the accompanying Technical Document (San Joaquin Valley Air Pollution Control District 2002).

Climate

The climate is important for air quality because of differences in the atmosphere's ability to trap pollutants close to the ground creating adverse air quality or to rapidly disperse pollutants over wide area preventing high concentrations from accumulating under different climatic conditions. The Air Basin has an "inland Mediterranean" climate and is characterized by long, hot, dry summers and short, foggy winters. Sunlight can be a catalyst in the formation of some air pollutants (such as ozone); the Air Basin averages over 260 sunny days per year.

As shown in Figure 1, the average temperatures in Porterville, which is the closest station to the project located approximately 2 miles southeast, typically range from the mid-40s to 90s (Source: Western Regional Climate Center 2011). Further as shown in Figure 1, the majority of the annual rainfall in the area occurs between November and April. The average annual precipitation in Porterville is 11.22 inches.

Figure 1: Temperature and Precipitation



Topography

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

Dominant Airflow

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

Inversions

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 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 1,000 feet during the winter.

The result is a relatively high concentration of air pollution in the valley during inversion episodes. The figure to the right displays how pollution and fog are trapped in the Valley in the winter months (source: San Joaquin Valley Air Pollution Control District 2007, 2007 Ozone Plan). 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. During summer's longer daylight hours, stagnant air, high temperatures, and plentiful sunshine provide the conditions and energy for the photochemical reaction between ozone precursors.



Winter Inversion Conditions

Location and Season

Because of the prevailing daytime winds and time-delayed nature of ozone, concentrations are highest in the southern portion of the Air Basin. Summers are often periods of hazy visibility and occasionally unhealthful air, while winter air quality impacts tend to be localized and can consist of (but are not exclusive to) odors from agricultural operations; soot or smoke around residential, agricultural, and hazard-reduction wood burning; or dust near mineral resource recovery operations.

2.2 - Existing Air Quality Conditions

The existing local air quality can be characterized by reviewing relevant air pollution concentration data near the project area for comparison to the NAAQS and 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 emission in a community. PM₁₀, PM_{2.5}, and nitrogen dioxide (NO₂) is monitored at the Visalia-N. Church Street station, which is the closest station to the project site and is located approximately 29 miles northwest of the project site. Ozone is monitored from the Porterville-1839 Newcomb Street station, located approximately 6 miles northwest of the project site. Carbon monoxide emissions are monitored from Fresno-1st Station, which is 70 miles northwest of the project site. The measurements made at these stations may not be representative of the project area, but they are assumed to provide a conservative estimate for a smaller rural setting, such as the project site. Table 2 summarizes 2011 through 2013 published air monitoring data, which is the most recent 3-year period available. The amount over the standards and the number of days each year that standards were exceeded provide a good indicator of severity of the air quality problems in the local area. The data shows that during the past few years, the project area has exceeded the ozone, PM₁₀, and PM_{2.5} standards.

Table 2: Air Quality Monitoring Summary

Air Pollutant, Location	Averaging Time	Item	2011	2012	2013
Ozone	1 Hour	Max 1 Hour (ppm)	0.104	0.102	0.112
		Days > State Standard (0.09 ppm)	15	10	5
	8 Hour	Max 8 Hour (ppm)	0.095	0.092	0.096
		Days > State Standard (0.07 ppm)	82	80	52
		Days > National Standard (0.075 ppm)	47	44	23

Table 2 (cont.): Air Quality Monitoring Summary

Air Pollutant, Location	Averaging Time	Item	2011	2012	2013
Carbon Monoxide	8 Hour	Max 8 Hour (ppm)	2.29	2.22	ID
		Days > State Standard (9.0 ppm)	0	0	ID
		Days > National Standard (9 ppm)	0	0	ID
Nitrogen Dioxide	Annual	Annual Average (ppm)	0.012	0.012	0.012
	1 Hour	Max 1 Hour (ppm)	0.058	0.061	0.062
		Days > State Standard (0.18 ppm)	0	0	0
Inhalable coarse particles (PM ₁₀)	Annual	Annual Average (µg/m ³)	34	38.1	44.5
	24 Hour	24 Hour (µg/m ³)	78.1	75.7	155.0
		Days > State Standard (50 µg/m ³)	11	15	16
		Days > National Standard (150 µg/m ³)	0	0	1
Fine particulate matter (PM _{2.5})	Annual	Annual Average (µg/m ³)	16.1	14.8	18.7
	24 Hour	24 Hour (µg/m ³)	73.2	76.2	124.2
		Days > National Standard (35 µg/m ³)	9	7	14
Notes and Abbreviations: > = exceed ppm = parts per million µg/m ³ = micrograms per cubic meter max = maximum State Standard = California Ambient Air Quality Standard National Standard = National Ambient Air Quality Standard Ozone data from Porterville Station. Nitrogen dioxide, PM ₁₀ and PM _{2.5} data from Visalia-N. Church Street Station. Carbon monoxide data from Fresno-1 st Station. Sources: California Air Resources Board 2014.					

2.2.1 - Attainment Status

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 as an “attainment” area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered “unclassified.” National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards.

Each standard has a different definition, or “form” of what constitutes attainment, based on specific air quality statistics. For example, the federal 8-hour CO standard is not to be exceeded more than

once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual PM_{2.5} standard is met if the 3-year average of the annual average PM_{2.5} concentration is less than or equal to the standard.

The current attainment designations for the basin are shown in Table 3. The basin is designated as nonattainment for ozone, PM₁₀, and PM_{2.5}.

Table 3: San Joaquin Valley Air Basin Attainment Status

Pollutant	State Status	National Status
Ozone	Nonattainment	Nonattainment
Carbon monoxide	Attainment	Merced, Madera, and Kings County are unclassified; others in Attainment
Nitrogen dioxide	Attainment	Attainment
Sulfur dioxide	Attainment	Attainment
PM ₁₀	Nonattainment	Attainment
PM _{2.5}	Nonattainment	Nonattainment
Lead	Attainment	Attainment
Hydrogen sulfide	No federal standard	Attainment
Sulfates	No federal standard	Attainment
Visibility Reducing Particles	No federal standard	Attainment
Vinyl Chloride	No federal standard	Attainment
Source of State status: California Air Resources Board 2013a. Source of National status: U.S. Environmental Protection Agency 2012.		

2.2.2 - Existing Sources of Toxic Emissions

The primary sources of impact from toxic air contaminant (TAC) emissions from the project site are from on-road and off-road diesel equipment that operate on-site and the heavy-duty diesel trucks that travel to and from the site.

2.3 - Regulatory Setting

Air pollutants are regulated to protect human health and for secondary effects such as visibility and building soiling. The Clean Air Act of 1970 tasks the United States Environmental Protection Agency (EPA) with setting air quality standards. The State of California also sets air quality standards that are in some cases are more stringent than federal standards and address additional pollutants. The following section describes these federal and state standards and the health effects of the regulated pollutants.

2.3.1 - Clean Air Act

Congress established much of the basic structure of the Clean Air Act (CAA) in 1970, and made major revisions in 1977 and 1990. Six common air pollutants (also known as criteria pollutants) are addressed in the CAA. These are particulate matter, ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. EPA calls these pollutants criteria air pollutants because it regulates them by developing human health-based and/or environmentally based criteria (science-based guidelines) for setting permissible levels. The set of limits based on human health is called primary standards. Another set of limits intended to prevent environmental and property damage is called secondary standards (EPA 2014). The federal standards are called National Ambient Air Quality Standards (NAAQS). The air quality standards provide benchmarks for determining whether air quality is healthy at specific locations and whether development activities will cause or contribute to a violation of the standards. . The criteria pollutants are:

- Ozone
- Nitrogen dioxide
- Lead
- Particulate matter (PM₁₀ and PM_{2.5})
- Carbon monoxide (CO)
- Sulfur dioxide

The federal standards were set to protect public health, including that of sensitive individuals; thus, EPA is tasked with updating the standards as more medical research is available regarding the health effects of the criteria pollutants. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to protect the public health (ARB 2012a).

2.3.2 - California Clean Air Act

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

2.3.3 - 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 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 the States. ARB and local air districts regulate TACs and HAPs in California.

2.3.4 - Air Pollutant Description and Health Effects

The federal and state ambient air quality standards, relevant effects, properties, and sources of the pollutants are summarized in Table 4.

Table 4: Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard ^a	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Ozone	1 Hour	0.09 ppm	—	Irritate respiratory system; reduce lung function; breathing pattern changes; reduction of breathing capacity; inflame and damage cells that line the lungs; make lungs more susceptible to infection; aggravate asthma; aggravate other chronic lung diseases; cause permanent lung damage; some immunological changes; increased mortality risk; vegetation and property damage.	Ozone is a photochemical pollutant as it is not emitted directly into the atmosphere, but is formed by a complex series of chemical reactions between volatile organic compounds (VOC), NO _x , and sunlight. Ozone is a regional pollutant that is generated over a large area and is transported and spread by the wind.	Ozone is a secondary pollutant; thus, it is not emitted directly into the lower level of the atmosphere. The primary sources of ozone precursors (VOC and NO _x) are mobile sources (on-road and off-road vehicle exhaust).
	8 Hour	0.070 ppm	0.075 ppm			
Carbon monoxide (CO)	1 Hour	20 ppm	35 ppm	Ranges depending on exposure: slight headaches; nausea; aggravation of angina pectoris (chest pain) and other aspects of coronary heart disease; decreased exercise tolerance in persons with peripheral vascular disease and lung disease; impairment of central nervous system functions; possible increased risk to fetuses; death.	CO is a colorless, odorless, toxic gas. CO is somewhat soluble in water; therefore, rainfall and fog can suppress CO conditions. CO enters the body through the lungs, dissolves in the blood, replaces oxygen as an attachment to hemoglobin, and reduces available oxygen in the blood.	CO is produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). Sources include motor vehicle exhaust, industrial processes (metals processing and chemical manufacturing), residential wood burning, and natural sources.
	8 Hour	9.0 ppm	9 ppm			
Nitrogen dioxide ^b (NO ₂)	1 Hour	0.18 ppm	0.100 ppm	Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; contribution to atmospheric discoloration; increased visits to hospital for respiratory illnesses.	During combustion of fossil fuels, oxygen reacts with nitrogen to produce nitrogen oxides - NO _x (NO, NO ₂ , NO ₃ , N ₂ O, N ₂ O ₃ , N ₂ O ₄ , and N ₂ O ₅). NO _x is a precursor to ozone, PM ₁₀ , and PM _{2.5} formation. NO _x can react with compounds to form nitric acid and related small particles and result in PM related health effects.	NO _x is produced in motor vehicle internal combustion engines and fossil fuel-fired electric utility and industrial boilers. Nitrogen dioxide (NO ₂) forms quickly from NO _x emissions. NO ₂ concentrations near major roads can be 30 to 100 percent higher than those at monitoring stations.
	Annual	0.030 ppm	0.053 ppm			

Table 4 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard ^a	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Sulfur dioxide ^c (SO ₂)	1 Hour	0.25 ppm	0.075 ppm	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient sulfur dioxide levels. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.	Sulfur dioxide is a colorless, pungent gas. At levels greater than 0.5 ppm, the gas has a strong odor, similar to rotten eggs. Sulfur oxides (SO _x) include sulfur dioxide and sulfur trioxide. Sulfuric acid is formed from sulfur dioxide, which can lead to acid deposition and can harm natural resources and materials. Although sulfur dioxide concentrations have been reduced to levels well below state and federal standards, further reductions are desirable because sulfur dioxide is a precursor to sulfate and PM ₁₀ .	Human caused sources include fossil-fuel combustion, mineral ore processing, and chemical manufacturing. Volcanic emissions are a natural source of sulfur dioxide. The gas can also be produced in the air by dimethylsulfide and hydrogen sulfide. Sulfur dioxide is removed from the air by dissolution in water, chemical reactions, and transfer to soils and ice caps. The sulfur dioxide levels in the State are well below the maximum standards.
	3 Hour	—	0.5 ppm			
	24 Hour	0.04 ppm	0.14 (for certain areas)			
	Annual	—	0.030 ppm (for certain areas)			
Particulate matter (PM ₁₀)	24 hour	50 µg/m ³	150 µg/m ³	<ul style="list-style-type: none"> Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravate existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias. Long-term exposure: reduced lung function; chronic bronchitis; changes in lung morphology; death. 	Suspended particulate matter is a mixture of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM ₁₀ refers to particulate matter that is between 2.5 and 10 microns in diameter, (1 micron is one-millionth of a meter). PM _{2.5} refers to particulate matter that is 2.5 microns or less in diameter, about one-thirtieth the size of the average human hair.	Stationary sources include fuel or wood combustion for electrical utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal, and recycling. Mobile or transportation related sources are from vehicle exhaust and road dust. Secondary particles form from reactions in the atmosphere.
	Mean	20 µg/m ³	—			
Particulate matter (PM _{2.5})	24 Hour	—	35 µg/m ³			
	Annual	12 µg/m ³	12.0 µg/m ³			
Visibility-reducing particles	8 Hour	See note below ^d				

Table 4 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard ^a	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Sulfates	24 Hour	25 µg/m ³	—	(a) Decrease in ventilatory function; (b) aggravation of asthmatic symptoms; (c) aggravation of cardio-pulmonary disease; (d) vegetation damage; (e) degradation of visibility; (f) property damage.	The sulfate ion is a polyatomic anion with the empirical formula SO ₄ ²⁻ . Sulfates occur in combination with metal and/or hydrogen ions. Many sulfates are soluble in water.	Sulfates are particulates formed through the photochemical oxidation of sulfur dioxide. In California, the main source of sulfur compounds is combustion of gasoline and diesel fuel.
Lead ^e	30-day	1.5 µg/m ³	—	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction, behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQs.	Lead is a solid heavy metal that can exist in air pollution as an aerosol particle component. Leaded gasoline was used in motor vehicles until around 1970. Lead concentrations have not exceeded state or federal standards at any monitoring station since 1982.	Lead ore crushing, lead-ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and crustal physical weathering.
	Quarter	—	1.5 µg/m ³			
	Rolling 3-month average	—	0.15 µg/m ³			
Vinyl chloride ^e	24 Hour	0.01 ppm	—	Short-term exposure to high levels of vinyl chloride in the air causes central nervous system effects, such as dizziness, drowsiness, and headaches. Epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of a rare cancer, liver angiosarcoma, and have suggested a relationship between exposure and lung and brain cancers.	Vinyl chloride, or chloroethene, is a chlorinated hydrocarbon and a colorless gas with a mild, sweet odor. In 1990, ARB identified vinyl chloride as a toxic air contaminant and estimated a cancer unit risk factor.	Most vinyl chloride is used to make polyvinyl chloride plastic and vinyl products, including pipes, wire and cable coatings, and packaging materials. It can be formed when plastics containing these substances are left to decompose in solid waste landfills. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites.

Table 4 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard ^a	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Hydrogen sulfide	1 Hour	0.03 ppm	—	High levels of hydrogen sulfide can cause immediate respiratory arrest. It can irritate the eyes and respiratory tract and cause headache, nausea, vomiting, and cough. Long exposure can cause pulmonary edema.	Hydrogen sulfide (H ₂ S) is a flammable, colorless, poisonous gas that smells like rotten eggs.	Manure, storage tanks, ponds, anaerobic lagoons, and land application sites are the primary sources of hydrogen sulfide. Anthropogenic sources include the combustion of sulfur containing fuels (oil and coal).
Volatile organic compounds (VOC)		There are no State or federal standards for VOCs because they are not classified as criteria pollutants.		Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations because of interference with oxygen uptake. In general, concentrations of VOCs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, the kidneys, and the central nervous system. Many VOCs have been classified as toxic air contaminants.	Reactive organic gases (ROG), or VOCs, are defined as any compound of carbon—excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate—that participates in atmospheric photochemical reactions. Although there are slight differences in the definition of ROG and VOCs, the two terms are often used interchangeably.	Indoor sources of VOCs include paints, solvents, aerosol sprays, cleansers, tobacco smoke, etc. Outdoor sources of VOCs are from combustion and fuel evaporation. A reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone. VOCs are transformed into organic aerosols in the atmosphere, which contribute to higher PM ₁₀ and lower visibility.
Diesel particulate matter (DPM)		There are no ambient air quality standards for DPM.		Some short-term (acute) effects of DPM exposure include eye, nose, throat, and lung irritation, coughs, headaches, light-headedness, and nausea. 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. Human	DPM is a source of PM _{2.5} —diesel particles are typically 2.5 microns and smaller. Diesel exhaust is a complex mixture of thousands of particles and gases that is produced when an engine burns diesel fuel. Organic compounds account for 80 percent of the total particulate matter mass, which consists of compounds such as hydrocarbons and their derivatives, and polycyclic	Diesel exhaust is a major source of ambient particulate matter pollution in urban environments. Typically, the main source of DPM is from combustion of diesel fuel in diesel-powered engines. Such engines are in on-road vehicles such as diesel trucks, off-road construction vehicles, diesel electrical generators, and various pieces of stationary construction equipment.

Table 4 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard ^a	Most Relevant Effects from Pollutant Exposure	Properties	Sources
				studies on the carcinogenicity of DPM demonstrate an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure.	aromatic hydrocarbons and their derivatives. Fifteen polycyclic aromatic hydrocarbons are confirmed carcinogens, a number of which are found in diesel exhaust.	
<p>Notes:</p> <p>ppm = parts per million (concentration) $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter Annual = Annual Arithmetic Mean 30-day = 30-day average Quarter = Calendar quarter</p> <p>^a Federal standard refers to the primary national ambient air quality standard, or the levels of air quality necessary, with an adequate margin of safety to protect the public health. All standards listed are primary standards except for 3 Hour SO_2, which is a secondary standard. A secondary standard is the level of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.</p> <p>^b To attain the 1-hour NO_2 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 parts per billion (0.100 ppm).</p> <p>^c On June 2, 2010, a new 1-hour SO_2 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 SO_2 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.</p> <p>^d Visibility-reducing particles: 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.</p> <p>^e 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.</p> <p>Source of effects, properties, and sources: South Coast Air Quality Management District 2007; California Environmental Protection Agency 2002; California Air Resources Board 2009a; U.S. Environmental Protection Agency 2003, 2009a, 2009b, 2010, 2011, and 2012a; National Toxicology Program 2011a and 2011b.</p> <p>Source of standards: California Air Resources Board 2013a.</p>						

Several pollutants listed in Table 4 are not addressed in this analysis. Analysis of lead is not included in this report because no new sources of lead emissions are anticipated with the project. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed. The project would not result in vinyl chloride or hydrogen sulfide emissions in any substantial quantity.

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.

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

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).

The ARB has an Air Toxics 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.

Toxic Air Contaminants Health Effects

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. The California Almanac of Emissions and Air Quality presents the

relevant concentration and cancer risk data for the ten TACs that pose the most substantial health risk in California based on available data. The ten TACs are acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (DPM).

Some studies indicate that DPM poses the greatest health risk among the TACs listed above. A 10-year research program (AR 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 increasing the 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 coughs, 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.

Limited data on levels and health risks attributable to the top 10 TACs listed above available from the ARB as part of their California Almanac of Emissions and Air Quality - 2009 Edition (ARB 2009b). As shown therein for data collected at the California Avenue air monitoring station in Bakersfield, cancer risks from attributable to all of the listed TACs above with the exception of DPM have declined about 70 percent from the mid-1990s to 2007. Unfortunately, risks associated with DPM emissions are only provided for the year 2000 and have not been updated in the Almanac.

In addition to DPM, the operation of the project would also release amounts of fugitive dust that contain several TACs through the various stages of the aggregate processing. These TACs include aluminum, arsenic, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, nickel, selenium, zinc, and crystalline silica.

Aluminum

Exposure to aluminum can occur through inhalation, ingestion, and eye or skin contact. Symptoms of exposure may include the following:

- Acute exposure: Acute exposure to aluminum dust has resulted in eye irritation.
- Chronic exposure: The signs and symptoms of chronic exposure to aluminum metal dust include shortness of breath, weakness, and cough.²

² States Department of Labor. Occupational Safety and Health Guideline for Aluminum. Website: <http://www.osha.gov/SLTC/healthguidelines/aluminum/recognition.html>. Accessed November 18, 2012.

Arsenic

Arsenic occurs naturally in the environment as an element of the earth's crust. Arsenic is combined with other elements such as oxygen, chlorine, and sulfur to form inorganic arsenic compounds. Exposure to high levels of arsenic can cause death. Exposure to arsenic at low levels for extended periods of time can cause a discoloration of the skin and the appearance of small corns or warts.³

Beryllium

Beryllium is a metal that is found in nature, especially in beryl and bertrandite rock. It is extremely lightweight and hard, is a good conductor of electricity and heat, and is nonmagnetic. Exposure happens when a person breathes in beryllium mists, dusts, or fumes. Beryllium can then travel to the lungs where it can cause damage. Beryllium-related granulomas (non-cancerous tumors or growths) can also develop in other body tissues but these do not usually result in a loss of function. Beryllium disease is caused primarily by breathing air with beryllium mists, dusts, and fumes. Both acute (abrupt, short-term) and chronic (long-term) health problems can occur.

The acute disease starts soon after exposure and resembles pneumonia or bronchitis. It requires relatively high levels of exposure to occur and is now quite rare because protective measures to reduce exposure are usually in place.

The chronic form—chronic beryllium disease—takes longer to develop than the acute form. Onset may occur from several months to decades after exposure. This disease can occur after much lower levels of exposure than the acute form. In chronic beryllium disease, inflammation and scarring of the lungs make it more difficult for the lungs to get oxygen to the bloodstream and body. A special type of scarring called granuloma is very typical of this disease. These noncancerous growths look like scars or tumors present in another disease called sarcoidosis. Most people exposed to beryllium will *not* develop chronic beryllium disease. chronic beryllium disease can be either mild or severe. For some, it can be a relatively minor condition, while for others it can be a very serious, even fatal, disease. The amount of length of exposure necessary to cause a specific individual to develop the disease is not known. As with many workplace hazards, it is believed that higher exposures cause more people to become sensitized. In a few people, exposure to even very small amounts of beryllium can pose a problem. In these people, their bodies react and begin the disease process even when exposed to only small amounts of the metal. The reason for this is not well understood.

Beryllium is identified by the International Agency for Research on Cancer and the National Toxicology Program as a human carcinogen. Persons exposures to beryllium are at increased risk of developing lung cancer.⁴

Cadmium

Cadmium (Cd) is a soft, malleable, bluish white metal found in zinc ores, and to a much lesser extent, in the cadmium mineral greenockite. Cadmium and its compounds are highly toxic and exposure to

³ United States Department of Labor. Occupational Safety & Health Administration. Arsenic. Website: <http://www.osha.gov/SLTC/arsenic/index.html>. Accessed November 18, 2012.

⁴ United States Department of Labor. Beryllium and Chronic Beryllium Disease. Website: http://www.osha.gov/SLTC/beryllium/be_and_chronic_be_disease.html. Accessed November 18, 2012.

this metal is known to cause cancer and targets the body's cardiovascular, renal, gastrointestinal, neurological, reproductive, and respiratory systems.⁵

Chromium

Chromium occurs in the environment primarily in two valence states, trivalent chromium (Cr III) and hexavalent chromium (Cr VI). Exposure may occur from natural or industrial sources of chromium. Chromium III is much less toxic than chromium (VI). The respiratory tract is also the major target organ for chromium (III) toxicity, similar to chromium (VI). Chromium (III) is an essential element in humans. The body can detoxify some amount of chromium (VI) to chromium (III).

The respiratory tract is the major target organ for chromium (VI) toxicity, for acute (short-term) and chronic (long-term) inhalation exposures. Shortness of breath, coughing, and wheezing were reported from a case of acute exposure to chromium (VI), while perforations and ulcerations of the septum, bronchitis, decreased pulmonary function, pneumonia, and other respiratory effects have been noted from chronic exposure. Human studies have clearly established that inhaled chromium (VI) is a human carcinogen, resulting in an increased risk of lung cancer. Animal studies have shown chromium (VI) to cause lung tumors via inhalation exposure.⁶

Cobalt

Cobalt (Co) is a metal that can be stable (non-radioactive, as found in nature), or unstable (radioactive, man-made). The most common radioactive isotope of cobalt is cobalt-60. All ionizing radiation, including that of cobalt-60, is known to cause cancer. Therefore, exposures to gamma radiation from cobalt-60 result in an increased risk of cancer. Because it emits such strong gamma rays, external exposure to cobalt-60 is considered a significant threat. The magnitude of the health risk depends on the quantity of cobalt-60 involved and on exposure conditions: length of exposure, distance from the source (for external exposure), whether the cobalt-60 was ingested or inhaled.⁷

Copper

Copper is an essential nutrient, but at high doses it has been shown to cause stomach and intestinal distress, liver and kidney damage, and anemia. Persons with Wilson's disease may be at a higher risk of health effects due to copper than the general public. There is inadequate evidence to state whether copper has the potential to cause cancer from a lifetime exposure in drinking water.⁸

Manganese

Manganese is a naturally occurring metal that, in pure form, is silver-colored with no taste or smell. Manganese is normally encountered in the environment as a compound with oxygen, sulfur, or chlorine. Manganese is an essential nutrient, required in trace amounts for human health. Intake is normally sufficient with a balanced diet. The primary targets of manganese toxicity are the brain and central nervous system. Manganese has been shown to be deposited in certain regions of the brain, and exposure to high concentrations in occupational studies was associated with permanent

⁵ States Department of Labor. Cadmium. Website: <http://www.osha.gov/SLTC/cadmium/index.html>. Accessed November 18, 2012.

⁶ United States Environmental Protection Agency. Chromium Compounds. Website: <http://www.epa.gov/ttnatw01/hlthef/chromium.html>. Accessed November 18, 2012.

⁷ United States Environmental Protection Agency. Cobalt. Website: <http://www.epa.gov/radiation/radionuclides/cobalt.html#healtheffects>. Accessed November 18, 2012.

⁸ United States Environmental Protection Agency. Technical Factsheet on: Copper. Website: <http://www.epa.gov/ogwdw/pdfs/factsheets/ioc/tech/copper.pdf>. Accessed November 18, 2012.

damage, with symptoms of impaired neurological and neuromuscular control, mental and emotional disturbances, muscle stiffness, lack of coordination, tremors, difficulties with breathing or swallowing, and other neuromuscular problems. Exposure to very high doses of manganese in experimental animal studies has resulted in impaired male fertility, and birth defects in offspring including cleft palate, impaired bone development, and other effects.⁹

Nickel

Nickel occurs naturally in the environment at low levels. Nickel is an essential element in some animal species, and it has been suggested it may be essential for human nutrition. Nickel dermatitis—consisting of itching of the fingers, hands, and forearms—is the most common effect in humans from chronic (long-term) skin contact with nickel. Respiratory effects have also been reported in humans from inhalation exposure to nickel. Human and animal studies have reported an increased risk of lung and nasal cancers from exposure to nickel refinery dusts and nickel subsulfide. Animal studies of soluble nickel compounds (e.g., nickel carbonyl) have reported lung tumors. The EPA has classified nickel refinery dust and nickel subsulfide as Group A, human carcinogens, and nickel carbonyl as a Group B2, probable human carcinogen.¹⁰

Selenium

Selenium is a naturally occurring substance that is toxic at high concentrations but is also a nutritionally essential element. Hydrogen selenide is the most acutely toxic selenium compound. Acute (short-term) exposure to elemental selenium, hydrogen selenide, and selenium dioxide by inhalation results primarily in respiratory effects, such as irritation of the mucous membranes, pulmonary edema, severe bronchitis, and bronchial pneumonia. Epidemiological studies of humans chronically (long-term) exposed to high levels of selenium in food and water have reported discoloration of the skin, pathological deformation and loss of nails, loss of hair, excessive tooth decay and discoloration, lack of mental alertness, and listlessness. Epidemiological studies have reported an inverse association between selenium levels in the blood and cancer occurrence and animal studies have reported that selenium supplementation, as sodium selenate, sodium selenite, and organic forms of selenium, results in a reduced incidence of several tumor types. The only selenium compound that has been shown to be carcinogenic in animals is selenium sulfide, which resulted in an increase in liver tumors from oral exposure. The EPA has classified elemental selenium as a Group D, not classifiable as to human carcinogenicity, and selenium sulfide as a Group B2, probable human carcinogen.¹¹

Zinc

Although zinc is an essential requirement for good health, excess zinc can be harmful. Excessive absorption of zinc suppresses copper and iron absorption. The free zinc ion in solution is highly toxic to plants, invertebrates, and even vertebrate fish.¹²

⁹ United States Environmental Protection Agency. Manganese. Website: http://www.epa.gov/teach/chem_summ/manganese_summary.pdf. Accessed November 18, 2012.

¹⁰ United States Environmental Protection Agency. Nickel Compounds. Website: <http://www.epa.gov/ttnatw01/hlthef/nickel.html>. Accessed November 18, 2012.

¹¹ United States Environmental Protection Agency. Selenium Compounds. Website: <http://www.epa.gov/ttnatw01/hlthef/selenium.html>. Accessed November 18, 2012.

¹² Wikipedia. Zinc. Website: <http://en.wikipedia.org/wiki/Zinc#Toxicity>. Accessed November 18, 2012.

Crystalline Silica

The following excerpt is from the United States Occupational Safety & Health Administration (OSHA 2002).

Crystalline silica is a basic component of soil, sand, granite, and many other minerals. Quartz is the most common form of crystalline silica. Cristobalite and tridymite are two other forms of crystalline silica. All three forms may become respirable size particles when workers chip, cut, drill, or grind objects that contain crystalline silica.

Silica exposure remains a serious threat to nearly 2 million U.S. workers, including more than 100,000 workers in high risk jobs such as abrasive blasting, foundry work, stonecutting, rock drilling, quarry work and tunneling. The seriousness of the health hazards associated with silica exposure is demonstrated by the fatalities and disabling illnesses that continue to occur in sandblasters and rockdrillers. Crystalline silica has been classified as a human lung carcinogen. Additionally, breathing crystalline silica dust can cause silicosis, which in severe cases can be disabling, or even fatal. The respirable silica dust enters the lungs and causes the formation of scar tissue, thus reducing the lungs' ability to take in oxygen. There is no cure for silicosis. Since silicosis affects lung function, it makes one more susceptible to lung infections like tuberculosis. In addition, smoking causes lung damage and adds to the damage caused by breathing silica dust.

Silicosis is classified into three types: chronic /classic, accelerated, and acute. Chronic/classic silicosis, the most common, occurs after 15–20 years of moderate to low exposures to respirable crystalline silica. Symptoms associated with chronic silicosis may or may not be obvious; therefore, workers need to have a chest x-ray to determine if there is lung damage. As the disease progresses, the worker may experience shortness of breath upon exercising and have clinical signs of poor oxygen/carbon dioxide exchange. In the later stages, the worker may experience fatigue, extreme shortness of breath, chest pain, or respiratory failure.

Accelerated silicosis can occur after 5–10 years of high exposures to respirable crystalline silica. Symptoms include severe shortness of breath, weakness, and weight loss. The onset of symptoms takes longer than in acute silicosis.

Acute silicosis occurs after a few months or as long as 2 years following exposures to extremely high concentrations of respirable crystalline silica. Symptoms of acute silicosis include severe disabling shortness of breath, weakness, and weight loss, which often leads to death.

OSHA has an established Permissible Exposure Limit, or PEL, which is the maximum amount of crystalline silica to which workers may be exposed during an 8-hour work shift (29 CFR 1926.55, 1910.1000). OSHA also requires hazard communication training for workers exposed to crystalline silica, and requires a respirator protection program until engineering controls are implemented. Additionally, OSHA has a National Emphasis Program for Crystalline Silica exposure to identify, reduce, and eliminate health hazards associated with occupational exposures.

2.4 - Air Quality Plans and Regulations

Air pollutants are regulated at the national, state, and air basin or county level; each agency has a different level of regulatory responsibility. The United States Environmental Protection Agency (EPA) regulates at the national level. The California Air Resources Board (ARB) regulates at the state level. The SJVAPCD regulates at the air basin level.

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

A State Implementation Plan is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The State Implementation Plan for the State of California is administered by the ARB, which has overall responsibility for statewide air quality maintenance and air pollution prevention. California's State Implementation Plan incorporates individual federal attainment plans for regional air districts—air district prepares their federal attainment plan, which is sent to ARB to be approved and incorporated into the California State Implementation Plan. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms. The most stringent attainment plan for the SJVAB is the 2007 8-hour Ozone Plan. The 2012 PM_{2.5} Plan approved December 20, 2012 is more recent, but the Ozone Plan requires greater reductions to achieve the ozone standard, so it requires the most stringent control strategy. Both plans rely on NO_x reductions to achieve attainment.

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

2.4.1 - California Regulations

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 (SIP). In 2012, ARB adopted the LEV III amendments to California's Low-Emission Vehicle (LEV) regulations. These amendments include more stringent emission standards for both criteria pollutants and greenhouse gases for new passenger vehicles (ARB 2012a).

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, and 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).

ARB Regulation for In-Use Off-Road Diesel Vehicles

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

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

The ARB has an Air Toxics 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. The SJVAPCD indicated that ultramafic rock may be present near the project site. However, drilling samples collected at the project site have not identified any ultramafic rock.

Diesel Risk Reduction Plan

The ARB's Diesel Risk Reduction Plan has led to the adoption of new 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 as stated on page 1 of the plan. 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).

2.4.2 - San Joaquin Valley Air Pollution Control District

The District is responsible for controlling emissions primarily from stationary sources. The District, in coordination with the eight countywide transportation agencies, is also responsible for developing, updating, and implementing air quality attainment plans for the Air Basin. The District also has roles under CEQA.

Ozone Plans

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

The planning requirements for the 1-hour plan remain in effect until replaced by a federal 8-hour ozone attainment plan. The EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan, including revisions to the plan, on March 8, 2010, effective April 7, 2010. However, the Air Basin failed to attain the standard in 2010 and was subject to a \$29-million Clean Air Act penalty. The penalty is being collected through an additional \$12 motor vehicle registration surcharge for each passenger vehicle registered in the Air Basin that will be applied to pollution reduction programs in the region. The District also instituted a more robust ozone episodic program to reduce emissions on days with the potential to exceed the ozone standards.

EPA originally classified the Air Basin as serious nonattainment for the 1997 federal 8-hour ozone standard with an attainment date of 2013. On April 30, 2007, the District's Governing Board adopted

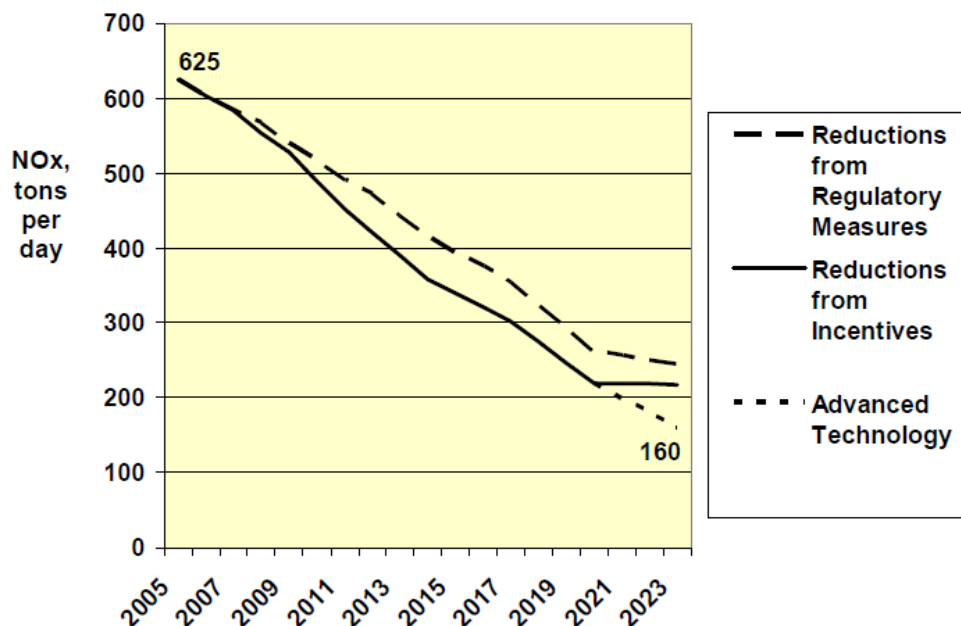
the 2007 Ozone Plan, which contained analysis showing a 2013 attainment target to be infeasible. The 2007 Ozone Plan details the plan for achieving attainment on schedule with an “extreme nonattainment” deadline of 2024. At its adoption of the 2007 Ozone Plan, the District also requested a reclassification to extreme nonattainment. ARB approved the plan in June 2007, and EPA approved the request for reclassification to extreme nonattainment on April 15, 2010.

The 2007 Ozone Plan contains measures to reduce ozone and particulate matter precursor emissions to bring the Basin into attainment with the federal 8-hour ozone standard. The 2007 Ozone Plan calls for a 75-percent reduction of NO_x and a 25-percent reduction of ROG. Figure 2 displays the anticipated NO_x reductions attributed in the 2007 Ozone Plan (Source: 2007 Ozone Plan). The plan, with innovative measures and a “dual path” strategy, assures expeditious attainment of the federal 8-hour ozone standard for all Basin residents. The District Governing Board adopted the 2007 Ozone Plan on April 30, 2007. The ARB approved the plan on June 14, 2007. The 2007 Ozone Plan requires yet to be determined “Advanced Technology” to achieve additional reductions after 2021 to attain the standard at all monitoring stations in the Basin by 2024 as allowed for areas designated extreme nonattainment by the federal Clean Air Act (CAA).

The Air Basin is designated as an extreme ozone nonattainment area for the U.S. Environmental Protection Agency’s (EPA) 2008 8-hour ozone standard of 75 parts per billion (ppb). The plan to address this standard is expected to be due to EPA in 2015/2016.

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

Figure 2: San Joaquin Valley NO_x Emissions Forecast



Particulate Matter Plans

The Air Basin was designated nonattainment of state and federal health-based air quality standards for PM₁₀. The Air Basin is also designated nonattainment of state and federal standards for PM_{2.5}.

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

The 2008 PM2.5 Plan builds upon the comprehensive strategy adopted in the 2007 Ozone Plan to bring the Basin into attainment of the 1997 national standards for PM_{2.5}. The EPA has identified NO_x and sulfur dioxide as precursors that must be addressed in air quality plans for the 1997 PM_{2.5} standards. The 2008 PM2.5 Plan is a continuation of the District's strategy to improve the air quality in the Basin. The EPA issued final approval of the 2008 PM2.5 Plan on November 9, 2011 effective January 9, 2012. EPA approved the emissions inventory, the reasonably available control measures/reasonably available control technology demonstration, reasonable further progress demonstration, attainment demonstration and associated air quality modeling, and the transportation conformity motor vehicle emissions budgets. EPA also granted California's request to extend the attainment deadline for the San Joaquin Valley to April 5, 2015 and approved commitments to measures and reductions by the District and the ARB. Finally, it disapproved the SIP's contingency provisions and issued a protective finding for transportation conformity determinations.

In December 2012, the 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 California Air Resources Board (ARB) approved the District's 2012 PM2.5 Plan for the 2006 standard at a public hearing on January 24, 2013 (SJVAPCD 2012a). This plan seeks to bring the Valley into attainment with the standard by 2019, with the expectation that most areas will achieve attainment before that time.

SJVAPCD Rules and Regulations

The SJVAPCD rules and regulations that may apply to projects that will occur during buildout of the Plan Area include but are not limited to the following:

Rule 2201 – New and Modified Stationary Source Review (applies to any stationary/industrial equipment that emits regulated pollutants in amounts specified by the rule. 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.

Rule 2520 – Federally Mandated Operating Permits 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, renewing permits

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

Rule 4002 – National Emissions Standards for Hazardous Air Pollutants. 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 hazardous air pollutants, such as asbestos.

Rule 4101 – Visible Emissions prohibits the emissions of visible air contaminants to the atmosphere.

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 – Phase 2. The purpose of this rule is to limit the emissions of nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), and sulfur oxides (SO_x) from internal combustion engines.

Rule 4801 – Sulfur Compounds. The purpose of this rule is to limit the emissions of sulfur compounds. A maximum concentration and test method are specified.

Regulation VIII – Fugitive PM₁₀ Prohibitions. Rule 8011-8081 are designed to reduce PM₁₀ emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and trackout, etc. All development projects that involve soil disturbance are subject to at least one provision of the Regulation VIII series of rules.

CEQA

The District has three roles under CEQA:

1. *Lead Agency:* responsible for preparing environmental analyses for its own projects (adoption of rules, regulations, or plans) or permit projects filed with the District where the District has primary approval authority over the project.
2. *Responsible Agency:* The discretionary authority of a Responsible Agency is more limited than a Lead Agency; having responsibility for mitigating or avoiding only the environmental effects of those parts of the project which it decides to approve, carry out, or finance. The District defers to the Lead Agency for preparation of environmental documents for land use projects that also have discretionary air quality permits unless no document is prepared by the Lead Agency and potentially significant impacts related to the permit are possible. The

District comments on documents prepared by Lead Agencies to ensure that District concerns are addressed.

3. *Commenting Agency*: the District reviews and comments on air quality analyses prepared by other public agencies (such as the proposed project).

The District also provides guidance and thresholds for CEQA air quality and greenhouse gas analyses. The result of this guidance as well as state regulations to control air pollution is an overall improvement in the Basin. In particular, the District's draft 2014 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 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.

2.4.3 - County of Tulare General Plan

The County of Tulare General Plan was updated in 2012 and contains general provisions for air quality under various General Plan Elements, including the following policies that are applicable to the project:

Policies

- **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 proposed 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 the 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 reasonably mitigated when feasible.

SECTION 3: CLIMATE CHANGE SETTING

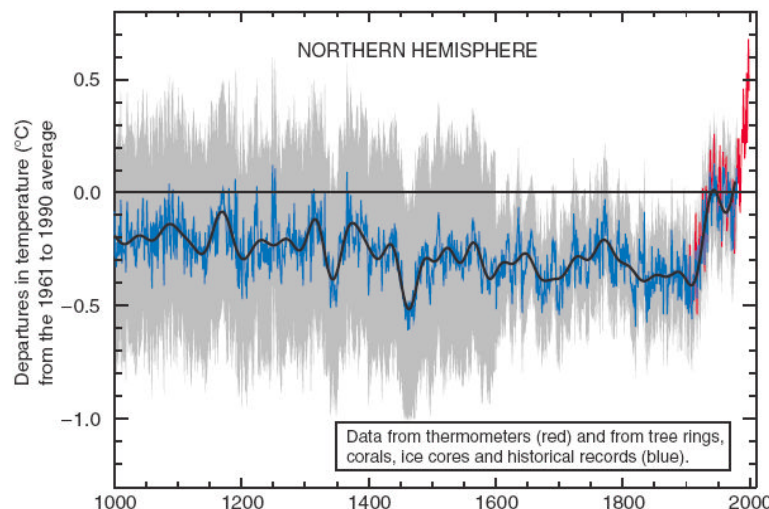
3.1 - Climate Change

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 greenhouse gases needed to stabilize global temperatures and climate change impacts. In its Fourth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100, given six scenarios, could range from 1.1 degrees Celsius (°C) to 6.4°C. Regardless of analytical methodology, global average temperatures and sea levels are expected to rise under all scenarios (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.”

Some question the validity of the temperature graph used by the IPCC in some form in the Third and Fourth Assessment Reports. The graph is shown in Figure 3 (source IPCC 2001). The figure shows that temperatures are relatively stable until 1900, when the temperature increases rapidly. Some scientists have had trouble duplicating the data used for the graph (McIntyre and McKittrick 2003) and indicated when the data is correctly handled “shows the 20th century climate to be unexceptional compared to earlier centuries” (McKittrick 2005). Hans von Storch, a German climate scientist, claimed that the methods used by Mann et al. probably underestimated the temperature fluctuations in the past by a factor of two or more (Von Storch et al. 2004).

Figure 3: Historical Temperature Changes



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 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 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.

3.2 - Greenhouse Gases

Gases that trap heat in the atmosphere are referred to as greenhouse gases. The effect is analogous to the way a greenhouse retains heat. Common greenhouse gases include water vapor, carbon

dioxide, methane, nitrous oxides, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. Natural processes and human activities emit greenhouse gases. The presence of greenhouse gases in the atmosphere affects the earth's temperature. It is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

Climate change is driven by forcings and feedbacks. Radiative forcing is the difference between the incoming energy and outgoing energy in the climate system. Positive forcing tends to warm the surface while negative forcing tends to cool it. Radiative forcing values are typically expressed in watts per square meter. A feedback is a climate process that can strengthen or weaken a forcing. For example, when ice or snow melts, it reveals darker land underneath which absorbs more radiation and causes more warming. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere. The global warming potential of a gas is essentially a measurement of the radiative forcing of a greenhouse gas compared with the reference gas, carbon dioxide.

Individual greenhouse gas compounds have varying global warming potential and atmospheric lifetimes. Carbon dioxide, the reference gas for global warming potential, has a global warming potential of one. The global warming potential of a greenhouse gas is a measure of how much a given mass of a greenhouse gas is estimated to contribute to global warming. To describe how much global warming a given type and amount of greenhouse gas may cause, the carbon dioxide equivalent is used. The calculation of the carbon dioxide equivalent is a consistent methodology for comparing greenhouse gas emissions since it normalizes various greenhouse gas emissions to a consistent reference gas, carbon dioxide. For example, methane's warming potential of 21 indicates that methane has 21 times greater warming effect than carbon dioxide on a molecule-per-molecule basis. A carbon dioxide equivalent is the mass emissions of an individual greenhouse gas multiplied by its global warming potential. Greenhouse gases defined by Assembly Bill (AB) 32 (see the Climate Change Regulatory Environment section for a description) include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. They are described in Table 5. A seventh greenhouse gas, nitrogen trifluoride (NF₃) was added to Health and Safety Code section 38505(g)(7) as a greenhouse gas of concern.

Table 5: Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Nitrous oxide	Nitrous oxide (laughing gas) is a colorless greenhouse gas. It has a lifetime of 114 years. Its global warming potential is 310.	Microbial processes in soil and water, fuel combustion, and industrial processes.
Methane	Methane is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 21.	Methane is extracted from geological deposits (natural gas fields). Other sources are landfills, fermentation of manure, and decay of organic matter.

Table 5 (cont.): Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Carbon dioxide	Carbon dioxide (CO ₂) is an odorless, colorless, natural greenhouse gas. Carbon dioxide's global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960.	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Chlorofluorocarbons	These are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). Global warming potentials range from 3,800 to 8,100.	Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited their production in 1987.
Hydrofluorocarbons	Hydrofluorocarbons are a group of greenhouse gases containing carbon, chlorine, and at least one hydrogen atom. Global warming potentials range from 140 to 11,700.	Hydrofluorocarbons are synthetic manmade chemicals used as a substitute for chlorofluorocarbons in applications such as automobile air conditioners and refrigerants.
Perfluorocarbons	Perfluorocarbons have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Global warming potentials range from 6,500 to 9,200.	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	Sulfur hexafluoride (SF ₆) is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential, 23,900.	This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas.
Nitrogen trifluoride	Nitrogen trifluoride (NF ₃) was added to Health and Safety Code section 38505(g)(7) as a greenhouse gas of concern. It has a high global warming potential of 17,200	This gas is used in electronics manufacture for semiconductors and liquid crystal displays.
Sources: Compiled from a variety of sources, primarily Intergovernmental Panel on Climate Change 2007a and 2007b.		

Other greenhouse gases include water vapor, ozone, and aerosols. Water vapor is an important component of our climate system and is not regulated. Ozone and aerosols are short-lived

greenhouse gases; global warming potentials for short-lived greenhouse gases are not defined by the IPCC. Aerosols can remain suspended in the atmosphere for about a week and can warm the atmosphere by absorbing heat and cool the atmosphere by reflecting light.

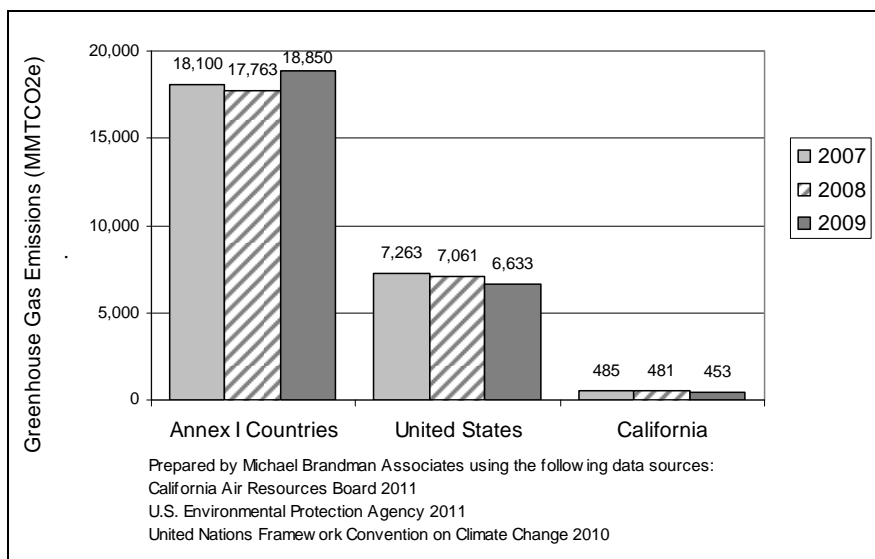
Black carbon is formed by incomplete combustion of fossil fuels, biofuels, and biomass. Sources of black carbon within a jurisdiction may include exhaust from diesel trucks, vehicles, and equipment, as well as smoke from biogenic combustion. Biogenic combustion sources of black carbon include the burning 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, as opposed to other greenhouse gases that 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).

The project would emit black carbon through emissions of diesel PM during construction and operation. However, procedures to quantify changes due to black carbon emissions have not been widely accepted or thoroughly researched (IPCC 2007; Wilson and Walters 2012). Therefore, impacts to climate change from black carbon are speculative at this time and no further discussion is necessary.

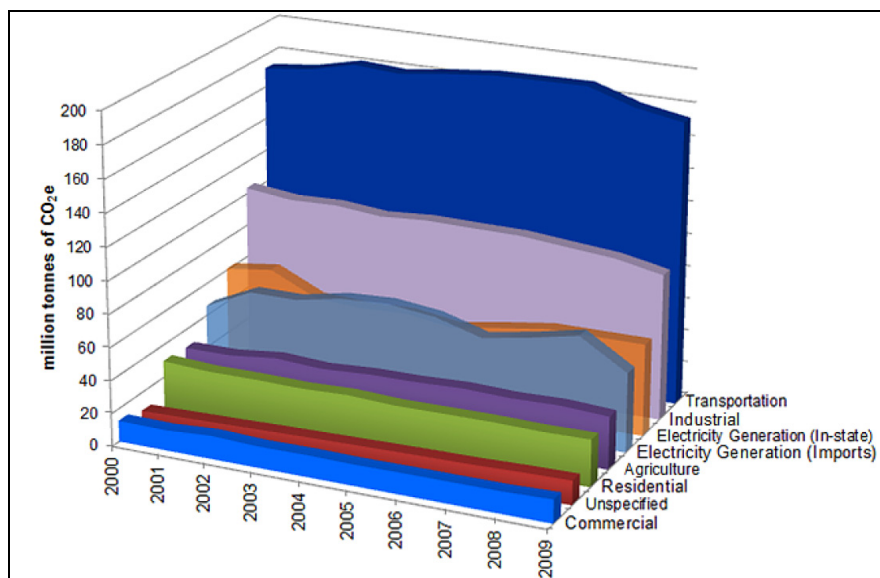
Although there could be health effects resulting from changes in the climate and the consequences that can bring about, inhalation of greenhouse gases at levels currently in the atmosphere would not result in adverse health effects, with the exception of ozone and aerosols (particulate matter). The potential 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, methane, sulfur hexafluoride, and some chlorofluorocarbons can cause suffocation as the gases can displace oxygen (CDC 2010 and OSHA 2003).

3.2.1 - Emissions Inventories

Emissions worldwide were approximately 49,000 million metric tons of carbon dioxide equivalents (MMTCO₂e) in 2004 (IPCC 2007b). Greenhouse gas emissions in 2007, 2008, and 2009 are shown in Figure 4. Annex I parties refer to countries that joined the United Nations Framework Convention on Climate Change.

Figure 4: Greenhouse Gas Emissions Trends

As shown in Figure 5, the main contribution of greenhouse gas emissions in California between years 2000 and 2009 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.

Figure 5: Greenhouse Gas Emission Trends by Sector in California

Source: ARB 2011a.

3.3 - Regulatory Environment

3.3.1 - International

Climate change is a global issue involving greenhouse gas emissions from all around the world; therefore, countries such as the ones discussed below have made an effort to reduce greenhouse gases.

Intergovernmental Panel on Climate Change. In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change to assess the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

United Nations Framework Convention on Climate Change (Convention). On March 21, 1994, the United States joined a number of countries around the world in signing the Convention. Under the Convention, governments gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

Kyoto Protocol. The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing greenhouse gas emissions at average of five per cent against 1990 levels over the five-year period 2008–2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of “common but differentiated responsibilities.”

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2°C above pre-industrial levels, subject to a review in 2015. The UN Climate Change Committee held additional meetings in Durban, South Africa in November 2011; Doha, Qatar in November 2012; and Warsaw, Poland in November 2013. The meetings are gradually gaining consensus among participants on individual climate change issues.

3.3.2 - National

Prior to the last decade, there have been no concrete federal regulations of greenhouse gases or major planning for climate change adaptation. The following are actions regarding the federal government, greenhouse gases, and fuel efficiency.

Greenhouse Gas Endangerment. *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 United States Environmental Protection Agency (EPA) regulate four greenhouse gases, including carbon dioxide, 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 greenhouse gases are air pollutants covered by the Clean Air Act. The Court held that the Administrator must determine whether emissions of greenhouse gases 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 greenhouse gases 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.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing greenhouse gas emissions standards for vehicles, as discussed in the section “Clean Vehicles” below.

The EPA denied ten petitions for Reconsideration of the Endangerment and Cause or Contribute Findings in 2010. Some of the petitioners included the Ohio Coal Association, Peabody Energy Company, and the State of Texas.

In September 2011, the EPA Office of Inspector General evaluated the EPA’s compliance with established policy and procedures in the development of the endangerment finding, including processes for ensuring information quality. The evaluation concluded that the technical support document should have had more rigorous EPA peer review.

In June 2012, a federal appeals court rejected a lawsuit by thirteen states against the EPA. The suit alleged that the EPA violated the law by relying almost exclusively on data from the United Nations Intergovernmental Panel on Climate Change rather than doing its own research or testing data according to federal standards. The states include Virginia, Texas, Alabama, Florida, Hawaii, Indiana, Kentucky, Louisiana, Mississippi, Nebraska, North Dakota, Oklahoma, South Carolina, South Dakota, and Utah. Virginia intends to petition the Supreme Court to review the case.

Clean Vehicles. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On May 7, 2010, the EPA and the Department of Transportation’s National Highway Safety Administration announced a joint final rule establishing a

national program that would reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States. A petition for writ of certiorari to the United States Court of Appeals for the District of Columbia Circuit was denied by the Supreme Court on October 15, 2013.

The first phase of the national program would apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards would cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the National Highway Safety Administration are working on a second-phase joint rulemaking to establish national standards for light-duty vehicles for model years 2017 and beyond.

The EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce greenhouse gas emissions and improve fuel efficiency of *heavy-duty trucks and buses* on September 15, 2011, effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20-percent reduction in carbon dioxide emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10-percent reduction for gasoline vehicles and a 15-percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the agencies are proposing engine and vehicle standards starting in the 2014 model year, which would achieve up to a 10-percent reduction in fuel consumption and carbon dioxide emissions by 2018 model year.

Mandatory Reporting of Greenhouse Gases. The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory greenhouse gas reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule, which became effective January 1, 2010. The rule requires reporting of greenhouse gas emissions from large sources and suppliers in the United States, and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of greenhouse gas emissions are required to submit annual reports to the EPA.

New Source Review. The EPA issued a final rule on May 13, 2010 that establishes thresholds for greenhouse gases that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule “tailors” the requirements of these Clean Air Act permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the federal code of regulations, EPA states:

This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the Clean Air Act, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to greenhouse gas sources, starting with the largest greenhouse gas emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources, but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for greenhouse gas emissions until at least April 30, 2016.

EPA estimates that facilities responsible for nearly 70 percent of the national greenhouse gas emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation's largest greenhouse gas emitters—power plants, refineries, and cement production facilities.

Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units. As required by a settlement agreement, the EPA proposed new performance standards for emissions of carbon dioxide for new, affected, fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatt would be required to meet an output based standard of 1,000 pounds of carbon dioxide per megawatt-hour, based on the performance of widely used natural gas combined cycle technology.

Cap and Trade. Cap and trade refers to a policy tool where emissions are limited to a certain amount and can be traded, or provides flexibility on how the emitter can comply. Examples in the United States include the Acid Rain Program and the NO_x Budget Trading Program and Clean Air Interstate Rule in the northeast. The Clean Air Interstate Rule (CAIR) and the Acid Rain Program (ARP) are both cap and trade programs designed to reduce emissions of sulfur dioxide (SO₂) and nitrogen oxides (NO_x) from power plants. The ARP, established under Title IV of the 1990 Clean Air Act (CAA) Amendments, requires power plants to make major emission reductions of SO₂ and NO_x, the primary precursors of acid rain. CAIR addresses regional interstate transport of soot (fine particulate matter) and smog (ozone) pollution. CAIR requires certain eastern states to limit annual emissions of SO₂ and NO_x, which contribute to the formation of fine particulate matter. It also requires certain states to limit ozone season NO_x emissions, which contribute to the formation of ozone during the summer ozone season (May through September). There is no federal greenhouse gas cap-and-trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap and trade.

The Regional Greenhouse Gas Initiative is an effort to reduce greenhouse gases among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps carbon dioxide emissions from power plants, auctions carbon dioxide emission allowances, and invests the proceeds in strategic energy programs that further reduce

emissions, save consumers money, create jobs, and build a clean energy economy. The Initiative began in 2008.

The Western Climate Initiative partner jurisdictions have developed a comprehensive initiative to reduce regional greenhouse gas emissions to 15 percent below 2005 levels by 2020. The partners are California, British Columbia, Manitoba, Ontario, and Quebec. Its cap and trade program is estimated to be fully implemented in 2015.

3.3.3 - California

Legislative Actions to Reduce Greenhouse Gases.

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce greenhouse gases of any state in the nation. Some legislation such as the landmark AB 32 California Global Warming Solutions Act of 2006 was specifically enacted to address greenhouse gas emissions. Other legislation such as Title 24 and Title 20 energy standards were originally adopted for other purposes such as energy and water conservation, but also provide greenhouse gas reductions. This section describes the major provisions of the legislation.

AB 32. The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that greenhouse gases emitted in California be reduced to 1990 levels by the year 2020. “Greenhouse gases” as defined under AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of greenhouse gases. The California Air Resources Board (ARB) is the state agency charged with monitoring and regulating sources of greenhouse gases. AB 32 states the following:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

The ARB Board approved the 1990 greenhouse gas emissions level of 427 MMTCO₂e on December 6, 2007 (ARB 2007). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO₂e. Emissions in 2020 in a “business as usual” scenario are estimated to be 596 MMTCO₂e, which do not account for reductions from AB 32 regulations (California Air Resources Board 2008). At that level, a 28 percent reduction was required to achieve the 427 million MTCTO₂e 1990 inventory. In October 2010, ARB prepared an updated 2020 forecast to account for the recession and slower forecasted growth. The forecasted inventory without the benefits of adopted regulation is now estimated at 545 million MTCTO₂e. Therefore, under the updated forecast, a 21.7 percent reduction from BAU is required to achieve 1990 levels (ARB 2010). The ARB also prepared

updated emission inventories for 2000 through 2011 to show progress achieved to date (ARB 2013). Executive Order S-3-05 includes a target for 2010 of reducing GHG emissions to 2000 levels. As shown below, the 2010 emission inventory achieved this target. Also shown are the average reductions needed from all statewide sources (including all existing sources) to reduce GHG emissions back to 1990 levels.

- 1990: 427 million MTCO₂e
- 2000: 463 million MTCO₂e (an average 8-percent reduction needed to achieve 1990 base)
- 2010: 450 million MTCO₂e (an average 5-percent reduction needed to achieve 1990 base)
- 2020: 545 million MTCO₂e BAU (an average 21.7-percent reduction needed to achieve 1990 base)

Under AB 32, the ARB published its Final Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California. Discrete early action measures are currently underway or are enforceable by January 1, 2010. The ARB has 44 early action measures that apply to the transportation, commercial, forestry, agriculture, cement, oil and gas, fire suppression, fuels, education, energy efficiency, electricity, and waste sectors. ARB has completed regulations implementing all Early Action Measures. The ARB estimated that the 44 recommendations are expected to result in reductions of at least 42 MMTCO₂e by 2020, representing approximately 25 percent of the 2020 target.

ARB Scoping Plan. The ARB's Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State's emissions to 1990 levels by the year 2020 to comply with AB 32 (ARB 2008). The Scoping Plan identifies recommended measures for multiple greenhouse gas emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 greenhouse gas target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

In addition, the Scoping Plan differentiates between “capped” and “uncapped” strategies. Capped strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the cap-and-trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. Uncapped strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional greenhouse gas emission reductions.¹³

The ARB approved the First Update to the Scoping Plan (Update) on May 22, 2014. The Update identifies the next steps for California’s climate change strategy. The Update shows how California continues on its path to meet the near-term 2020 greenhouse gas limit, but also sets a path toward long-term, deep GHG emission reductions. The report establishes a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050. The Update identifies progress made to meet the near-term objectives of AB 32 and defines California’s climate change priorities and activities Climate for the next several years. The Update does not set new targets for the State, but describes a path that would achieve the long term 2050 goal of Executive Order S-05-03 for emissions to decline to 80 percent below 1990 levels by 2050 (ARB 2014).

The ARB has no legislative mandate to set a target beyond the 2020 target from AB 32 or to adopt additional regulations to achieve a post-2020 target. The Update estimates that reductions averaging 5.2 percent per year would be required after 2020 to achieve the 2050 goal. With no estimate of future reduction commitments from the State, identifying a feasible strategy including plans and measures to be adopted by local agencies is not possible. Implementation of the City’s General Plan Update will help support both the short term and long term objectives of the Update. However, there is no way of determining whether the City would need to take additional actions beyond its existing programs and the land use and transportation strategies contained in the General Plan Update until such a time as new State targets and a new Scoping Plan is adopted.

SB 375. Passing the Senate on August 30, 2008, Senate Bill (SB) 375 was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of greenhouse gas emissions, which emits over 40 percent of the total greenhouse gas emissions in California. SB 375 states, “Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32.” SB 375 does the following: it (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing greenhouse gas emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

¹³ On March 17, 2011, the San Francisco Superior Court issued a final decision in *Association of Irrigated Residents v. California Air Resources Board* (Case No. CPF-09-509562). While the Court upheld the validity of the ARB Scoping Plan for the implementation of AB 32, the Court enjoined ARB from further rulemaking under AB 32 until ARB amends its CEQA environmental review of the Scoping Plan to address the flaws identified by the Court. On May 23, 2011, ARB filed an appeal. On June 24, 2011, the Court of Appeal granted ARB’s petition staying the trial court’s order pending consideration of the appeal. In the interest of informed decision-making, on June 13, 2011, ARB released the expanded alternatives analysis in a draft Supplement to the AB 32 Scoping Plan Functional Equivalent Document. The ARB Board approved the Scoping Plan and the CEQA document on August 24, 2011.

Concerning CEQA, SB 375, as codified in Public Resources Code Section 21159.28 states that CEQA findings determinations for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that the ARB accepts as achieving the greenhouse gas emission reduction targets.
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).
3. Incorporates the mitigation measures required by an applicable prior environmental document.

Tulare CAG adopted the 2014 Regional Transportation Plan (RTP) and Sustainable Communities Strategy on June 30, 2014. The RTP describes the strategy to achieve the SB 375 targets for Tulare County of 5 percent reduction in emission per capita by 2020 and 10 percent per capita by 2035. The primary tenant of the scenario is to increase the density of new housing development by 25 percent from baseline (2005) densities (TCAG 2014).

AB 1493 Pavley Regulations and Fuel Efficiency Standards. California AB 1493, enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. On January 21, 2009, the ARB requested that the EPA reconsider its previous waiver denial. On January 26, 2009, President Obama directed that the EPA assess whether the denial of the waiver was appropriate. On June 30, 2009, the EPA granted the waiver request. On September 8, 2009, the U.S. Chamber of Commerce and the National Automobile Dealers Association sued the EPA to challenge its granting of the waiver to California for its standards. California assisted the EPA in defending the waiver decision. The U.S. District Court for the District of Columbia denied the Chamber's petition on April 29, 2011. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards phase in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in about a 22-percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards will result in about a 30-percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program referred to as LEV III or the Advanced Clean Cars program. The

Advanced Clean Car program combines the control of smog-causing pollutants and greenhouse gas emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce greenhouse gases from new cars by 34 percent from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

SB 1368. In 2006, the State Legislature adopted SB 1368, which was subsequently signed into law by the Governor. SB 1368 directs the California Public Utilities Commission to adopt a performance standard for greenhouse gas emissions for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, the new law will effectively prevent California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. Thus, SB 1368 will lead to dramatically lower greenhouse gas emissions associated with California's energy demand, as SB 1368 will effectively prohibit California utilities from purchasing power from out-of-state producers that cannot satisfy the performance standard for greenhouse gas emissions required by SB 1368. The California Public Utilities Commission adopted the regulations required by SB 1368 on August 29, 2007.

SB 1078 - Renewable Electricity Standards. On September 12, 2002, Governor Gray Davis signed SB 1078 requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger also directed the ARB (Executive Order S-21-09) to adopt a regulation by July 31, 2010, requiring the state's load serving entities to meet a 33 percent renewable energy target by 2020. The ARB Board approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10-23.

Executive Orders Related to Greenhouse Gas Emissions

California's Executive Branch has taken several actions to reduce greenhouse gases through the use of Executive Orders. Although not regulatory, they set the tone for the state and guide the actions of state agencies.

Executive Order S-13-08. Executive Order S-13-08 states that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the order, the 2009

California Climate Adaptation Strategy (California Natural Resources Agency 2009) was adopted, which is the “. . . first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States.” Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order S-3-05. Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for greenhouse gas emissions:

- By 2010, reduce greenhouse gas emissions to 2000 levels.
- By 2020, reduce greenhouse gas emissions to 1990 levels.
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Executive Order S-01-07 - Low Carbon Fuel Standard. The Governor signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California’s transportation fuels by at least 10 percent by 2020. In particular, the executive order established a Low Carbon Fuel Standard and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, the ARB, the University of California, and other agencies to develop and propose protocols for measuring the “life-cycle carbon intensity” of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by California Energy Commission on December 24, 2007) and was submitted to ARB for consideration as an “early action” item under AB 32. The ARB adopted the Low Carbon Fuel Standard on April 23, 2009. The Low Carbon Fuel Standard was challenged in the United States District Court in Fresno in 2011. The court’s ruling issued on December 29, 2011 included a preliminary injunction against ARB’s implementation of the rule. The Ninth Circuit Court of Appeals stayed the injunction on April 23, 2012 pending final ruling on appeal, allowing the ARB to continue to implement and enforce the regulation. The 9th Circuit’s decision filed September 18, 2013, vacated the preliminary injunction. In essence, the court held that Low Carbon Fuel Standards adopted by ARB were not in conflict with federal law. On August 8, 2013, the Fifth District Court of Appeal (California) ruled ARB failed to comply with CEQA and the Administrative Procedure Act (APA) when adopting regulations for Low Carbon Fuel Standards. In a partially published opinion, the Court of Appeal reversed the trial court’s judgment and directed issuance of a writ of mandate setting aside Resolution 09-31 and two executive orders of ARB approving Low Carbon Fuel Standards (LCFS) regulations promulgated to reduce greenhouse gas (GHG) emissions. However, the court tailored its remedy to protect the public interest by allowing the LCFS regulations to remain operative while ARB complies with the procedural requirements it failed to satisfy.

California Regulations and Building Codes

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

Title 24. California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions. The newest version of Title 24 was adopted by the California Energy Commission (CEC) on May 31, 2012 and was scheduled to become effective on January 1, 2014. On December 11, 2013, the CEC extended the compliance date to July 1, 2014 to allow more time for the building industry and local building departments to prepare.

Title 20. California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4, Sections 1601-1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. Twenty-three categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state and those designed and sold exclusively for use in recreational vehicles or other mobile equipment (CEC 2012).

California Green Building Standards Code is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect January 1, 2011. It does not prevent a local jurisdiction from adopting a more stringent code as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided they provide a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard that buildings need to meet in order to be certified for occupancy. Enforcement is generally through the local building official.

SB 97 and the CEQA Guidelines Update. Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a)." Section 21097 was also added to the Public Resources Code. It provided CEQA protection until January 1, 2010 for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 or projects funded by the Disaster Preparedness and Flood Prevention

Bond Act of 2006, in stating that the failure to analyze adequately the effects of greenhouse gases would not violate CEQA.

On April 13, 2009, the Office of Planning and Research submitted to the Secretary for Natural Resources its recommended amendments to the CEQA Guidelines for addressing greenhouse gas emissions. On July 3, 2009, the Natural Resources Agency commenced the Administrative Procedure Act rulemaking process for certifying and adopting these amendments pursuant to Public Resources Code section 21083.05. Following a 55-day public comment period and two public hearings, the Natural Resources Agency proposed revisions to the text of the proposed Guidelines amendments. The Natural Resources Agency transmitted the adopted amendments and the entire rulemaking file to the Office of Administrative Law on December 31, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010.

The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of greenhouse gas emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

A new section, CEQA Guidelines Section 15064.4, was added to assist agencies in determining the significance of greenhouse gas emissions. The new section allows agencies the discretion to determine whether a quantitative or qualitative analysis is best for a particular project. However, little guidance is offered on the crucial next step in this assessment process—how to determine whether the project’s estimated greenhouse gas emissions are significant or cumulatively considerable.

Also amended were CEQA Guidelines Sections 15126.4 and 15130, which address mitigation measures and cumulative impacts respectively. Greenhouse gas mitigation measures are referenced in general terms, but no specific measures are championed. The revision to the cumulative impact discussion requirement (Section 15130) simply directs agencies to analyze greenhouse gas emissions in an EIR when a project’s incremental contribution of emissions may be cumulatively considerable, however it does not answer the question of when emissions are cumulatively considerable.

Section 15183.5 permits programmatic greenhouse gas analysis and later project-specific tiering, as well as the preparation of Greenhouse Gas Reduction Plans. Compliance with such plans can support a determination that a project’s cumulative effect is not cumulatively considerable, according to proposed Section 15183.5(b).

In addition, the amendments revised Appendix F of the CEQA Guidelines, which focuses on Energy Conservation. The sample environmental checklist in Appendix G was amended to include greenhouse gas questions.

3.3.4 - San Joaquin Valley Air Pollution Control District

Climate Change Action Plan

On August 21, 2008, the District Governing Board approved a proposal, called the Climate Change Action Plan, to begin a public process to bring together stakeholders, land use agencies, environmental groups, and business groups, and to conduct public workshops to develop comprehensive policies for CEQA guidelines, a carbon exchange bank, and voluntary greenhouse gas emissions mitigation agreements for the Governing Board's consideration. The Climate Change Action Plan contained the following goals and actions:

Goals

1. Assist local land-use agencies with California Environmental Quality Act (CEQA) issues relative to projects with greenhouse gas emissions increases.
2. Assist Valley businesses in complying with mandates of AB 32 (Global Warming Solutions Act of 2006).
3. Ensure that climate protection measures do not cause increases in toxic or criteria pollutants that adversely impact public health or environmental justice communities.

Actions

1. Authorize the Air Pollution Control Officer to develop greenhouse gas significance threshold(s) or other mechanisms to address CEQA projects with greenhouse gas emissions increases. Begin the requisite public process, including public workshops, and develop recommendations for Governing Board consideration in the spring of 2009.
2. Authorize the Air Pollution Control Officer to develop necessary regulations and instruments for establishment and administration of the San Joaquin Valley Carbon Exchange Bank for voluntary greenhouse gas reductions created in the Valley. Begin the requisite public process, including public workshops, and develop recommendations for Governing Board consideration in spring 2009.
3. Authorize the Air Pollution Control Officer to enhance the District's existing criteria pollutant emissions inventory reporting system to allow businesses subject to AB 32 emission reporting requirements to submit simultaneous streamlined reports to the District and the state of California with minimal duplication.
4. Authorize the Air Pollution Control Officer to develop and administer voluntary greenhouse gas emission reduction agreements to mitigate proposed greenhouse gas increases from new projects.
5. Direct the Air Pollution Control Officer to support climate protection measures that reduce greenhouse gas emissions as well as toxic and criteria pollutants. Oppose measures that result in a significant increase in toxic or criteria pollutant emissions in already impacted areas.

Air District CEQA Greenhouse Gas Guidance

On December 17, 2009, the District Governing Board adopted: “Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA” and the policy: “District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency.” The District concluded that the existing science is inadequate to support quantification of the impacts that project-specific greenhouse gas emissions have on global climatic change. The District found that the effects of project-specific emissions to be cumulative, and without mitigation, their incremental contribution to global climatic change could be considered cumulatively considerable. The District found that this cumulative impact is best addressed by requiring all projects to reduce their greenhouse gas emissions, whether through project design elements or mitigation.

The District’s approach is intended to streamline the process of determining if project-specific greenhouse gas emissions would have a significant effect. Projects exempt from the requirements of CEQA, and projects complying with an approved plan or mitigation program would be determined to have a less than significant cumulative impact. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources and have a certified Final CEQA document.

For non-exempt projects, those projects for which there is not applicable approved plan or program, or those projects not complying with an approved plan or program, the lead agency would evaluate the project against performance-based standards and would require the adoption of design elements, known as a Best Performance Standard, to reduce greenhouse gas emissions. The Best Performance Standards have not yet fully been established, though they must be designed to effect a 29-percent reduction when compared with the “business-as-usual” projections identified in ARB’s AB 32 Scoping Plan.

“Business-as-usual” is the emissions occurring in 2020 if the average baseline emissions during the 2002–2004 period were grown to 2020 levels, without control. These standards thus would carry with them pre-quantified emissions reductions, eliminating the need for project-specific quantification. Therefore, projects incorporating Best Performance Standards would not require specific quantification of greenhouse gas emissions, and automatically would be determined to have a less than significant cumulative impact for greenhouse gas emissions.

For stationary source permitting projects, Best Performance Standards means, “The most stringent of the identified alternatives for control of greenhouse gas emissions, including type of equipment, design of equipment and operational and maintenance practices, which are achieved-in-practice for the identified service, operation, or emissions unit class.” The District has identified Best Performance Standards for the following sources: boilers; dryers and dehydrators; oil and gas extraction, storage, transportation, and refining operations; cogeneration; gasoline dispensing facilities; volatile organic compound control technology; and steam generators.

For development projects, Best Performance Standards means, “Any combination of identified greenhouse gas emission reduction measures, including project design elements and land use

decisions that reduce project-specific greenhouse gas emission reductions by at least 29 percent compared with business as usual.”

Projects not incorporating Best Performance Standards would require quantification of greenhouse gas emissions and demonstration that “business-as-usual” greenhouse gas emissions have been reduced or mitigated by 29 percent. Quantification of greenhouse gas emissions would be required for all projects for which the lead agency has determined that an environmental impact report is required, regardless of whether the project incorporates Best Performance Standards.

San Joaquin Valley Carbon Exchange

The District initiated work on the San Joaquin Valley Carbon Exchange in November 2008. The purpose of the carbon exchange is to quantify, verify, and track voluntary greenhouse gas emissions reductions generated within the San Joaquin Valley. To investigate the various issues concerning the development of a mechanism to register greenhouse gas emission reductions, the SJVAPCD formed a technical workgroup consisting of District staff, land use agency representatives, industry representatives, agricultural representatives, environmental group representatives, and other interested parties. The workgroup met several times in public meetings during late 2008 and early 2009 to discuss several areas of concern regarding a greenhouse gas emission reduction registration program, including:

- The differences between the upcoming AB 32 cap and trade program and a greenhouse gas emission reduction registration program.
- Potential uses of registered greenhouse gas emission reductions. Registered greenhouse gas emission reductions could possibly be used to provide mitigation in the CEQA process, as a means to comply with a greenhouse gas cap and trade program, or other purposes.
- A review of other greenhouse gas emission reduction registration programs currently in existence, including the Chicago Climate Exchange, New York Climate Exchange, Northeast Climate Exchange, Climate Action Reserve, and South Coast Air Quality Management District’s SoCal Climate Solutions Exchange.
- Required elements of a District-administered greenhouse gas emission reduction registration program, including the establishment of criteria for greenhouse gas emission reduction registration, the use of ARB protocols, and the requirement to quantify some emission reductions.
- The advantages and disadvantages of development of a greenhouse gas emission reduction registration program.
- Alternatives to the development of a District-administered greenhouse gas emission reduction registration program were discussed, including the District’s possible role in California Climate Action Reserve as an emission reduction project verifier and/or providing technical assistance to project proponents quantify and mitigate their projects greenhouse gas emissions as part of the CEQA process.

Rule 2301

While the Climate Change Action Plan indicated that the greenhouse gas emission reduction program would be called the San Joaquin Valley Carbon Exchange, the District incorporated a method to register voluntary greenhouse gas emission reductions into its existing Rule 2301-Emission Reduction Credit Banking through amendments of the rule. Amendments to the rule were adopted on January 19, 2012. The purposes of the amendments to the rule include the following:

- Provide an administrative mechanism for sources to bank voluntary greenhouse gas emission reductions for later use.
- Provide an administrative mechanism for sources to transfer banked greenhouse gas emission reductions to others for any use.
- Define eligibility standards, quantitative procedures, and administrative practices to ensure that banked greenhouse gas emission reductions are real, permanent, quantifiable, surplus, and enforceable.

SECTION 4: MODELING PARAMETERS AND ASSUMPTIONS

The project is currently operating as a rock, sand and gravel mine and asphalt concrete drum mix plant. The project involves the expansion of production from the current 500,000 tons of material to 950,000 tons over a five-year period (100,000 tons per year for years 1 through 4 and 50,000 tons for year 5), which would result in increased usage of on-site stationary equipment, and more truck trips. The permitted (stationary) and non-permitted (on-road mobile and off-road mobile) sources are analyzed separately and the increased emissions are identified.

Assumptions are contained below for the emissions estimates. The emissions estimates refer to the emissions (such as in tons per year) emitted from a source.

4.1 - Emissions Estimates: Permitted

The permitted equipment refers to the crushers, feeders, jaws, screens, cones, and conveyors that would process the material onsite and require operating permits from the District. . Figure 6 displays an aerial photograph of some of the existing permitted equipment on the project site, including conveyors (source: Google Earth, August 2, 2014).

Figure 6: Existing Aerial Photo



Table 6 displays a summary of the permitted (stationary) equipment proposed for the project.

Table 6: Permitted Equipment (Project)

Permit Number	Description	Maximum Throughput	Specific Equipment
S-4136-3-6	Rock crushing and screening plant.	10,000 tons/day 1,500,000 tons/year	Grizzly feeder, jaw crusher, omnicone rock crusher, svedala g-gone crusher, Nordberg cone crusher, three 3-deck screens, 120-foot radial stacker, associated conveyors, and wash plant consisting of blade mill, Krebs water cyclone, gyrodisk rock crusher, dewatering screen, triple deck wet screen with a sand screw, and stacking conveyors
S-4136-1-0	Permit-Exempt Equipment Registration. LPG-fired process heater	LPG gas usage of 7,000 gallons/day and 1,100,000 gallons/year	2.0 MMBTU/Hr Hy-Way Model HYFG200-LN S/N 5708-112304 LPG-fired process heater with a power flame model LNIC2-G-20A Low NO _x burner and flue gas recirculation
N-4013-2-3	Portable drum mix asphaltic concrete plant	3,500 tons/day of asphaltic concrete produced 808 tons/day of reclaimed asphalt pavement (RAP) received or processed 549,500 tons/year of asphaltic concrete produced 126,878 tons/year of RAP received or processed LPG gas usage of 7,000 gallons/day and 1,100,000 gallons/year	Portable drum mix asphaltic concrete plant consisting of five aggregate storage bins, one 75 MMBTU/Hr rotary drum dryer with a Hauck model Novastar 75 low- NO _x burner, associated elevators, one drag slat conveyor all served by an all-mix model 300 baghouse, one reclaim asphalt pavement (RAP) feed hopper with associated conveyors and screen and two 200 ton storage silos each with a truck loadout.
Source: San Joaquin Valley Air Pollution Control District 2013			

The District estimated exhaust and dust emissions for the permitted equipment to be used for total operations when it issued its Authority to Construct Permit Requirements (contained in Appendix B). No modifications would be made to the existing permits. No change in use would occur to the portable drum mix asphaltic concrete plant and the LPG-fired process heater. The rock crushing equipment would have an increase in throughput of an additional 450,000 tons (total with the project would be 950,000 tons) although it would not exceed the permitted amount of 1,500,000. Therefore, an estimate of the emissions increase for the project from the additional 450,000 tons of

throughput has been prepared based on the emissions limits established for the equipment by the existing air permit.

The District's permits for the stationary equipment include the following conditions that would reduce fugitive dust:

- For the wash plant, the moisture content of the material being processed by the blade mill and triple deck screen shall not be less than 6 percent by weight.
- For the wash plant, the moisture content of the material carried by the conveyors shall not be less than 4 percent by weight.
- All transfer points, except those belonging to the wash plant operation, shall be equipped with a wet suppression system maintaining minimum product moisture content of 4 percent by weight.
- The crushers and the Eljay Triple Deck Screen shall be equipped with wet suppression systems maintaining minimum product moisture content of 4 percent by weight.
- All stockpiled material shall be maintained at minimum moisture content of 4 percent by weight unless the stockpiled material does not result in any visible emissions.
- All conveyors shall be covered unless the material being transferred does not result in any visible emissions.

4.2 - Emissions Estimate: Non-Permitted

Examples of non-permitted emission include the operation of the off-road support equipment such as the various loaders, excavators, etc., drilling/blasting emissions, truck loading, material storage emissions from active storage piles, and haul truck emissions. Air pollutant emissions can be estimated by using emission factors and a level of activity. Emission factors represent the emission rate of a pollutant given the activity over time; for example, grams of NO_x per horsepower hour or over distance traveled; for example, grams of NO_x per vehicle mile traveled. The ARB has published emission factors for on-road mobile vehicles/trucks in the EMFAC mobile source emissions model and emission factors for off-road equipment and vehicles in the OFFROAD emissions model. An air emissions model (or calculator) combines the emission factors and the various levels of activity and outputs the emissions for the various pieces of equipment.

The California Emissions Estimator Model (CalEEMod) version 2013.2.2 was developed in cooperation with the South Coast Air Quality Management District and other air districts throughout the state. CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas emissions associated with construction and operation from a variety of land uses.

As discussed below, project emissions were estimated using the following methods/models:

- CalEEMod
- CalEEMod construction emission data tables
- ARB's off-road equipment tier emission factor limits
- US EPA AP-42 emission factors

4.2.1 - Drilling and Blasting

The applicant drills five days per week to create holes for a licensed contractor to insert explosives to break up larger rocks that cannot be moved or broken. Currently, the licensed contractor blasts once per week. There would be no increase in blasting activities as a result of the project, however it is assumed that additional holes and explosives would be required to meet the increased throughput. The explosive ANFO (ammonium nitrate and fuel oil) is used, which has a composition of ammonium nitrate with a small percentage of fuel oil. The emissions from blasting were estimated using EPA AP-42 emission factors.

4.2.2 - Off-Road Equipment

Exhaust and dust emissions from off-road equipment were estimated using a combination of ARB's off-road emission factors for NO_x and PM_{10} based on the tier level of equipment and CalEEMod emission factors for other pollutants. The activity for equipment is based on the horsepower and load factors of the equipment. In general, the horsepower is the power of an engine—the greater the horsepower, the greater the work produced by the engine. The load factor is the average power of a given piece of equipment while in operation compared with its maximum rated horsepower. A load factor of 1.0 indicates that a piece of equipment continually operates at its maximum operating capacity. The equipment was assumed to operate 225 days per year.

The applicant provided a list of equipment that currently exists on the site and indicated that no additional equipment would be needed to increase production by 450,000 tons. The entire production would grow from 500,000 tons of material to 950,000 tons. For CEQA purposes, the project evaluated only the increase of 450,000 tons. The applicant provided an estimate of the number of hours the equipment would operate to produce 950,000 tons of material. Because the project was evaluating only the increase of 450,000 tons, the hours of operation for each piece of equipment was adjusted to reflect the increase in hours necessary to process the increase in materials.

Table 7 displays the Increase in hours per year for each year of production up to the full 450,000 tons of increased production.

Table 7: Equipment and Hours of Operation (100,000 ton increase)

No.	Equipment	Make	Year	Model	Tier	Increase in Max Hours/Day	Days/Year	Increase in Hours/Year	Horse-power	Load Factor
1	Rubber-tire loader	Caterpillar	1998	980G	1	0.95	225	214	300	0.37
2	Rubber-tire loader	Caterpillar	2001	980G	1	0.95	225	214	300	0.37
3	Rubber-tire loader	Caterpillar	1999	980G	1	0.95	225	214	300	0.37
4	Crawler Tractor	Caterpillar	1993	D8N	0	0.14	225	32	285	0.44
5	Excavator	Hitachi	1991	EX700H	0	0.95	80	76	450	0.38
6	Excavator	Hitachi	2005	ZX 800	2	0.95	80	76	454	0.38
7	Skid Steer Loader	Bobcat	2006	S220	2	0.95	225	214	66.8	0.37
8	Forklift	Genie	2007	GTH-1048	2	0.95	225	214	82	0.2
9	Bore/Drill Rig	Ingersoll-Rand	2002	1753NA001	1	0.95	225	214	194	0.5
10	Crane	Grove	1969	1753NA058	0	0.42	25	11	175	0.29
11	Crane	Grove	1969	1753NA058	0	0.42	25	11	200	0.29
12	Off-highway Truck	Caterpillar	1996	D400E	1	0.95	225	214	385	0.38
13	Off-highway Truck	Komatsu	2007	HD325-7	3	0.95	225	214	385	0.38
<p>Note: Max (maximum) hours/day = hours per year divided by number of days equipment is operated Source: Deer Creek Rock Company personal communication (phone call with Leonard Bandell July 28, 2014 and email from Kim Enderson July 30, 2012) Source for load factor: CalEEMod default</p>										

Table 8: Equipment and Hours of Operation (200,000 ton increase)

No.	Equipment	Make	Year	Model	Tier	Increase in Max Hours/Day	Days/Year	Increase in Hours/Year	Horse-power	Load Factor
1	Rubber-tire loader	Caterpillar	1998	980G	1	1.9	225	428	300	0.37
2	Rubber-tire loader	Caterpillar	2001	980G	1	1.9	225	428	300	0.37
3	Rubber-tire loader	Caterpillar	1999	980G	1	1.9	225	428	300	0.37
4	Crawler Tractor	Caterpillar	1993	D8N	0	0.28	225	63	285	0.44

Table 8 (cont.): Equipment and Hours of Operation (200,000 ton increase)

No.	Equipment	Make	Year	Model	Tier	Increase in Max Hours/Day	Days/Year	Increase in Hours/Year	Horse-power	Load Factor
5	Excavator	Hitachi	1991	EX700H	0	1.9	80	152	450	0.38
6	Excavator	Hitachi	2005	ZX 800	0	1.9	80	152	454	0.38
7	Skid Steer Loader	Bobcat	2006	S220	2	1.9	225	428	66.8	0.37
8	Forklift	Genie	2007	GTH-1048	2	1.9	225	428	82	0.2
9	Bore/Drill Rig	Ingersoll-Rand	2002	1753NA001	1	1.9	225	428	194	0.5
10	Crane	Grove	1969	1753NA058	0	0.84	25	21	175	0.29
11	Crane	Grove	1969	1753NA058	0	0.84	25	21	200	0.29
12	Off-highway Truck	Caterpillar	1996	D400E	1	1.9	225	428	385	0.38
13	Off-highway Truck	Komatsu	2007	HD325-7	3	1.9	225	428	385	0.38

Note:

Max (maximum) hours/day = hours per year divided by number of days equipment is operated

Source: Deer Creek Rock Company personal communication (phone call with Leonard Bandell July 28, 2014 and email from Kim Enderson July 30, 2012)

Source for load factor: CalEEMod default

Table 9: Equipment and Hours of Operation (300,000 ton increase)

No.	Equipment	Make	Year	Model	Tier	Increase in Max Hours/Day	Days/Year	Increase in Hours/Year	Horse-power	Load Factor
1	Rubber-tire loader	Caterpillar	1998	980G	1	2.85	225	641	300	0.37
2	Rubber-tire loader	Caterpillar	2001	980G	1	2.85	225	641	300	0.37
3	Rubber-tire loader	Caterpillar	1999	980G	1	2.85	225	641	300	0.37
4	Crawler Tractor	Caterpillar	1993	D8N	0	0.42	225	95	285	0.44
5	Excavator	Hitachi	1991	EX700H	0	2.85	80	228	450	0.38
6	Excavator	Hitachi	2005	ZX 800	0	2.85	80	228	454	0.38
7	Skid Steer Loader	Bobcat	2006	S220	2	2.85	225	641	66.8	0.37
8	Forklift	Genie	2007	GTH-1048	2	2.85	225	641	82	0.2

Table 9 (cont.): Equipment and Hours of Operation (300,000 ton increase)

No.	Equipment	Make	Year	Model	Tier	Increase in Max Hours/Day	Days/Year	Increase in Hours/Year	Horsepower	Load Factor
9	Bore/Drill Rig	Ingersoll-Rand	2002	1753NA001	1	2.85	225	641	194	0.5
10	Crane	Grove	1969	1753NA058	0	1.26	25	32	175	0.29
11	Crane	Grove	1969	1753NA058	0	1.26	25	32	200	0.29
12	Off-highway Truck	Caterpillar	1996	D400E	1	2.85	225	641	385	0.38
13	Off-highway Truck	Komatsu	2007	HD325-7	3	2.85	225	641	385	0.38
<p>Note: Max (maximum) hours/day = hours per year divided by number of days equipment is operated Source: Deer Creek Rock Company personal communication (phone call with Leonard Bandell July 28, 2014 and email from Kim Enderson July 30, 2012) Source for load factor: CalEEMod default</p>										

Table 10: Equipment and Hours of Operation (400,000 ton increase)

No.	Equipment	Make	Year	Model	Tier	Increase in Max Hours/Day	Days/Year	Increase in Hours/Year	Horsepower
1	Rubber-tire loader	Caterpillar	1998	980G	1	3.8	225	855	300
2	Rubber-tire loader	Caterpillar	2001	980G	1	3.8	225	855	300
3	Rubber-tire loader	Caterpillar	1999	980G	1	3.8	225	855	300
4	Crawler Tractor	Caterpillar	1993	D8N	0	0.56	225	126	285
5	Excavator	Hitachi	1991	EX700H	0	3.8	80	304	450
6	Excavator	Hitachi	2005	ZX 800	0	3.8	80	304	454
7	Skid Steer Loader	Bobcat	2006	S220	2	3.8	225	855	66.8
8	Forklift	Genie	2007	GTH-1048	2	3.8	225	855	82
9	Bore/Drill Rig	Ingersoll-Rand	2002	1753NA001	1	3.8	225	855	194
10	Crane	Grove	1969	1753NA058	0	1.68	25	42	175
11	Crane	Grove	1969	1753NA058	0	1.68	25	42	200
12	Off-highway Truck	Caterpillar	1996	D400E	1	3.8	225	855	385

Table 10 (cont.): Equipment and Hours of Operation (400,000 ton increase)

No.	Equipment	Make	Year	Model	Tier	Increase in Max Hours/Day	Days/Year	Increase in Hours/Year	Horsepower
13	Off-highway Truck	Komatsu	2007	HD325-7	3	3.8	225	855	385

Note:
 Max (maximum) hours/day = hours per year divided by number of days equipment is operated
 Source: Deer Creek Rock Company personal communication (phone call with Leonard Bandell July 28, 2014 and email from Kim Enderson July 30, 2012)
 Source for load factor: CalEEMod default

Table 11: Equipment and Hours of Operation (450,000 ton increase)

No.	Equipment	Make	Year	Model	Tier	Increase in Max Hours/Day	Days/Year	Increase in Hours/Year	Horsepower	Load Factor
1	Rubber-tire loader	Caterpillar	1998	980G	1	4.26	225	959	300	0.37
2	Rubber-tire loader	Caterpillar	2001	980G	1	4.26	225	959	300	0.37
3	Rubber-tire loader	Caterpillar	1999	980G	1	4.26	225	959	300	0.37
4	Crawler Tractor	Caterpillar	1993	D8N	0	0.63	225	142	285	0.44
5	Excavator	Hitachi	1991	EX700H	0	4.26	80	341	450	0.38
6	Excavator	Hitachi	2005	ZX 800	0	4.26	80	341	454	0.38
7	Skid Steer Loader	Bobcat	2006	S220	2	4.26	225	959	66.8	0.37
8	Forklift	Genie	2007	GTH-1048	2	4.26	225	959	82	0.2
9	Bore/Drill Rig	Ingersoll-Rand	2002	1753NA001	1	4.26	225	959	194	0.5
10	Crane	Grove	1969	1753NA058	0	1.9	25	48	175	0.29
11	Crane	Grove	1969	1753NA058	0	1.9	25	48	200	0.29
12	Off-highway Truck	Caterpillar	1996	D400E	1	4.26	225	959	385	0.38
13	Off-highway Truck	Komatsu	2007	HD325-7	3	4.26	225	959	385	0.38

Note:
 Max (maximum) hours/day = hours per year divided by number of days equipment is operated
 Source: Deer Creek Rock Company personal communication (phone call with Leonard Bandell July 28, 2014 and email from Kim Enderson July 30, 2012)
 Source for load factor: CalEEMod default

4.2.3 - Dust from Stockpiles, Loading, Wind Erosion

Dust is generated from the onsite storage piles, during loading of the material onto trucks, and from wind erosion. These emissions were estimated using EPA AP-42 emission factors as discussed in Appendix D. It was assumed that watering the haul roads and active storage piles at least twice per day would reduce dust emissions by at least 55 percent (WRAP 2006).

4.2.4 - On-Road Haul Trips

The proposed project would also increase heavy-heavy duty diesel truck trips from the current 100 (200 round-trips) to 187.5 (375 round-trips), resulting in a net increase of 87.5 one-way trips or 175 round-trips. A summary of the on-road haul trips is shown in Table 12. Trip length is highly variable, therefore, an average of 25 miles per off-site trip was assumed.

The total off-site emissions were estimated in CalEEMod in its operational trips module. The on-site emissions were estimated using emission factors from EMFAC2011. The emission factors used were for the year 2015 for both existing and project increment. Emission factors for later years have fewer emissions, because the modeling assumes that in later years, the older trucks are retired. Using the same year for both existing and project increment equalizes the emissions so that the increment can be assessed. It was assumed that the haul trucks would each idle for 15 minutes per day for loading and unloading their contents.

Table 12: Haul Trips

Year	Truck Trips Per Day (One-Way)	Trips Per Day (Round-Trip)	Trip Length (miles)
2015	19	38	25
2016	38	76	25
2017	57	114	25
2018	76	152	25
2019	87.5	175	25
Source for trips per day: Project Description			

Figure 7 displays an example of a gravel mine haul truck.¹⁴ It was assumed that 100 percent of the haul trips would be heavy-heavy duty trucks (HHDT).

¹⁴ Source: <http://www.vce.org/Omyaphotos.html>

Figure 7: Example of On-Road Haul Truck

The haul trucks would travel an average of 4,224 feet round trip on the project site. The project site is unpaved; therefore, there would be fugitive road dust generated from these trucks. The emissions were estimated using the procedures outlined in Appendix B.

4.2.5 - Off-Road Haul Trucks

The project would include two 40-ton haul trucks that would transport material to the processing plant. Figure 8 displays an example of an off-road rock hauling truck.¹⁵ The applicant estimated that the two trucks would operate 9 hours per day to process the 950,000 tons of rock. An estimate of the number of hours of operation was prepared based on the annual increase in throughput. Table 13 shows the estimated hours and mileage for each year of operation until the full increase is reached. CalEEMod was used to estimate emissions from off-road haul trucks.

Table 13: Haul Trips

Year	Hours of Operation Per Day	Travel Distance (miles/day)
2015	0.95	14.25
2016	1.89	28.4
2017	2.84	42.6
2018	3.78	56.8
2019	4.26	64.0
Notes: Hours of operation based on 225 days per year Travel distance based on 15 mile per hour limit Source: Deer Creek Rock Company, 2014		

¹⁵ <http://www.komatsuamerica.com/trucks-HD325-7>

Figure 8: Example of Off-Road Haul Truck



4.2.6 - On-Road Mobile Vehicles

The applicant indicated that eight on-road mobile vehicles are used in the operations of the facility and that there would be no increase in the equipment shown below:

- Water Truck (2)
- GMC 2500 Pickup (2)
- Fleetwood Mechanic's Truck (2)
- Ford F-250 (2)

The on-road mobile vehicles would operate 9 hours per day. The applicant estimated that the vehicles would operate 9 hours per day to process the 950,000 tons of rock. An estimate of the number of hours of operation was prepared based on the annual increase. Table 14 shows the estimated hours and mileage for each year of operation until the full increase is reached. CalEEMod was used to estimate emissions from off-road haul trucks. CalEEMod was used to estimate emissions from medium-duty trucks.

Table 14: On-site Mobile Trips

Year	Hours of Operation Per Day	Travel Distance (miles/day)
2015	0.95	14.25
2016	1.89	28.4
2017	2.84	42.6
2018	3.78	56.8
2019	4.26	64.0
Notes: Hours of operation based on 225 days per year Trip length based on 15 mile per hour limit Source: Deer Creek Rock Company, 2014		

4.2.7 - Employee Trips

The proposed project would increase employee traffic because there would be an increase in the number of employees from the existing 18 to the proposed 27 employees. This would result in an increase of vehicle trips from 36 (round-trips) to 54 (round-trips). The CalEEMod default trip length of 16.8 miles for rural land uses was used. It was assumed that the fleet mix for employee vehicles would include light-duty vehicles. In order to provide a conservative estimate, the maximum number of employees was used in all analysis years. These emissions are modeled in CalEEMod in the construction phases under worker trips.

4.2.8 - Electricity

Emissions from the power plants would generate electricity offsite to be used by the project (lighting, pumping water onsite, electrical equipment, etc.). Note that the concentration is not estimated, as the electricity emissions would occur offsite and not close to the sensitive receptors near the project site.

The applicant provided current electrical energy demands and the amount was increased proportionally by 190 percent to derive an estimated demand for processing the increase in throughput.

Water used for the project would be pumped from an onsite well; therefore, any greenhouse gas emissions from water usage would be attributed to electricity.

Generally, only greenhouse gas emissions are estimated for electricity generation, in accordance with District guidance. The emission factors are as follows (from Appendix D of the CalEEMod Manual for Southern California Edison):

- Carbon dioxide: 630.89 pounds/MWh
- Methane: 0.029 pounds/MWh
- Nitrous oxide: 0.006 pounds/MWh

Greenhouse gas emissions from electricity were estimated using the procedures outlined in Appendix B. Electricity consumption for the project is shown in Table 15.

Table 15: Electricity Consumption

Component	Emissions (MTCO ₂ e per year)			
	Carbon Dioxide	Methane	Nitrous Oxide	Total
Existing	588	0.03	0.01	588
Project	1,117	0.05	0.01	1,117
Net Change	529	0.02	0.0	529

By 2020, Southern California Edison (SCE), the electric provider for the project will be required to achieve the 33 percent renewable portfolio standard (RPS). SCE had 16 percent renewable energy in its portfolio in 2006 (CEC 2007). Therefore, to achieve a 33-percent reduction as required by California's Renewable Electricity Standard, 17 percent more renewable energy in the utility's portfolio is needed. In 2020, the utility will achieve 33 percent renewable energy, which would decrease the emissions associated with electricity by 17 percent.

The emission factors used in the 2020 analysis are as follows:

- Carbon dioxide: 523.63 pounds/MWh
- Methane: 0.024 pounds/MWh
- Nitrous oxide: 0.004 pounds/MWh

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SECTION 5: AIR QUALITY IMPACT ANALYSIS

This section identifies the expected criteria pollutant and toxic air contaminant emissions from construction and operation of the project and assesses the regulatory significance of project emissions on regional and localized air quality based on the adopted CEQA and SJVAPCD significance thresholds discussed below.

5.1 - CEQA Guidelines

The CEQA Guidelines define a significant effect on the environment as “a substantial, or potentially substantial, adverse change in the environment.” To determine if a project would have a significant impact on air quality, the type, level, and impact of emissions generated by the project must be evaluated.

The following air quality significance thresholds are contained in Appendix G of the CEQA Guidelines. A significant impact would occur if the project would:

- a) Conflict with or obstruct implementation of the applicable air quality plan;
- b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- d) Expose sensitive receptors to substantial pollutant concentrations; or
- e) Create objectionable odors affecting a substantial number of people.

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

5.2 - Impact Analysis

Air Quality Plan

Impact AIR-1: **The project would conflict with or obstruct implementation of the applicable air quality plan.**

Impact Analysis

The CEQA Guidelines indicate that a significant impact would occur if the proposed project would conflict with or obstruct implementation of the applicable air quality plan. The GAMAQI does not provide specific guidance on analyzing conformity with the Air Quality Plan (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 conform to the assumptions in the AQPs?
3. Will the project comply with applicable control measures in the AQPs?

The use of the criteria listed above is a standard approach for CEQA analysis of projects in the District's jurisdiction, as well as within other air districts, for the following reasons:

- Significant contribution to existing or new exceedances of the air quality standards would be inconsistent with the goal of attaining the air quality standards.
- AQP emissions inventories and attainment modeling are based on growth assumptions for the area within the air district's jurisdiction.
- AQPs rely on a set of air district-initiated control measures as well as implementation of federal and state measures to reduce emissions within their jurisdictions, with the goal of attaining the air quality standards.

AQPs are plans for reaching attainment of air quality standards. The assumptions, inputs, and control measures are analyzed to determine if the Air Basin can reach attainment for the ambient air quality standards. In order to show attainment of the standards, the District analyzes the growth projections in the valley, contributing factors in air pollutant emissions and formations, and existing and future emissions controls. The District then formulates a control strategy to reach attainment.

Contribution to Air Quality Violations

A measure of 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 or 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. Because of the region's nonattainment status

for ozone, PM_{2.5}, and PM₁₀, if project-generated emissions of either of the ozone precursor pollutants (ROG and NO_x), PM₁₀, or PM_{2.5} would exceed the District's significance thresholds and were not included in the plan's growth forecast, then the project may be considered to conflict with the attainment plans.

As shown in Impact AIR-2 below, the project would not result in CO hotspots that would violate CO standards. Therefore, the project would not contribute to CO air quality violations. As discussed in Impact AIR-3 below, emissions of ROG, CO, SO_x, PM₁₀, and PM_{2.5} associated with the operation of the project would not exceed the District's significance thresholds. However, NO_x emissions would exceed the District's significance threshold in years four (2018) and five (2019). However, after implementation of mitigation, the project's NO_x emissions would not exceed the District's significance thresholds; therefore, the project would not conflict with or obstruct implementation of the regional air quality plan.

Consistency with Assumptions in AQPs

The primary way of determining consistency with the AQP's assumptions is determining consistency with the applicable General Plan to ensure that the project's population density and land use are consistent with the growth assumptions used in the AQPs for the air basin. The project is consistent with the Tulare County General Plan and does not require a general plan amendment. Therefore, the project is consistent with the assumptions of the AQPs and has a less than significant impact for this criterion.

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 Environmental and Regulatory Setting. The project will comply with all of the District's applicable rules and regulations. Therefore, the project complies with this criterion and has a less than significant impact for this criterion.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement Mitigation Measures AIR-1 through AIR-4.

Level of Significance After Mitigation

Less than significant impact.

Potential to Cause or Contribute to an Air Quality Standard Violation

Impact AIR-2:	The project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation.
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Impact Analysis

This impact analysis examines various pollutants that may be emitted by the project. The project is not expected to generate hydrogen sulfide or vinyl chloride; therefore, there would be no related impact.

Carbon Monoxide

The District's 2014 Draft Guide includes an operational threshold for CO of 100 tons per year. As shown in Table 20, the project would increase CO emissions by 16.92 tons per year in year five as the project increases the production to the full 450,000 tons of material. This is far under the District's draft threshold of 100 tons per year. Emissions are less than significant.

Lead

Lead along with several other metals would be produced principally from fugitive dust generated by the various aggregated production activities. The potential health impacts from lead are discussed in Impact AIR-4 below.

Visibility-Reducing Particles

Visibility-reducing particles are suspended particulates that reduce visibility. During operational activities, fugitive dust (PM₁₀ and PM_{2.5}) is generated (see Impact AIR-3 for emission quantification). The majority of this fugitive dust will remain localized and will be deposited near the project site. Fugitive dust should not substantially impact local visibility. In addition, compliance with Regulation VIII will reduce fugitive dust impacts. Emissions are less than significant.

Sulfur Dioxide

The project will emit a small amount of sulfur dioxide during operation. The District's 2014 Draft Guide includes an operational threshold for SO_x of 27 tons per year. As shown in Table 20, the project would increase SO_x emissions by 0.31 ton in the year five as production reaches the full 450,000 tons of material processed. This would be far less than the District's draft threshold of 27 tons per year. Additionally, the Air Basin is in attainment for sulfur dioxide. Therefore, project emissions of sulfur dioxide are less than significant.

Ozone, PM₁₀, PM_{2.5}, Nitrogen Dioxide, NO_x

As discussed in Impact AIR-3, the ROG, PM₁₀, and PM_{2.5} are less than the District's significance thresholds for all years as the project reaches the full 450,000 tons of material processed. There would be localized on-site emissions of those pollutants; however, it is not anticipated that emissions would cause or contribute to an exceedance of the ambient air quality standards. Emissions are less than significant.

The project would not exceed the District's NO_x threshold of significance in years one (2015), two (2016), and three (2017), but would exceed the threshold in years four and five without mitigation. Compliance with ARB's In-Use Off-Road Diesel Vehicle Regulation would further reduce the fleet average NO_x emissions by 36 percent in year three (2017) to meet the average NO_x emission rate of 4.6 grams per brake-horsepower hour. In years four and five, the applicant would need to accelerate compliance with regulatory reduction NO_x emission rate targets. Mitigation Measure AIR-3 requires the applicant to ensure that the project's fleet average NO_x emissions meet the 2019 regulatory NO_x emission factor target of 3.5 grams per brake-horsepower hour by the year 2018 or when the project reaches 400,000 tons of material produced. Mitigation Measure AIR-4 requires the applicant to ensure that the project meets the 2020 regulatory NO_x emission factor target of 2.3 grams per brake-horsepower hour by the year 2019 or when the project reaches 450,000 tons of material produced. Compliance with regulations and implementation of mitigation measures would reduce the project's

emissions to less than the District's NO_x threshold of significance. Therefore, the impact is less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement Mitigation Measures AIR-3 and AIR-4.

Level of Significance After Mitigation

Less than significant impact.

Cumulative Impacts

Impact AIR-3:	The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
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Impact Analysis

The cumulative air quality analysis prepared for the project follows guidance from the SJVAPCD. In general, to result in a less than significant impact, the following must be true:

1. *Emissions analysis*: emissions of nonattainment pollutants must be below the SJVAPCD's project level significance thresholds. This is an approach recommended by the SJVAPCD in its 2002 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.

Emissions Analysis

Thresholds of Significance

Ozone is a secondary pollutant that can be formed miles away 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 Basin often exceeds the 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 District established significance thresholds for ozone precursors, ROG and NO_x, and has published them in its Guide. For typical projects, operation-related emissions that exceed the threshold of 10 tons per year for ROG or NO_x would be considered significant.

The July 2014 Draft Guide contains a threshold for PM₁₀ and PM_{2.5} of 15 tons per year each, 27 tons per year for SO_x, and 100 tons per year for CO which are to be used in this impact analysis.

The SJVAPCD's existing CEQA guidance and its 2014 Draft Guide separates operational permitted equipment and activities and non-permitted equipment and activities and recommends that the emissions be separated and compared with separate thresholds. For example, if a generic project's permitted ROG emissions were 9 tons per year and the non-permitted ROG emissions were 9 tons per year, the project's emissions would be less than significant, since each permitted and non-permitted emission source is judged separately. However, the emissions are not separated in this case to present a worst-case scenario.

For purposes of this analysis, the net new emissions are compared with the following annual significance thresholds:

- 10 tons per year ROG (ozone precursor)
- 10 tons per year NO_x (ozone precursor)
- 15 tons per year PM₁₀
- 15 tons per year PM_{2.5}
- 27 tons per year SO_x
- 100 tons per year CO

Operational Emissions

Operational emissions occur over the lifetime of the project. For assumptions in estimating the emissions, please refer to Section 4 of this report. The unmitigated emissions for the processing of material for years one through five are shown in Table 16 through Table 20. As shown in the tables, the emissions do not exceed the District's thresholds of significance for ROG, PM₁₀, PM_{2.5}, CO, and SO_x for all years until an additional 400,000 tons of material are being produced in year four (2018) and the full 450,000 tons of additional material are being produced in year five (2019). In years four and five, the NO_x emissions do exceed the District's thresholds of significance for NO_x and are potentially significant.

Table 16: Year 1: 2015 (Increase of 100,000 tons processed) (Unmitigated))

Type	Source	ROG (tons)	NO _x (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Permitted	Dust from Material Processing	0.00	0.00	0.50	0.09	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	0.43	0.05	0.01	1.68	0.05
	Off-Road Equipment Exhaust	0.19	1.32	0.08	0.08	0.94	0.02
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00

Table 16 (cont.): Year 1: 2015 (Increase of 100,000 tons Processed) (Unmitigated)

Type	Source	ROG (tons)	NO _x (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Non-Permitted (cont.)	On-site and Off-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust) ¹	0.06	0.35	0.01	0.01	0.67	0.00
	On-site and Off-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust) ¹	0.00	0.00	0.10	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.14	1.89	0.03	0.03	1.37	0.00
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.11	0.03	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	2.61	0.42	0.00	0.00
	<i>Subtotal Non-Permitted</i>	0.39	3.99	2.98	0.60	4.66	0.08
Total		0.39	3.99	3.48	0.69	4.66	0.08
Significance Threshold		10	10	15	15	500	27
Exceed Significance Threshold?		No	No	No	No	No	No
<p>Notes:</p> <p>ROG = reactive organic gases NO_x = nitrogen oxides PM₁₀ and PM_{2.5} = particulate matter</p> <p>SO_x = oxides of sulfur CO = carbon monoxide</p> <p>¹. Includes off-site worker trips</p> <p>Source of blasting: Spreadsheets prepared by FCS (Appendix B)</p> <p>Source of off road equipment (exhaust): ARB emission factors for NO_x and PM₁₀ based on Tier level, CalEEMod OFFROAD equipment emission factors</p> <p>Assumes 225 days per year based on applicant-provided operating schedule</p> <p>Source of equipment: Deer Creek Rock Company, 2014</p>							

Table 17: Year 2: 2016 (Increase of 200,000 tons processed) (Unmitigated)

Type	Source	ROG (tons)	NO _x (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Permitted	Dust from Material Processing	0.00	0.00	1.00	0.19	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	0.85	0.22	0.04	3.35	0.10
	Off-Road Equipment Exhaust	0.39	2.64	0.15	0.16	1.88	0.04
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.01	0.00	0.00	0.00

Table 17 (cont.): Year 2: 2016 (Increase of 200,000 tons processed) (Unmitigated)

Type	Source	ROG (tons)	NO _x (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Non-Permitted (cont.)	On-site and Off-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust) ¹	0.02	0.12	0.00	0.00	0.22	0.00
	On-site and Off-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust) ¹	0.00	0.00	0.03	0.01	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.26	3.21	0.05	0.05	2.55	0.01
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.21	0.06	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	4.77	0.64	0.00	0.00
	<i>Subtotal Non-Permitted</i>	0.67	6.82	5.45	0.96	8.01	0.15
Total		0.67	6.82	6.45	1.15	8.01	0.15
Significance Threshold		10	10	15	15	500	27
Exceed Significance Threshold?		No	No	No	No	No	No
Notes: ROG = reactive organic gases NO _x = nitrogen oxides PM ₁₀ and PM _{2.5} = particulate matter SO _x = oxides of sulfur CO = carbon monoxide ¹ . Includes off-site worker trips Source of blasting: Spreadsheets prepared by FCS (Appendix B) Source of off road equipment (exhaust): ARB emission factors for NO _x and PM ₁₀ based on Tier level, CalEEMod OFFROAD equipment emission factors Assumes 225 days per year based on applicant-provided operating schedule Source of equipment: Deer Creek Rock Company, 2014							

Table 18: Year 3: 2017 (Increase of 300,000 tons processed) (Unmitigated)

Type	Source	ROG (tons)	NO _x (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Permitted	Dust from Material Processing	0.00	0.00	1.50	0.28	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	1.28	0.38	0.09	5.03	0.15
	Off-Road Equipment Exhaust	0.58	3.96	0.23	0.24	2.82	0.07
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.01	0.00	0.00	0.00

Table 18 (cont.): Year 3: 2017 (Increase of 300,000 tons processed) (Unmitigated)

Type	Source	ROG (tons)	NO _x (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Non-Permitted (cont.)	On-site and Off-Site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust) ¹	0.05	0.42	0.01	0.01	0.58	0.05
	On-site and Off-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust) ¹	0.00	0.00	0.11	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.32	4.21	0.07	0.06	3.39	0.01
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.32	0.09	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	6.93	0.86	0.00	0.00
	<i>Subtotal Non-Permitted</i>	0.95	9.87	8.05	1.35	11.83	0.24
Total		0.95	9.87	9.55	1.63	11.83	0.24
Significance Threshold		10	10	15	15	500	27
Exceed Significance Threshold?		No	No	No	No	No	No
<p>Notes:</p> <p>ROG = reactive organic gases NO_x = nitrogen oxides PM₁₀ and PM_{2.5} = particulate matter</p> <p>SO_x = oxides of sulfur CO = carbon monoxide</p> <p>¹. Includes off-site worker trips</p> <p>Source of blasting: Spreadsheets prepared by FCS (Appendix B)</p> <p>Source of off road equipment (exhaust): ARB emission factors for NO_x and PM₁₀ based on Tier level, CalEEMod OFFROAD equipment emission factors</p> <p>Assumes 225 days per year based on applicant-provided operating schedule</p> <p>Source of equipment: Deer Creek Rock Company, 2014</p>							

Table 19: Year 4: 2018 (Increase of 400,000 tons processed) (Unmitigated)

Type	Source	ROG (tons)	NO _x (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Permitted	Dust from Material Processing	0.00	0.00	2.00	0.37	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	1.70	0.54	0.10	6.70	0.20
	Off-Road Equipment Exhaust	0.77	5.28	0.30	0.32	3.76	0.09
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.02	0.00	0.00	0.00

Table 19 (cont.): Year 4: 2018 (Increase of 400,000 tons processed) (Unmitigated)

Type	Source	ROG (tons)	NO _x (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Non-Permitted (cont.)	On-site and Off-Site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust) ¹	0.05	0.47	0.01	0.01	0.55	0.05
	On-site and Off-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust) ¹	0.00	0.00	0.12	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.39	5.01	0.09	0.08	4.26	0.02
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.42	0.12	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	9.09	1.07	0.00	0.00
	<i>Subtotal Non-Permitted</i>	1.21	12.47	10.58	1.73	15.27	0.31
Total		1.21	12.47	12.58	2.10	15.27	0.31
Significance Threshold		10	10	15	15	500	27
Exceed Significance Threshold?		No	Yes	No	No	No	No
Notes: ROG = reactive organic gases NO _x = nitrogen oxides PM ₁₀ and PM _{2.5} = particulate matter SO _x = oxides of sulfur CO = carbon monoxide ¹ . Includes off-site worker trips Source of blasting: Spreadsheets prepared by FCS (Appendix B) Source of off road equipment (exhaust): ARB emission factors for NO _x and PM ₁₀ based on Tier level, CalEEMod OFFROAD equipment emission factors Assumes 225 days per year based on applicant-provided operating schedule Source of equipment: Deer Creek Rock Company, 2014							

Table 20: Year 5: 2019 (Increase of 450,000 tons processed) (Unmitigated)

Type	Source	ROG (tons)	NO _x (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Permitted	Dust from Material Processing	0.00	0.00	2.25	0.42	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	1.91	0.73	0.11	7.54	0.23
	Off-Road Equipment Exhaust	0.87	5.92	0.34	0.36	4.22	0.10
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.02	0.00	0.00	0.00

Table 20 (cont.): Year 5: 2019 (Increase of 450,000 tons processed) (Unmitigated)

Type	Source	ROG (tons)	NO _x (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Non-Permitted (cont.)	On-site and Off-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust) ¹	0.04	0.40	0.01	0.01	0.44	0.00
	On-site and Off-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust) ¹	0.00	0.00	0.12	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.42	5.26	0.10	0.09	4.73	0.02
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.48	0.13	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	10.17	1.18	0.00	0.00
	<i>Subtotal Non-Permitted</i>	1.34	13.49	11.97	1.92	16.92	0.35
Total		1.34	13.49	14.22	2.34	16.92	0.35
Significance Threshold		10	10	15	15	500	27
Exceed Significance Threshold?		No	Yes	No	No	No	No
<p>Notes:</p> <p>ROG = reactive organic gases NO_x = nitrogen oxides PM₁₀ and PM_{2.5} = particulate matter</p> <p>SO_x = oxides of sulfur CO = carbon monoxide</p> <p>¹. Includes off-site worker trips</p> <p>Source of blasting: Spreadsheets prepared by FCS (Appendix B)</p> <p>Source of off road equipment (exhaust): ARB emission factors for NO_x and PM₁₀ based on Tier level, CalEEMod OFFROAD equipment emission factors</p> <p>Assumes 225 days per year based on applicant-provided operating schedule</p> <p>Source of equipment: Deer Creek Rock Company, 2014</p>							

The second largest source of NO_x is from the on-road diesel haul trucks. The applicant does not have control over those sources; therefore, mitigation in the form of cleaner trucks is not feasible. The off-road equipment is under the applicant's control and is subject to ARB's In-Use Off-Road Diesel-Fueled Fleets Rule. The regulation requires fleets to apply exhaust retrofits that capture pollutants before they are emitted to the air, and to accelerate turnover of fleets to newer, cleaner engines. The regulation establishes fleet average emission rates for PM and NO_x that decline over time. Each year, the regulation requires each fleet to meet the fleet average emission rate targets for PM or apply the highest level verified diesel emission control system to 20 percent of its horsepower. In addition, large and medium fleets are required each year to meet the fleet average emission rate targets for NO_x or to turn over a certain percent of their horsepower (8 percent in early years, and 10 percent in later years). "Turn over" means repowering with a cleaner engine, rebuilding the engine to a more stringent emissions configuration, retiring a vehicle, replacing a vehicle with a new or used

piece, or designating a dirty vehicle as a low-use vehicle. If retrofits that reduce NO_x emissions become available, they may be used in lieu of turnover as long as they achieve the same emission benefits. The ARB estimates that the total cumulative cost of the regulation between 2009 and 2030 is expected to be between \$3.0 and 3.4 billion (2006 dollars), with the majority of these costs occurring between 2010 and 2021.

Based on the total horsepower for the project, the off-road fleet would be considered a medium-sized fleet. The current emissions rate for NO_x for the fleet is 7.2 gram per brake-horsepower-hour (g/bhp). The fleet would need to meet a target of 4.6 g/bhp by 2017. This is a 36 percent reduction in emissions.

The project's emissions for the third year of production after compliance with ARB's In-Use Off-Road Diesel Regulation in 2017 are shown in Table 21. As shown in Table 21, the project's compliance with regulation would further reduce NO_x emissions.

**Table 21: Year 3: 2017 (Increase of 300,000 tons processed)
(Compliance with Regulation)**

Type	Source	ROG (tons)	NO _x (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Permitted	Dust from Material Processing	0.00	0.00	1.50	0.28	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	1.28	0.38	0.07	5.03	0.15
	Off-Road Equipment Exhaust	0.58	2.53	0.23	0.24	2.82	0.07
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.01	0.00	0.00	0.00
	On-site and Off-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust) ¹	0.05	0.42	0.01	0.01	0.58	0.00
	On-site and Off-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust) ¹	0.00	0.00	0.11	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.32	4.21	0.07	0.06	3.39	0.01
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.32	0.09	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	6.93	0.86	0.00	0.00
	<i>Subtotal Non-Permitted</i>	0.95	8.44	8.05	1.35	11.83	0.24

**Table 21 (cont.): Year 3: 2017 (Increase of 300,000 tons processed)
(Compliance with Regulation)**

Type	Source	ROG (tons)	NO _x (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Total		0.95	8.44	9.55	1.63	11.83	0.24
Significance Threshold		10	10	15	15	500	27
Exceed Significance Threshold?		No	No	No	No	No	No
Notes: ROG = reactive organic gases NO _x = nitrogen oxides PM ₁₀ and PM _{2.5} = particulate matter SO _x = oxides of sulfur CO = carbon monoxide 1. Includes off-site worker trips Source of blasting: Spreadsheets prepared by FCS (Appendix B) Source of off road equipment (exhaust): ARB emission factors for NO _x and PM ₁₀ based on Tier level and compliance with regulation, CalEEMod OFFROAD equipment emission factors Assumes 225 days per year based on applicant-provided operating schedule Source of equipment: Deer Creek Rock Company, 2014							

In year four, compliance with regulation would not produce enough reduction in emissions to result in a less than significant level of NO_x emissions; therefore, the applicant will implement Mitigation Measure AIR-3, which would accelerate compliance with ARB's In-Use OFFROAD regulatory measure. The applicant would commit to achieving the 2019 average NO_x emission rate target for the fleet in 2018 or when production meets 400,000 tons of material produced. Table 22 shows the project NO_x emissions in 2018 after implementation of mitigation are less than significant.

Table 22: Year 4: 2018 (Increase of 400,000 tons Processed) (Mitigated)

Type	Source	ROG (tons)	NO _x (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Permitted	Dust from Material Processing	0.00	0.00	2.00	0.37	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	1.70	0.65	0.12	6.70	0.20
	Off-Road Equipment Exhaust	0.77	1.69	0.30	0.32	3.76	0.09
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.02	0.00	0.00	0.00
	On-site and Off-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust) ¹	0.05	0.47	0.01	0.01	0.55	0.00
	On-site and Off-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust) ¹	0.00	0.00	0.12	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.39	5.01	0.09	0.08	4.26	0.02

Table 22 (cont.): Year 4: 2018 (Increase of 400,000 tons Processed) (Mitigated)

Type	Source	ROG (tons)	NO _x (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Non-Permitted (cont.)	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.42	0.12	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	9.09	1.07	0.00	0.00
	<i>Subtotal Non-Permitted</i>	1.21	9.75	10.58	1.73	15.27	0.31
Total		1.21	9.75	12.58	2.10	15.27	0.31
Significance Threshold		10	10	15	15	500	27
Exceed Significance Threshold?		No	No	No	No	No	No
Notes: ROG = reactive organic gases NO _x = nitrogen oxides PM ₁₀ and PM _{2.5} = particulate matter SO _x = oxides of sulfur CO = carbon monoxide ¹ . Includes off-site worker trips Source of blasting: Spreadsheets prepared by FCS (Appendix B) Source of off road equipment (exhaust): ARB emission factors for NO _x and PM ₁₀ based on Tier level and compliance with regulation, CalEEMod OFFROAD equipment emission factors Assumes 225 days per year based on applicant-provided operating schedule Source of equipment: Deer Creek Rock Company, 2014							

In year five, compliance with regulation would not produce enough reduction in emissions to result in a less than significant level of NO_x emissions; therefore, the applicant will implement Mitigation Measure AIR-4, which would accelerate compliance with ARB's In-Use OFFROAD regulatory measure. The applicant would commit to achieving the 2020 average NO_x emission rate target for the fleet in 2019 or when production meets 450,000 tons of material produced. Table 23 shows the project emissions in 2019 after implementation of mitigation; the resulting NO_x emissions are less than significant.

Table 23: Year 5: 2019 (Increase of 450,000 tons Processed) (Mitigated)

Type	Source	ROG (tons)	NO _x (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Permitted	Dust from Material Processing	0.00	0.00	2.25	0.42	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	1.91	0.73	0.11	7.54	0.23
	Off-Road Equipment Exhaust	0.87	1.89	0.34	0.36	4.22	0.10
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.02	0.00	0.00	0.00

Table 23 (cont.): 2019 (Increase of 450,000 tons Processed) (Mitigated)

Type	Source	ROG (tons)	NO _x (tons)	PM ₁₀ (tons)	PM _{2.5} (tons)	CO (tons)	SO _x (tons)
Non-Permitted (cont.)	On-site and Off-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust) ¹	0.04	0.40	0.01	0.01	0.44	0.00
	On-site and Off-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust) ¹	0.00	0.00	0.12	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.42	5.26	0.10	0.09	4.73	0.02
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.48	0.13	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	10.17	1.18	0.00	0.00
	<i>Subtotal Non-Permitted</i>	1.34	9.46	11.97	1.92	16.92	0.35
Total		1.34	9.46	14.22	2.34	16.92	0.35
Significance Threshold		10	10	15	15	500	27
Exceed Significance Threshold?		No	No	No	No	No	No
<p>Notes: ROG = reactive organic gases NO_x = nitrogen oxides PM₁₀ and PM_{2.5} = particulate matter SO_x = oxides of sulfur CO = carbon monoxide ¹. Includes off-site worker trips Source of blasting: Spreadsheets prepared by FCS (Appendix B) Source of off road equipment (exhaust): ARB emission factors for NO_x and PM₁₀ based on Tier level and compliance with regulation, CalEEMod OFFROAD equipment emission factors Assumes 225 days per year based on applicant-provided operating schedule Source of equipment: Deer Creek Rock Company, 2014</p>							

The reductions proposed by existing regulations are stringent and will require significant investment in capital. As shown above, the applicant's commitment to accelerate compliance with regulation will result in NO_x emissions that are less than the District's thresholds of significance. Accordingly, the project would not exceed the District's thresholds of emissions for NO_x, ROG, PM₁₀, PM_{2.5}, CO, and SO_x; emissions would be less than significant.

Summary of Projections

Section 15130(b) of the CEQA Guidelines states:

The following elements are necessary to an adequate discussion of significant cumulative impacts: 1) Either: (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects

outside the control of the agency, or (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or areawide conditions contributing to the cumulative impact.

In accordance with CEQA Guidelines 15130(b), this analysis of cumulative impacts is based on a summary of projections analysis. 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. Therefore, the plans are relevant plans for a CEQA cumulative impacts analysis. As discussed in Impact AIR-1, the project is consistent with the air quality attainment plans. Therefore, according to this criterion, this impact is less than significant.

Cumulative Health Impacts

The Basin is in nonattainment for ozone, NO₂, PM₁₀, 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 the elderly, children, and the sick). 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 4. However, the health effects are a factor of the dose-response curve. Concentration of the pollutant in the air (dose), the length of time exposed, and the response of the individual are factors involved in the severity and nature of health impacts. If a significant health impact results from project emissions, it does not mean that 100 percent of the population would experience health effects.

ROG and NO_x have significance thresholds because they are precursors to ozone. The significance thresholds for ROG and NO_x are not designed to be indicators of health effects from ROG and NO_x individually. However, one could conclude that cumulative health impacts of ozone and/or particulate matter would result if the thresholds are exceeded. It would not be a project-specific impact because project emissions of ROG and NO_x are regional in nature and are dispersed over miles; project emissions alone would not result in a significance ozone health effect. The combination of unmitigated project emissions with pollutants from other sources within the Basin could cumulatively contribute to a significant impact.

The emissions analysis shown above indicates that the increase in emissions would not exceed the District's regional significance threshold for ROG or NO_x. The project would not result in cumulative health impacts.

The health impacts of ozone and particulate matter can be presented in a number of ways. A comparison of ambient concentrations of the pollutants to the state and federal ambient air quality standards is most clear. 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 how much the standard is exceeded. The EPA developed the Air Quality Index (AQI) as an easy to understand measure of health impact. The AQI and related health effects for ozone is provide in Table 24.

Table 24: Air Quality Index and Health Effects

Air Quality Index/ 8-hour Ozone Concentration	Health Effects Description
AQI – 100 - Moderate Concentration 75 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.
AQI – 150 – Unhealthy for Sensitive Groups Concentration 95 ppb	Sensitive Groups: Children and people with asthma are the groups most at risk.
	Health Effects Statements: Increasing likelihood of respiratory symptoms and breathing discomfort in active children, 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 – 200 – Unhealthy Concentration 115 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 – 210 – Very Unhealthy Concentration 139 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.
Source: EPA 2014.	

Based on the AQI scale, the nearest monitoring station to the project experienced no days in the last three years that would be categorized as unhealthful, and as many as 47 days that were unhealthful for sensitive groups or moderate. The highest ozone reading was 96 ppb compared to the AQI of 150 (unhealthful for sensitive groups) which is based on an 8-hour ozone concentration of 95 ppb. See

Table 4 for more details regarding health effects of the various pollutants. See Table 2 for detailed monitoring data for the last three years.

Although the project by itself would not increase the health impacts, the cumulative impacts of existing sources of emissions, proposed projects, and the project slow progress toward attainment and should be mitigated to the extent feasible.

Level of Significance Before Mitigation

Potentially Significant

Mitigation Measures

One of the major sources of NO_x emissions from the project are attributable to the on-road diesel trucks. Feasible mitigation measures that are within the control of the applicant and Tulare County for these on-road mobile sources are limited. The next major source of NO_x emissions are from the off-road equipment. The applicant is subject to existing regulation that requires the turnover of existing off-road equipment. The regulation would require a 36 percent significant reduction in NO_x emissions by the year 2017, a 51 percent reduction in 2019, and a 68 percent reduction in NO_x emissions by the year 2020. The required reductions for off-road equipment are stringent and will require significant investment to achieve. The applicant has committed to accelerating compliance with regulations in order to ensure that the project's emissions are less than significant. . The following mitigation measures are required to reduce the NO_x emissions to a less than significant level.

- MM AIR-1** The following air pollution control measures 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 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 for construction workers at all access points.
 - All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. Maintain maintenance records onsite to All equipment shall be checked by a certified visible emissions evaluator.
- MM AIR-2** The following air pollution control measures shall be implemented to reduce emissions from trucks operating on the project site:
- Minimize truck idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of the California Code of Regulations). Post signs in areas where trucks will park instructing drivers to shut off engines unless in an active queue.
- MM AIR-3** By the year 2018 or prior to increasing production by 400,000 tons of additional material, the applicant shall ensure that the fleet average NO_x emissions meet the 2019 standard of 3.5 grams of NO_x per brake-horsepower hour.

MM AIR-4 By the year 2019 or prior to increasing production by 450,000 tons of additional material, the applicant shall ensure that the fleet average NO_x emissions meet the 2020 standard of 2.3 grams of NO_x per brake-horsepower hour.

Level of Significance After Mitigation

Less than significant impact.

Sensitive Receptors

Impact AIR-4: The project would not expose sensitive receptors to substantial pollutant concentrations.

Impact Analysis

Sensitive Receptors

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

Operation: Toxic Air Contaminants

Any project with the potential to expose sensitive receptors or the public to substantial levels of toxic air contaminants would have a potentially significant impact. A health risk is the probability that exposure to a given toxic air contaminant (TAC) under a given set of conditions will result in an adverse health effect. The health risk is affected by several factors, such as the amount, toxicity, and concentration of the contaminant; meteorological conditions; distance from the emission sources to people; the distance between emission sources; the age, health, and lifestyle of the people living or working at a location; and the length of exposure to the toxic air contaminant. The health risk is determined by estimating potential emissions and then entering the emissions into air dispersion models (AERMOD and HARP), which estimate the concentration of pollutants at the nearby sensitive receptors. The concentrations are converted to risk using a set of formulas within the HARP model relating TAC concentrations with their attendant cancer risks and non-cancer hazards.

The SJVAPCD has adopted the following health risk significance thresholds for project-specific impacts:

- Cancer risk: less than a risk of 10 in one million
- Non-cancer hazard index of 1.0

The District performed a health risk assessment for the following TACs: diesel particulate matter, aluminum, arsenic, barium, beryllium, cadmium, chromium, chromium VI, cobalt, copper, lead, manganese, nickel, selenium, zinc, and crystalline silica as part of the processing of the asphalt concrete drum mix plant. The District's analysis determined that those TACs were less than significant. The applicant does not propose any changes to the plant; therefore, those emissions were not analyzed in the separate Health Risk Assessment (HRA) prepared for the project by Vista Environmental.

The project site is currently operating as a rock, sand, and gravel mine and asphalt concrete drum mix plant. The proposed project involves the expansion and production from the current 500,000 tons of material by 450,000 tons to 950,000 tons per year, which would result in increased usage of onsite equipment, and additional truck trips to the project site. The increased usage of diesel equipment and trucks would result in an increase in diesel particulate matter (DPM), which is a toxic air contaminant (TAC). The proposed project impacts from DPM to the nearby sensitive receptors has been analyzed through use of the AERMOD model and the model input parameters including a discussion of the project DPM emissions sources have been detailed above in Section 4.0 of the HRA prepared by Vista Environmental. The HRA was prepared in accordance with District standards. Vista Environmental modeled the emissions for the entire 450,000-ton increase in processing production.

Health risks from TACs are twofold. First, TACs are carcinogens according to the State of California. Second, short-term acute and long-term chronic exposure to TACs can cause health effects to the respiratory system. Each of these health risks is discussed below.

Cancer Risks

As shown in Table 25, the proposed project would create the highest concentration of DPM at Sensitive Receptor 3, which is at the home located northwest of the project site and would experience an annual concentration of 0.0148 $\mu\text{g per m}^3$. Sensitive Receptor 3 was found to result in a cancer risk increase of 6.1 per million people. All diesel emissions concentrations at the nearby sensitive receptors were found to be below the 10.0 in a million cancer risk threshold established by the District. Therefore, no significant long-term health impacts would occur from the operation of diesel trucks and equipment on the project site.

Table 25: Cancer Risk from Project Operations

Sensitive Receptor	Receptor Description	Annual PM ₁₀ Concentration ($\mu\text{g}/\text{m}^3$)	Cancer Risk Per Million People ¹	Threshold of Significance	Exceed Threshold of Significance
1	SFR – Southeast of Project Site	0.0034	1.4	10	No
2	SFR – Southwest of Project Site	0.0014	0.6	10	No
3	SFR – Northwest of Project Site	0.0148	6.1	10	No
4	SFR – West of Project Site	0.0120	5.0	10	No
Note: ¹ Cancer risk based on a residential receptor cancer risk = $4.1453\text{E-}04 \times C_{\text{air}}$. Source: Vista Environmental, Deer Creek Rock Company Hard Rock Mine Expansion Project, Health Risk Assessment; Tulare County, 2014; Calculated from ISC-AERMOD View Version 8.7.0.					

A “significant” health risk is the level of exposure to air toxics at which facility operators are required to notify the public. A facility with a cancer risk over 10 in one million does not necessarily mean that those exposed will develop harmful effects. To put the cancer risk in perspective, there is an approximate risk that around 1 in 100 people will get into a car accident (SJVAPCD 2014). As noted

in Table 25, the maximum cancer risk at any sensitive receptor was estimated to be 6.1 in 1,000,000 people. A cancer risk of 6.1 in a million is the likelihood that up to 6.1 people out of one million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the specific concentration over 70 years (an assumed lifetime). This would be in addition to those cancer cases that would normally occur in an unexposed population of one million people. Thus, the operation of the project would not exceed the District's cancer risk significance threshold of 10 in a million and, therefore, would not expose sensitive receptors to substantial pollutant concentration.

Non-Cancer Risks

In addition to the cancer risk from exposure to DPM, there is also the potential DPM exposure may result in adverse health impacts from acute and chronic illnesses, which are detailed below.

Chronic Health Impacts

Chronic health effects are characterized by prolonged or repeated exposure to a TAC over many days, months, or years. Symptoms from chronic health impacts may not be immediately apparent and are often irreversible. The chronic hazard index is based on the most impacted sensitive receptor from the proposed project and is calculated from the annual average concentrations of PM₁₀.

The AERMOD model found that the annual concentration at the nearest sensitive receptor is 0.0148 µg/m³ for DPM equivalent chronic non-cancer risk emissions. The resulting Hazard Index is 0.00296, which is significantly less than the threshold of 1.0 or greater. Therefore, the ongoing operations of the proposed project would result in a less than significant impact due to the non-cancer chronic health risk from TAC emissions created by the proposed project.

Acute Health Impacts

Acute health effects are characterized by sudden and severe exposure and rapid absorption of a TAC. Normally, a single large exposure is involved. Acute health effects are often treatable and reversible. The acute hazard index is calculated from the maximum hourly concentrations of PM_{2.5} and total organic gases (TOG) at the point of maximum impact (PMI), which has been calculated with the AERMOD model.

The AERMOD model found that the proposed project would create maximum hourly concentrations of 0.305 µg/m³ of PM₁₀ and 0.788 µg/m³ of TOG at the PMI. Table 26 provides a list of TAC pollutants from diesel emissions that have the potential to cause acute health risks, the associated pollutant analyzed in the AERMOD model, the ratio of the pollutant to total diesel emissions, the AREL for each pollutant, and the calculated Acute Hazard Index for each pollutant.

Table 26: Acute Non-Cancer Assessment

TAC from Diesel Emissions	Pollutant	Diesel Weight Ratio ¹	Acute Reference Exposure Level (AREL) ² µg/m ³	Acute Hazard Index (AHI)
Acetaldehyde	TOG	0.0735	470	1.23E-04
Acrolein	TOG	0.003	25	9.46E-05

Table 26 (cont.): Acute Non-Cancer Assessment

TAC from Diesel Emissions	Pollutant	Diesel Weight Ratio ¹	Acute Reference Exposure Level (AREL) ² µg/m ³	Acute Hazard Index (AHI)
Arsenic	PM	0.000002	0.2	3.05E-06
Benzene	TOG	0.02	1,300	1.21E-05
Chlorine	PM	0.00003	210	4.36E-08
Copper	PM	0.00006	100	1.83E-07
Formaldehyde	TOG	0.1471	55	2.11E-03
Mercury	PM	0.000006	0.6	3.05E-06
Methanol	TOG	0.0408	28,000	1.15E-06
Methyl Ethyl Ketone	TOG	0.0148	13,000	8.97E-07
Nickel	PM	0.000008	6	4.07E-07
Styrene	TOG	0.0006	21,000	2.25E-08
Toluene	TOG	0.0147	37,000	3.13E-07
Vanadium	PM	0.001	30	1.02E-05
Xylene	TOG	0.0104	22,000	3.73E-07
Total				2.36E-03 (0.0024)
Notes: ¹ Diesel related TAC composition is based on the ARB speciation profile 6099 for PM and 818 for VOC. ² Acute REL is from http://oehha.ca.gov/air/allrels.html . Source: Vista Environmental, Deer Creek Rock Company Hard Rock Mine Expansion Project, Health Risk Assessment; Tulare County, 2014.				

Table 26 shows that the total acute hazard index from the proposed project would be 0.0024. The criterion for significance is an Acute Hazard Index increase of 1.0 or greater, as established by the District. Therefore, the on-going operations of the proposed project would result in a less than significant impact due to the non-cancer acute health risk from TAC emissions created by the proposed project.

Valley Fever

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

By geographic region, hospitalizations for Valley fever in the San Joaquin Valley increased from 230 (6.9 per 100,000 population) in 2000 to 701 (17.7 per 100,000 population) in 2007. Within the region, Kern County reported the highest hospitalization rates, increasing from 121 (18.2 per 100,000

population) in 2000 to 285 (34.9 per 100,000 population) in 2007, and peaking in 2005 at 353 hospitalizations (45.8 per 100,000 population). The Centers for Disease Control and Prevention indicates that 752 of the 8,657 persons (8.7 percent) hospitalized in California between 2000 and 2007 for Valley fever died (CDC 2009).

Operational activities would generate fugitive dust. The project will minimize the generation of fugitive dust by complying with the District's Regulation VIII and the District's permit requirements. Therefore, this regulation would reduce valley fever impacts to less than significant.

Naturally Occurring Asbestos

According to the geologic survey prepared by CGI Technical Services, Inc. in 2010, there is no NOA present within rock materials in the quarry site. Therefore, development of the project is not anticipated to expose receptors to naturally occurring asbestos. Impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact

Mitigation Measures

No mitigation is necessary

Level of Significance After Mitigation

Less than significant impact

Objectionable Odors

Impact AIR-5:	The project would not create objectionable odors affecting a substantial number of people.
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Impact Analysis

Thresholds of Significance

Odor impacts on residential areas and other sensitive receptors, such as hospitals, day-care centers, schools, etc., warrant the closest scrutiny, but consideration could 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. The District has determined the common land use types that are known to produce odors in the Basin. These types are shown in Table 27.

Table 27: Screening Levels for Potential Odor Sources

Odor Generator	Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g., auto body shop)	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile
Source: San Joaquin Valley Air Pollution Control District, 2002.	

According to the SJVAPCD's 2002 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 locating near existing odor sources.

If the project were to result in sensitive receptors being located closer to an odor generator in the list in Table 27 than the recommended distances, a more detailed analysis including a review of District odor complaint records is recommended. The detailed analysis would involve contacting the District's Compliance Division for information regarding odor complaints. For a project locating near an existing source of odors, the project should be identified as having a significant odor impact if it is proposed for a site that is closer to an existing odor source than any location where there have been:

- More than one confirmed complaint per year averaged over a three-year period, or
- Three unconfirmed complaints per year averaged over a three-year period.

Impact Analysis

During operation, the existing asphalt plant would continue to operate and would emit emissions that are odorous. Additionally, on-site diesel powered equipment and vehicles will emit diesel PM, which is odorous to some.

The District was contacted on July 23, 2014 to determine if any odor complaints had been reported from 2011 to the present (July, 2014). The District provided an email response on July 24, 2014 indicating that no complaints had been registered.

Given that 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.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

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SECTION 6: GREENHOUSE GAS IMPACT ANALYSIS

6.1 - CEQA Guidelines

CEQA Guidelines define a significant effect on the environment as “a substantial, or potentially substantial, adverse change in the environment.” To determine if a project would have a significant impact on greenhouse gases, the type, level, and impact of emissions generated by the project must be evaluated.

The following greenhouse gas significance thresholds are contained in Appendix G of the CEQA Guidelines, which were amendments adopted into the Guidelines on March 18, 2010, pursuant to SB 97. 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 of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

6.2 - Impact Analysis

Greenhouse Gas Inventory

Impact GHG-1:	The project would generate direct and indirect greenhouse gas emissions; however, these emissions would not result in a significant impact on the environment.
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Impact Analysis

Threshold of Significance

Section 15064.4(b) of the CEQA Guideline amendments for greenhouse gas emissions states that a lead agency may take into account the following three considerations in assessing the significance of impacts from greenhouse gas 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.

The County has an adopted Climate Action Plan, which will be used in this analysis to determine significance for this impact.

Consistency with Climate Action Plan

A Climate Action Plan (CAP) was adopted for Tulare County in August 2012 (Tulare 2012). The Climate Action Plan states the following:

Commercial and industrial development in Tulare County during the 2020 and 2030 planning timeframes will be subject to conditions of approval and mitigation measures that will reduce greenhouse gas emissions beyond State regulations in most projects. For industrial projects, where the SJVAPCD is a Responsible Agency, the project will be 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 To demonstrate consistency with the ARB Scoping Plan 2020 target of 26.2 percent reduction in land use related sectors compared with business as usual, new development in the County subject to discretionary approval would need to provide an overall reduction of 6 percent beyond that provided by State and SJVAPCD regulation. Based on this analysis, implementation of the policies contained in the General Plan 2030 Update and available project specific measures can achieve an overall reduction of 6 percent of development-related greenhouse gas emissions under Tulare County jurisdiction. When reductions from regulations and programs are included, new development would produce approximately 31 percent fewer greenhouse gas emissions compared with the 2020 business as usual scenario.

To determine significance, the analysis quantified project-related operational greenhouse gas emissions under a business-as-usual (BAU) scenario, and then compared these emissions with those emissions that would occur accounting for all project-related design features and regulatory measures adopted after 2005. Operational emissions for the increase in material processed and the existing material processed were analyzed for the year 2020 to demonstrate consistency with the targets contained in the Tulare County CAP and AB 32. Operational or long-term emissions occur over the life of the project. For assumptions and descriptions for the emission sources, please refer to Section 4 of this report.

As shown in Table 28, the reduction from BAU in 2020 is 18.5 percent, which is above the 6-percent threshold established by the CAP and is consistent with the County achieving the required AB 32 Scoping Plan reductions. Impacts would be less than significant. The reductions in 2020 are

primarily from existing regulations that require increased renewable energy, cleaner off-road equipment, and fuel and efficiency improvements for on-road vehicles.

Table 28: Project Operational Greenhouse Gases in 2020

Type	Source	Emissions (MTCO ₂ e per year)		
		2020 Business as Usual	2020 (with Regulation)	Percent Reduction (%)
Non-Permitted	Off-road Equipment (exhaust)	1,898	1,456	23.2
	On-site On-Road Mobile ¹ (exhaust)	474	364	23.2
	Haul Trucks (off-site exhaust)	4,571	3,819	16.5
Off-site Electricity Generation		1,117	927	17
Total		8,060	6,566	18.5
Significance Threshold		—	—	6.0
Are emissions significant?		—	—	No
Notes: ¹ Includes off-site employee trips and on-site light-duty to medium-duty trucks The permitted equipment from the District is not a source of direct greenhouse gas emissions, but is a source of indirect emissions through electricity use MTCO ₂ e = metric tons of carbon dioxide equivalents Source of business as usual emissions: CalEEMod output for the year 2005 (Appendix A). Source of 2020 emissions: CalEEMod output for the year 2020 (Appendix A).				

Level of Significance Before Mitigation

Less than significant impact

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Less than significant impact

Greenhouse Gas Reduction Plans

Impact GHG-2: The project would not conflict with any applicable plan, policy or regulation of an agency adopted to reduce the emissions of greenhouse gases.

Impact Analysis

Climate Action Plan Consistency

Tulare County adopted a Climate Action Plan (CAP) as part of the Tulare County General Plan Update on August 28, 2012. The CAP requires projects on average achieve a reduction that is 6 percent in excess of the reductions stated in the ARB Scoping Plan and by regional regulations and programs.

When combined with reductions anticipated from the ARB Scoping Plan measures and regional regulations and programs, Tulare County emissions would be 26.2 percent below 2020 business-as-usual levels for development related sources, which is the amount needed for the State to reduce emissions to 1990 levels. As shown in Table 28, the project would exceed the required reduction and would therefore be consistent with the CAP 2020 target.

Since the adoption of the CAP, several additional regulations have been adopted by the State that provide additional reductions beyond those described in the CAP. The largest reductions are from LEV III Light Duty Vehicle Standards and 2013 Title 24 Energy Efficiency Standards.

Consistency with San Joaquin Valley Air Pollution Control District Plans

The District adopted its own procedures for addressing climate change impacts of projects where the SJVAPCD issues a permit. For these projects, the District is either a Lead Agency or a Responsible Agency for CEQA purposes. The procedures do not apply directly to projects subject to County approval; however, development projects that include stationary source emissions requiring a District permit would need to comply with District procedures. The applicant has existing permits with the District and does not propose to modify those permits.

The SJVAPCD adopted the Climate Change Action Plan (CCAP) in 2008, the mandates of which have been described in Section 3.3, Regulatory Framework. The Carbon Exchange Program is not applicable to this project, and the project would not require Voluntary Greenhouse Gas Mitigation Agreements, as greenhouse gas emissions impacts are less than significant. The project would comply with all applicable greenhouse gas regulations contained in the CCAP.

Consistency with AB 32 Scoping Plan

The California State Legislature adopted AB 32 in 2006. AB 32 focuses on reducing greenhouse gases (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) to 1990 levels by the year 2020. Pursuant to the requirements in AB 32, the ARB adopted the Climate Change Scoping Plan (Scoping Plan) in 2008, which outlines actions recommended to obtain that goal. The Scoping Plan calls for an “ambitious but achievable” reduction in California’s greenhouse gas emissions, cutting approximately 30 percent from business-as-usual emission levels projected for 2020, or about 10 percent from today’s levels. On a per-capita basis, that means reducing annual emissions of 14 tons of carbon dioxide for every man, woman and child in California down to about 10 tons per person by 2020.

The Scoping Plan contains a variety of strategies to reduce the State’s emissions. As shown in Table 29, the strategies are not applicable to the project.

Table 29: Scoping Plan Reduction Measures Consistency Analysis

Scoping Plan Reduction Measure	Consistency/Applicability Determination
1. California Cap-and-Trade Program Linked to Western Climate Initiative. Implement a broad-based California Cap-and-Trade program to provide a firm limit on emissions. Link the California cap-and-trade program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater environmental and economic benefits for California. Ensure California's program meets all applicable AB 32 requirements for market-based mechanisms.	Not applicable. Although the cap-and-trade system has begun, products or services (such as electricity) would be covered and the cost of the cap-and-trade system would be transferred to the consumers.
2. California Light-Duty Vehicle Greenhouse Gas Standards. Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	Consistent. This is a statewide measure that cannot be implemented by a project applicant or lead agency. However, the standards would be applicable to the light-duty vehicles that would access the project site.
3. Energy Efficiency. Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	Consistent. This is a measure for the State to increase its energy efficiency standards in new buildings. The project is required to build to the new standards and would increase its energy efficiency through compliance.
4. Renewable Portfolio Standard. Achieve 33 percent renewable energy mix statewide. Renewable energy sources include (but are not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.	Consistent. This is a statewide measure that cannot be implemented by a project applicant or lead agency. SCE obtains 16 percent of its power supply from renewable sources such as geothermal. It is required to increase this percentage to 33 percent by the year 2020 pursuant to various regulations. The project would purchase power that is comprised of a greater amount of renewable sources that will assist the utility in achieving the mandate.
5. Low Carbon Fuel Standard. Develop and adopt the Low Carbon Fuel Standard.	Consistent. This is a statewide measure that cannot be implemented by a project applicant or lead agency. When this measure is initiated, the standard would be applicable to the fuel used by vehicles that would access the project site.
6. Regional Transportation-Related Greenhouse Gas Targets. Develop regional greenhouse gas emissions reduction targets for passenger vehicles. This measure refers to SB 375.	Not Applicable. SB 375 has no requirements that apply to industrial projects such as this project.
7. Vehicle Efficiency Measures. Implement light-duty vehicle efficiency measures.	Consistent. When this measure is initiated, the standards would be applicable to the light-duty vehicles that would access the project site.

Table 29 (cont.): Scoping Plan Reduction Measures Consistency Analysis

Scoping Plan Reduction Measure	Consistency/Applicability Determination
8. Goods Movement. Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.	Not applicable. The project does not propose any changes to maritime, rail, or intermodal facilities or forms of transportation.
9. Million Solar Roofs Program. Install 3,000 MW of solar-electric capacity under California's existing solar programs.	Not Applicable. This measure is to increase solar throughout California, which is being done by various electricity providers and existing solar programs.
10. Medium/Heavy-Duty Vehicles. Adopt medium and heavy-duty vehicle efficiency measures.	Consistent. This is a statewide measure that cannot be implemented by a project applicant or lead agency. The standards phase-in over model years 2014 through 2018 are applicable to the vehicles that access the project site.
11. Industrial Emissions. Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.	Not applicable. This measure would apply to the direct greenhouse gas emissions at major industrial facilities emitting more than 500,000 MTCO ₂ e per year. Furthermore, the project is not a major industrial facility.
12. High Speed Rail. Support implementation of a high-speed rail system.	Not applicable. This is a statewide measure that cannot be implemented by a project applicant or lead agency.
13. Green Building Strategy. Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	Not Applicable. The project would not construct buildings subject to the standards.
14. High Global Warming Potential Gases. Adopt measures to reduce high global warming potential gases.	Not applicable. This measure is applicable to the high global warming potential gases that would be used by sources with large equipment (such as in air conditioning and commercial refrigerators) that are not part of this industrial project.
15. Recycling and Waste. Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	Not applicable. The project is an industrial facility with limited household/office waste.
16. Sustainable Forests. Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation.	Not applicable. The project site is not forested; therefore, no preservation is possible.
17. Water. Continue efficiency programs and use cleaner energy sources to move and treat water.	Consistent. The project would comply with Green Building Code regulations and would implement required water conservation features, if any.

Table 29 (cont.): Scoping Plan Reduction Measures Consistency Analysis

Scoping Plan Reduction Measure	Consistency/Applicability Determination
18. Agriculture. In the near-term, encourage investment in manure digesters and at the five-year Scoping Plan update determine if the program should be made mandatory by 2020.	Not applicable. The project site is not designated or in use for agriculture purposes. No grazing, feedlot, or other agricultural activities that generate manure occur onsite or are proposed to be implemented by the project.
Source of ARB Scoping Plan Reduction Measure: California Air Resources Board 2008. Source of Project Consistency or Applicability: FirstCarbon Solutions.	

As shown above, the project is consistent with the Tulare County CAP, which identified required reductions necessary to achieve the AB 32 goals. As such, the project is also consistent with AB 32. The impact is less than significant.

Level of Significance Before Mitigation

Less than significant impact

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

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Appendix A: Criteria Pollutant Emissions Estimates

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Scenario: Year 1 -2015: Increase by 100,000 tons to 600,000 tons total (Unmitigated)

No.	Equipment	Make	Year	Model	Tier	Increase in Max Hours/Day	Days/Y ear	Increase in Hours/ Year	Horse- power	Load Factor	ROG (g/bhp)	ROG (tons)	NOx (g/bhp)	NOx (lbs)	NOx (tons)	PM10 (g/bhp)	PM10 (lbs)	PM10 (tons)	PM2.5 (g/bhp)	PM2.5 (tons)	CO (g/bhp)	CO (tons)	SOx (g/bhp)	SOx (tons)
1	Rubber- tire loader	Caterpillar	1998	980G	1	0.95	225	214	300	0.37	0.955	0.02	6.90	360.16	0.18	0.40	20.88	0.01	0.38	0.01	4.80	0.13	0.05	0.00
2	Rubber- tire loader	Caterpillar	2001	980G	1	0.95	225	214	300	0.37	0.955	0.02	6.90	360.16	0.18	0.40	20.88	0.01	0.38	0.01	4.80	0.13	0.05	0.00
3	Rubber- tire loader	Caterpillar	1999	980G	1	0.95	225	214	300	0.37	0.955	0.02	6.90	360.16	0.18	0.40	20.88	0.01	0.38	0.01	4.80	0.13	0.05	0.00
4	Crawler Tractor	Caterpillar	1993	D8N	0	0.14	225	32	285	0.44	1.528	0.01	9.30	80.82	0.04	0.54	4.69	0.00	0.82	0.00	11.32	0.05	0.66	0.00
5	Excavator	Hitachi	1991	EX700H	0	0.95	80	76	450	0.38	1.71	0.02	8.90	254.46	0.13	0.49	14.01	0.01	0.93	0.01	12.16	0.17	0.66	0.01
6	Excavator	Hitachi	2005	ZX 800	2	0.95	80	76	454	0.38	0.629	0.01	4.20	121.15	0.06	0.15	4.33	0.00	0.25	0.00	2.19	0.03	0.05	0.00
7	Skid Steer Loader	Bobcat	2006	S220	2	0.95	225	214	66.8	0.37	1.339	0.01	4.90	56.95	0.03	0.30	3.49	0.00	0.32	0.00	3.99	0.02	0.06	0.00
8	Forklift	Genie	2007	GTH-1048	2	0.95	225	214	82	0.2	1.612	0.01	4.90	37.79	0.02	0.30	2.31	0.00	0.30	0.00	4.35	0.02	0.06	0.00
9	Bore/Drill Rig	Ingersoll-Rand	2002	1753NA 001	1	0.95	225	214	194	0.5	0.649	0.01	6.90	314.74	0.16	0.40	18.25	0.01	0.24	0.01	1.70	0.04	0.06	0.00
10	Crane	Grove	1969	1753NA 058	0	0.42	25	11	175	0.29	2.033	0.00	15.90	18.64	0.01	1.10	1.29	0.00	1.10	0.00	5.39	0.00	0.76	0.00
11	Crane	Grove	1969	1753NA 058	0	0.42	25	11	200	0.29	2.033	0.00	15.90	21.30	0.01	1.10	1.47	0.00	1.10	0.00	5.39	0.00	0.76	0.00
12	Off- highway Truck	Caterpillar	1996	D400E	1	0.95	225	214	385	0.38	0.94	0.03	6.90	474.70	0.24	0.40	27.52	0.01	0.38	0.01	4.21	0.14	0.05	0.00
13	Off- highway Truck	Komatsu	2007	HD325-7	3	0.95	225	214	385	0.38	0.4301	0.01	2.60	178.87	0.09	0.15	10.32	0.01	0.20	0.01	2.32	0.08	0.00	0.00
TOTAL										3577		0.19		1.32		0.08		0.08		0.08		0.94		0.02

Scenario: Year 2 - 2016: Increase by 200,000 tons to 700,000 tons total (Unmitigated)

No.	Equipment	Make	Year	Model	Tier	Increase in Max Hours/D ay	Days/Y ear	Increase in Hours/ Year	Horse- power	Load Factor	ROG (g/bhp)	ROG (tons)	NOx (g/bhp)	NOx (tons)	PM10 (g/bhp)	PM10 (tons)	PM2.5 (g/bhp)	PM2.5 (tons)	CO (g/bhp)	CO (tons)	SOx (g/bhp)	SOx (tons)
1	Rubber-tire loader	Caterpillar	1998	980G	1	1.9	225	428	300	0.37	0.955	0.05	6.9	0.36	0.4	0.02	0.381	0.02	4.797	0.25	0.05	0
2	Rubber-tire loader	Caterpillar	2001	980G	1	1.9	225	428	300	0.37	0.955	0.05	6.9	0.36	0.4	0.02	0.381	0.02	4.797	0.25	0.05	0
3	Rubber-tire loader	Caterpillar	1999	980G	1	1.9	225	428	300	0.37	0.955	0.05	6.9	0.36	0.4	0.02	0.381	0.02	4.797	0.25	0.05	0
4	Crawler Tractor	Caterpillar	1993	D8N	0	0.28	225	63	285	0.44	1.528	0.01	9.3	0.081	0.54	0	0.822	0.01	11.32	0.1	0.662	0.01
5	Excavator	Hitachi	1991	EX700H	0	1.9	80	152	450	0.38	1.71	0.05	8.9	0.254	0.49	0.01	0.93	0.03	12.16	0.35	0.662	0.02
6	Excavator	Hitachi	2005	ZX 800	0	1.9	80	152	454	0.38	0.629	0.02	4.2	0.121	0.15	0	0.248	0.01	2.194	0.06	0.05	0
7	Skid Steer Loader	Bobcat	2006	S220	2	1.9	225	428	66.8	0.37	1.339	0.02	4.9	0.057	0.3	0	0.317	0	3.988	0.05	0.06	0
8	Forklift	Genie	2007	GTH-1048	2	1.9	225	428	82	0.2	1.612	0.01	4.9	0.038	0.3	0	0.3	0	4.35	0.03	0.059	0
9	Bore/Drill Rig	Ingersoll-Rand	2002	1753NA 001	1	1.9	225	428	194	0.5	0.649	0.03	6.9	0.315	0.4	0.02	0.238	0.01	1.698	0.08	0.057	0
10	Crane	Grove	1969	1753NA 058	0	0.84	25	21	175	0.29	2.033	0	15.9	0.019	1.1	0	1.1	0	5.387	0.01	0.758	0
11	Crane	Grove	1969	1753NA 058	0	0.84	25	21	200	0.29	2.033	0	15.9	0.021	1.1	0	1.1	0	5.387	0.01	0.758	0
12	Off-highway Truck	Caterpillar	1996	D400E	1	1.9	225	428	385	0.38	0.94	0.06	6.9	0.475	0.4	0.03	0.376	0.03	4.214	0.29	0.05	0
13	Off-highway Truck	Komatsu	2007	HD325-7	3	1.9	225	428	385	0.38	0.4301	0.03	2.6	0.179	0.15	0.01	0.196	0.01	2.322	0.16	0.005	0

Total												0.39	2.64	0.15	0.16	1.88	0.04
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Scenario: Year 3 - 2017: Increase by 300,000 tons to 800,000 tons total (Unmitigated)

No.	Equipment	Make	Year	Model	Tier	Increase in Max Hours/ Day	Days/Y ear	Increase in Hours/ Year	Horse- power	Load Factor	ROG (g/bhp)	ROG (tons)	NOx (g/bhp)	NOx (tons)	PM10 (g/bhp)	PM10 (tons)	PM2.5 (g/bhp)	PM2.5 (tons)	CO (g/bhp)	CO (tons)	SOx (g/bhp)	SOx (tons)
1	Rubber-tire loader	Caterpillar	1998	980G	1	2.85	225	641	300	0.37	0.955	0.075	6.9	0.5402	0.4	0.031	0.381	0.03	4.797	0.38	0.05	0
2	Rubber-tire loader	Caterpillar	2001	980G	1	2.85	225	641	300	0.37	0.955	0.075	6.9	0.5402	0.4	0.031	0.381	0.03	4.797	0.38	0.05	0
3	Rubber-tire loader	Caterpillar	1999	980G	1	2.85	225	641	300	0.37	0.955	0.075	6.9	0.5402	0.4	0.031	0.381	0.03	4.797	0.38	0.05	0
4	Crawler Tractor	Caterpillar	1993	D8N	0	0.42	225	95	285	0.44	1.528	0.02	9.3	0.1212	0.54	0.007	0.822	0.011	11.32	0.15	0.662	0.01
5	Excavator	Hitachi	1991	EX700H	0	2.85	80	228	450	0.38	1.71	0.073	8.9	0.3817	0.49	0.021	0.93	0.04	12.16	0.52	0.662	0.03
6	Excavator	Hitachi	2005	ZX 800	0	2.85	80	228	454	0.38	0.629	0.027	4.2	0.1817	0.15	0.006	0.248	0.011	2.194	0.09	0.05	0
7	Skid Steer Loader	Bobcat	2006	S220	2	2.85	225	641	66.8	0.37	1.339	0.023	4.9	0.0854	0.3	0.005	0.3166	0.006	3.988	0.07	0.06	0
8	Forklift	Genie	2007	GTH-1048	2	2.85	225	641	82	0.2	1.612	0.019	4.9	0.0567	0.3	0.003	0.3	0.003	4.35	0.05	0.059	0
9	Bore/Drill Rig	Ingersoll-Rand	2002	1753NA 001	1	2.85	225	641	194	0.5	0.649	0.044	6.9	0.4721	0.4	0.027	0.238	0.016	1.698	0.12	0.057	0
10	Crane	Grove	1969	1753NA 058	0	1.26	25	32	175	0.29	2.033	0.004	15.9	0.028	1.1	0.002	1.1	0.002	5.387	0.01	0.758	0
11	Crane	Grove	1969	1753NA 058	0	1.26	25	32	200	0.29	2.033	0.004	15.9	0.032	1.1	0.002	1.1	0.002	5.387	0.01	0.758	0
12	Off-highway Truck	Caterpillar	1996	D400E	1	2.85	225	641	385	0.38	0.94	0.097	6.9	0.7121	0.4	0.041	0.376	0.039	4.214	0.43	0.05	0.01
13	Off-highway Truck	Komatsu	2007	HD325-7	3	2.85	225	641	385	0.38	0.4301	0.044	2.6	0.2683	0.15	0.015	0.1962	0.02	2.322	0.24	0.005	0

0.58 3.96 0.23 0.24 2.82 0.07

Scenario: Year 4 - 2018: Increase by 400,000 tons to 900,000 tons total (Unmitigated)

No.	Equipment	Make	Year	Model	Tier	Increase in Max Hours/Day	Days/Year	Increase in Hours/Year	Horsepower	Load Factor	ROG (g/bhp)	ROG (tons)	NOx (g/bhp)	NOx (tons)	PM10 (g/bhp)	PM10 (tons)	PM2.5 (g/bhp)	PM2.5 (tons)	CO (g/bhp)	CO (tons)	SOx (g/bhp)	SOx (tons)
1	Rubber-tire loader	Caterpillar	1998	980G	1	3.8	225	855	300	0.37	0.955	0.1	6.9	0.72	0.4	0.042	0.381	0.04	4.797	0.5	0.05	0.005
2	Rubber-tire loader	Caterpillar	2001	980G	1	3.8	225	855	300	0.37	0.955	0.1	6.9	0.72	0.4	0.042	0.381	0.04	4.797	0.5	0.05	0.005
3	Rubber-tire loader	Caterpillar	1999	980G	1	3.8	225	855	300	0.37	0.955	0.1	6.9	0.72	0.4	0.042	0.381	0.04	4.797	0.5	0.05	0.005
4	Crawler Tractor	Caterpillar	1993	D8N	0	0.56	225	126	285	0.44	1.528	0.027	9.3	0.162	0.54	0.009	0.822	0.01	11.32	0.2	0.662	0.012
5	Excavator	Hitachi	1991	EX700H	0	3.8	80	304	450	0.38	1.71	0.098	8.9	0.509	0.49	0.028	0.93	0.05	12.16	0.7	0.662	0.038
6	Excavator	Hitachi	2005	ZX 800	0	3.8	80	304	454	0.38	0.629	0.036	4.2	0.242	0.15	0.009	0.248	0.01	2.194	0.13	0.05	0.003
7	Skid Steer Loader	Bobcat	2006	S220	2	3.8	225	855	66.8	0.37	1.339	0.031	4.9	0.114	0.3	0.007	0.317	0.01	3.988	0.09	0.06	0.001
8	Forklift	Genie	2007	GTH-1048	2	3.8	225	855	82	0.2	1.612	0.025	4.9	0.076	0.3	0.005	0.3	0	4.35	0.07	0.059	9E-04
9	Bore/Drill Rig	Ingersoll-Rand	2002	1753NA 001	1	3.8	225	855	194	0.5	0.649	0.059	6.9	0.629	0.4	0.036	0.238	0.02	1.698	0.15	0.057	0.005
10	Crane	Grove	1969	1753NA 058	0	1.68	25	42	175	0.29	2.033	0.005	15.9	0.037	1.1	0.003	1.1	0	5.387	0.01	0.758	0.002
11	Crane	Grove	1969	1753NA 058	0	1.68	25	42	200	0.29	2.033	0.005	15.9	0.043	1.1	0.003	1.1	0	5.387	0.01	0.758	0.002
12	Off-highway Truck	Caterpillar	1996	D400E	1	3.8	225	855	385	0.38	0.94	0.129	6.9	0.949	0.4	0.055	0.376	0.05	4.214	0.58	0.05	0.007
13	Off-highway Truck	Komatsu	2007	HD325-7	3	3.8	225	855	385	0.38	0.43	0.059	2.6	0.358	0.15	0.021	0.196	0.03	2.322	0.32	0.005	7E-04

0.77

5.28

0.30

0.32

3.76

0.09

Scenario: Year 5 - 2019: Increase by 450,000 tons to 950,000 tons total (Unmitigated)

No.	Equipment	Make	Year	Model	Tier	Increase in Max Hours/D ay	Days/Y ear	Increase in Hours/ Year	Horse- power	Load Factor	ROG (g/bhp)	ROG (tons)	NOx (g/bhp)	NOx (tons)	PM10 (lbs)	PM10 (tons)	PM2.5 (g/bhp)	PM2.5 (tons)	CO (g/bhp)	CO (tons)	SOx (g/bhp)	SOx (tons)
1	Rubber-tire loader	Caterpillar	1998	980G	1	4.26	225	959	300	0.37	0.955	0.11	6.90	0.81	93.63	0.05	0.38	0.04	4.80	0.56	0.05	0.01
2	Rubber-tire loader	Caterpillar	2001	980G	1	4.26	225	959	300	0.37	0.955	0.11	6.90	0.81	93.63	0.05	0.38	0.04	4.80	0.56	0.05	0.01
3	Rubber-tire loader	Caterpillar	1999	980G	1	4.26	225	959	300	0.37	0.955	0.11	6.90	0.81	93.63	0.05	0.38	0.04	4.80	0.56	0.05	0.01
4	Crawler Tractor	Caterpillar	1993	D8N	0	0.63	225	142	285	0.44	1.528	0.03	9.30	0.18	21.12	0.01	0.82	0.02	11.32	0.22	0.66	0.01
5	Excavator	Hitachi	1991	EX700H	0	4.26	80	341	450	0.38	1.71	0.11	8.90	0.57	62.82	0.03	0.93	0.06	12.16	0.78	0.66	0.04
6	Excavator	Hitachi	2005	ZX 800	0	4.26	80	341	454	0.38	0.629	0.04	4.20	0.27	19.40	0.01	0.25	0.02	2.19	0.14	0.05	0.00
7	Skid Steer Loader	Bobcat	2006	S220	2	4.26	225	959	66.8	0.37	1.339	0.03	4.90	0.13	15.64	0.01	0.32	0.01	3.99	0.10	0.06	0.00
8	Forklift	Genie	2007	GTH-1048	2	4.26	225	959	82	0.2	1.612	0.03	4.90	0.08	10.37	0.01	0.30	0.01	4.35	0.08	0.06	0.00
9	Bore/Drill Rig	Ingersoll-Rand	2002	1753NA 001	1	4.26	225	959	194	0.5	0.649	0.07	6.90	0.71	81.82	0.04	0.24	0.02	1.70	0.17	0.06	0.01
10	Crane	Grove	1969	1753NA 058	0	1.9	25	48	175	0.29	2.033	0.01	15.90	0.04	5.83	0.00	1.10	0.00	5.39	0.01	0.76	0.00
11	Crane	Grove	1969	1753NA 058	0	1.9	25	48	200	0.29	2.033	0.01	15.90	0.05	6.67	0.00	1.10	0.00	5.39	0.02	0.76	0.00
12	Off-highway Truck	Caterpillar	1996	D400E	1	4.26	225	959	385	0.38	0.94	0.14	6.90	1.06	123.40	0.06	0.38	0.06	4.21	0.65	0.05	0.01
13	Off-highway Truck	Komatsu	2007	HD325-7	3	4.26	225	959	385	0.38	0.43	0.07	2.60	0.40	46.28	0.02	0.20	0.03	2.32	0.36	0.00	0.00

0.87 5.92 0.34 0.36 4.22 0.10

Scenario: Year 1-2015: Increase by 100,000 tons to 600,000 tons total (Unmitigated)

Type	Source	ROG (tons)	NOx (tons)	PM10 (tons)	PM2.5 (tons)	CO (tons)	SOx (tons)
Permitted	Dust from Material Processing	0.00	0.00	0.50	0.09	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	0.43	0.05	0.01	1.68	0.05
	Off-Road Equipment Exhaust	0.19	1.32	0.08	0.08	0.94	0.02
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust)	0.06	0.35	0.01	0.01	0.67	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust)	0.00	0.00	0.10	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.14	1.89	0.03	0.03	1.37	0.00
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.11	0.03	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	2.61	0.42	0.00	0.00
	<i>Subtotal Non-Permitted</i>	0.39	3.99	2.98	0.60	4.66	0.08
Total		0.39	3.99	3.48	0.69	4.66	0.08
Significance Threhsold		10	10	15	15	100	27
Exceed Significance Threshold?		No	No	No	No	No	No

Scenario: Year 2 - 2016: Increase by 200,000 tons to 700,000 tons total (Unmitigated)

Type	Source	ROG (tons)	NOx (tons)	PM10 (tons)	PM2.5 (tons)	CO (tons)	SOx (tons)
Permitted	Dust from Material Processing	0.00	0.00	1.00	0.19	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	0.85	0.22	0.04	3.35	0.10
	Off-Road Equipment Exhaust	0.39	2.64	0.15	0.16	1.88	0.04
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.01	0.00	0.00	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust)	0.02	0.12	0.00	0.00	0.22	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust)	0.00	0.00	0.03	0.01	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.26	3.21	0.05	0.05	2.55	0.01
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.21	0.06	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	4.77	0.64	0.00	0.00
	<i>Subtotal Non-Permitted</i>	0.67	6.82	5.45	0.96	8.01	0.15
Total		0.67	6.82	6.45	1.15	8.01	0.15
Significance Threhsold		10	10	15	15	100	27
Exceed Significance Threshold?		No	No	No	No	No	No

Scenario: Year 3 - 2017: Increase by 300,000 tons to 800,000 tons total (Unmitigated)

Type	Source	ROG (tons)	NOx (tons)	PM10 (tons)	PM2.5 (tons)	CO (tons)	SOx (tons)
Permitted	Dust from Material Processing	0.00	0.00	1.50	0.28	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	1.28	0.38	0.07	5.03	0.15
	Off-Road Equipment Exhaust	0.58	3.96	0.23	0.24	2.82	0.07
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.01	0.00	0.00	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust)	0.05	0.42	0.01	0.01	0.58	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust)	0.00	0.00	0.11	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.32	4.21	0.07	0.06	3.39	0.01
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.32	0.09	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	6.93	0.86	0.00	0.00
	<i>Subtotal Non-Permitted</i>	0.95	9.87	8.05	1.35	11.83	0.24
Total		0.95	9.87	9.55	1.63	11.83	0.24
Significance Threhsold		10	10	15	15	100	27
Exceed Significance Threshold?		No	Yes	No	No	No	No

Scenario: Year 4 - 2018: Increase by 400,000 tons to 900,000 tons total (Unmitigated)

Type	Source	ROG (tons)	NOx (tons)	PM10 (tons)	PM2.5 (tons)	CO (tons)	SOx (tons)
Permitted	Dust from Material Processing	0.00	0.00	2.00	0.37	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	1.70	0.54	0.10	6.70	0.20
	Off-Road Equipment Exhaust	0.77	5.28	0.30	0.32	3.76	0.09
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.02	0.00	0.00	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust)	0.05	0.47	0.01	0.01	0.55	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust)	0.00	0.00	0.12	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.39	5.01	0.09	0.08	4.26	0.02
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.42	0.12	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	9.09	1.07	0.00	0.00
	<i>Subtotal Non-Permitted</i>	1.21	12.47	10.58	1.73	15.27	0.31
Total		1.21	12.47	12.58	2.10	15.27	0.31
Significance Threhsold		10	10	15	15	100	27
Exceed Significance Threshold?		No	Yes	No	No	No	No

Scenario: Year 5 - 2019: Increase by 450,000 tons to 950,000 tons total (Unmitigated)

Type	Source	ROG (tons)	NOx (tons)	PM10 (tons)	PM2.5 (tons)	CO (tons)	SOx (tons)
Permitted	Dust from Material Processing	0.00	0.00	2.25	0.42	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	1.91	0.73	0.11	7.54	0.23
	Off-Road Equipment Exhaust	0.87	5.92	0.34	0.36	4.22	0.10
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.02	0.00	0.00	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust)	0.04	0.40	0.01	0.01	0.44	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust)	0.00	0.00	0.12	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.42	5.26	0.10	0.09	4.73	0.02
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.48	0.13	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	10.17	1.18	0.00	0.00
	<i>Subtotal Non-Permitted</i>	1.34	13.49	11.97	1.92	16.92	0.35
Total		1.34	13.49	14.22	2.34	16.92	0.35
Significance Threhsold		10	10	15	15	100	27
Exceed Significance Threshold?		No	Yes	No	No	No	No

Scenario:Year 3 - 2017: Increase by 300,000 tons to 800,000 tons total (Compliance with Regulation)

Type	Source	ROG (tons)	NOx (tons)	PM10 (tons)	PM2.5 (tons)	CO (tons)	SOx (tons)
Permitted	Dust from Material Processing	0.00	0.00	1.50	0.28	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	1.28	0.38	0.07	5.03	0.15
	Off-Road Equipment Exhaust	0.58	2.53	0.23	0.24	2.82	0.07
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.01	0.00	0.00	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust)	0.05	0.42	0.01	0.01	0.58	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust)	0.00	0.00	0.11	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.32	4.21	0.07	0.06	3.39	0.01
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.32	0.09	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	6.93	0.86	0.00	0.00
	<i>Subtotal Non-Permitted</i>	0.95	8.44	8.05	1.35	11.83	0.24
Total		0.95	8.44	9.55	1.63	11.83	0.24
Significance Threhsold		10	10	15	15	100	27
Exceed Significance Threshold?		No	No	No	No	No	No

Scenario: Year 4 - 2018: Increase by 200,000 tons to 700,000 tons total (Mitigated)

Type	Source	ROG (tons)	NOx (tons)	PM10 (tons)	PM2.5 (tons)	CO (tons)	SOx (tons)
Permitted	Dust from Material Processing	0.00	0.00	2.00	0.37	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	1.70	0.54	0.10	6.70	0.20
	Off-Road Equipment Exhaust	0.77	2.57	0.30	0.32	3.76	0.09
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.02	0.00	0.00	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust)	0.05	0.47	0.01	0.01	0.55	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust)	0.00	0.00	0.12	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.39	5.01	0.09	0.08	4.26	0.02
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.42	0.12	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	9.09	1.07	0.00	0.00
	<i>Subtotal Non-Permitted</i>	1.21	9.75	10.58	1.73	15.27	0.31
Total		1.21	9.75	12.58	2.10	15.27	0.31
Significance Threhsold		10	10	15	15	100	27
Exceed Significance Threshold?		No	Yes	No	No	No	No

Scenario: Year 5 - 2019: Increase by 200,000 tons to 700,000 tons total (Mitigated)

Type	Source	ROG (tons)	NOx (tons)	PM10 (tons)	PM2.5 (tons)	CO (tons)	SOx (tons)
Permitted	Dust from Material Processing	0.00	0.00	2.25	0.42	0.00	0.00
Non-Permitted	Drilling and Blasting	0.00	1.91	0.73	0.11	7.54	0.23
	Off-Road Equipment Exhaust	0.87	1.89	0.34	0.36	4.22	0.10
	Off-Road Equipment Fugitive Dust	0.00	0.00	0.02	0.00	0.00	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (exhaust)	0.04	0.40	0.01	0.01	0.44	0.00
	On-site On-Road Mobile (LDT2, MHDT, HHDT) (fugitive dust)	0.00	0.00	0.12	0.03	0.00	0.00
	Off-site Haul Trucks (exhaust)	0.42	5.26	0.10	0.09	4.73	0.02
	Off-site Haul Trucks (fugitive dust)	0.00	0.00	0.48	0.13	0.00	0.00
	Fugitive Dust (truck loading, wind erosion, storage piles, unpaved road dust)	0.00	0.00	10.17	1.18	0.00	0.00
	<i>Subtotal Non-Permitted</i>	1.34	9.46	11.97	1.92	16.92	0.35
Total		1.34	9.46	14.22	2.34	16.92	0.35
Significance Threhsold		10	10	15	15	100	27
Exceed Significance Threshold?		No	Yes	No	No	No	No

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Appendix B: CalEEMod Results

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Deer Creek Rock Company - Project - Year 1
Tulare County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	19.00	User Defined Unit	38.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	51
Climate Zone	7			Operational Year	2015
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Amount mined per year

Construction Phase - Based on 45 weeks of mining

Off-road Equipment - Based on applicant provided information

Trips and VMT - Based on applicant provided information, maximum 27 employees ~ 54 trips at full capacity

On-road Fugitive Dust -

Grading - based on amount mined per year

Vehicle Trips - Based on 19 trucks per day x 2 trips = 38 total trips and estimated 25 mile trip length

Vehicle Emission Factors - 100 percent heavy duty diesel haul trucks

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use - 3,902,993 kwh

Construction Off-road Equipment Mitigation - applicant provided information

Operational Off-Road Equipment - x

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	75.00	225.00
tblGrading	AcresOfGrading	8.44	38.00
tblLandUse	LotAcreage	0.00	38.00
tblOffRoadEquipment	HorsePower	162.00	450.00
tblOffRoadEquipment	HorsePower	162.00	454.00
tblOffRoadEquipment	HorsePower	205.00	194.00
tblOffRoadEquipment	HorsePower	226.00	175.00
tblOffRoadEquipment	HorsePower	226.00	200.00
tblOffRoadEquipment	HorsePower	208.00	285.00
tblOffRoadEquipment	HorsePower	89.00	82.00
tblOffRoadEquipment	HorsePower	400.00	385.00
tblOffRoadEquipment	HorsePower	199.00	300.00
tblOffRoadEquipment	HorsePower	64.00	67.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	8.00	1.50
tblOffRoadEquipment	UsageHours	8.00	1.50
tblProjectCharacteristics	OperationalYear	2014	2015
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	28.40
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripLength	6.60	28.40

tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	MHDT
tblTripsAndVMT	WorkerTripNumber	33.00	54.00
tblVehicleEF	HHD	0.06	1.00
tblVehicleEF	LDA	0.41	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT2	0.16	0.00
tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD2	8.2790e-003	0.00
tblVehicleEF	MCY	6.2550e-003	0.00
tblVehicleEF	MDV	0.20	0.00
tblVehicleEF	MH	2.2540e-003	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	OBUS	1.9120e-003	0.00
tblVehicleEF	SBUS	1.2150e-003	0.00
tblVehicleEF	UBUS	1.5170e-003	0.00
tblVehicleTrips	CC_TL	6.60	25.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	6.60	25.00
tblVehicleTrips	CW_TL	14.70	25.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	2.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2015	11/11/2015	5	225	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 38

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Bore/Drill Rigs	1	4.30	194	0.50
Grading	Cranes	1	0.20	175	0.29
Grading	Cranes	1	0.20	200	0.29
Grading	Crawler Tractors	1	0.60	285	0.43
Grading	Excavators	1	1.50	450	0.38
Grading	Excavators	1	1.50	454	0.38
Grading	Forklifts	1	4.30	82	0.20
Grading	Graders	0	8.00	174	0.41
Grading	Off-Highway Trucks	2	4.30	385	0.38
Grading	Rubber Tired Dozers	0	8.00	255	0.40
Grading	Rubber Tired Loaders	3	4.30	300	0.36
Grading	Scrapers	0	8.00	361	0.48
Grading	Skid Steer Loaders	1	4.30	67	0.37
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	13	54.00	8.00	2.00	16.80	28.40	28.40	LD_Mix	MHDT	HHDT

3.1 Mitigation Measures Construction

- Water Exposed Area
- Water Unpaved Roads
- Reduce Vehicle Speed on Unpaved Roads

Unmitigated Construction On-Site

[illegible]

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	4.4000e-004	2.9000e-004	0.0000	2.0000e-005	1.0000e-005	3.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.0974	0.0974	0.0000	0.0000	0.0974
Vendor	0.0228	0.2933	0.1540	6.2000e-004	0.0234	7.4400e-003	0.0309	6.9500e-003	6.8400e-003	0.0138	0.0000	56.7865	56.7865	5.6000e-004	0.0000	56.7983
Worker	0.0348	0.0526	0.5119	8.7000e-004	0.0752	6.4000e-004	0.0759	0.0200	5.9000e-004	0.0206	0.0000	67.2733	67.2733	3.9700e-003	0.0000	67.3566
Total	0.0577	0.3463	0.6662	1.4900e-003	0.0987	8.0900e-003	0.1068	0.0270	7.4400e-003	0.0344	0.0000	124.1572	124.1572	4.5300e-003	0.0000	124.2522

[illegible]

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	4.4000e-004	2.9000e-004	0.0000	2.0000e-005	1.0000e-005	3.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.0974	0.0974	0.0000	0.0000	0.0974
Vendor	0.0228	0.2933	0.1540	6.2000e-004	0.0234	7.4400e-003	0.0309	6.9500e-003	6.8400e-003	0.0138	0.0000	56.7865	56.7865	5.6000e-004	0.0000	56.7983
Worker	0.0348	0.0526	0.5119	8.7000e-004	0.0752	6.4000e-004	0.0759	0.0200	5.9000e-004	0.0206	0.0000	67.2733	67.2733	3.9700e-003	0.0000	67.3566
Total	0.0577	0.3463	0.6662	1.4900e-003	0.0987	8.0900e-003	0.1068	0.0270	7.4400e-003	0.0344	0.0000	124.1572	124.1572	4.5300e-003	0.0000	124.2522

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1434	1.8947	1.3698	4.5700e-003	0.1051	0.0308	0.1360	0.0289	0.0284	0.0573	0.0000	422.2356	422.2356	3.4100e-003	0.0000	422.3071
Unmitigated	0.1434	1.8947	1.3698	4.5700e-003	0.1051	0.0308	0.1360	0.0289	0.0284	0.0573	0.0000	422.2356	422.2356	3.4100e-003	0.0000	422.3071

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	38.00	0.00	0.00	247,000	247,000
Total	38.00	0.00	0.00	247,000	247,000

4.3 Trip Type Information

		Miles			Trip %			Trip Purpose %				
Land Use		H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by		
User Defined Industrial		25.00	25.00	25.00	0.00	100.00	0.00	100	0	0		
LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000

Deer Creek Rock Company - Project - Year 2

Tulare County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	38.00	User Defined Unit	38.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	51
Climate Zone	7			Operational Year	2016
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Amount mined per year

Construction Phase - Based on 45 weeks of mining

Off-road Equipment - onsite and offsite mobile only

Trips and VMT - Based on applicant provided information, maximum 27 employees ~ 54 trips at full capacity

On-road Fugitive Dust -

Grading - based on amount mined per year

Vehicle Trips - Based on 38 trucks per day x 2 trips = 76 total trips and estimated 25 mile trip length

Vehicle Emission Factors - 100 percent heavy duty diesel haul trucks

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use - 3,902,993 kwh

Construction Off-road Equipment Mitigation - applicant provided information

Operational Off-Road Equipment - x

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	0.00	38.00
tblLandUse	LotAcreage	0.00	38.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2016
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	28.40
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripLength	6.60	28.40
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	MHDT
tblTripsAndVMT	WorkerTripNumber	0.00	54.00
tblVehicleEF	HHD	0.06	1.00
tblVehicleEF	LDA	0.41	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT2	0.16	0.00
tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD2	8.2380e-003	0.00
tblVehicleEF	MCY	6.2080e-003	0.00
tblVehicleEF	MDV	0.19	0.00
tblVehicleEF	MH	2.2460e-003	0.00
tblVehicleEF	MHD	0.02	0.00

tblVehicleEF	OBUS	1.8990e-003	0.00
tblVehicleEF	SBUS	1.1960e-003	0.00
tblVehicleEF	UBUS	1.5010e-003	0.00
tblVehicleTrips	CC_TL	6.60	25.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	6.60	25.00
tblVehicleTrips	CW_TL	14.70	25.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	2.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2015	4/15/2015	5	75	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 38

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	0	8.00	162	0.38
Grading	Excavators	0	8.00	162	0.38
Grading	Graders	0	8.00	174	0.41
Grading	Rubber Tired Dozers	0	8.00	255	0.40
Grading	Scrapers	0	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	0	54.00	8.00	2.00	16.80	28.40	28.40	LD_Mix	MHDT	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0202	0.0000	0.0202	2.1800e-003	0.0000	2.1800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0202	0.0000	0.0202	2.1800e-003	0.0000	2.1800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	4.4000e-004	2.9000e-004	0.0000	2.0000e-005	1.0000e-005	3.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.0974	0.0974	0.0000	0.0000	0.0974
Vendor	7.6000e-003	0.0978	0.0513	2.1000e-004	7.8100e-003	2.4800e-003	0.0103	2.3200e-003	2.2800e-003	4.6000e-003	0.0000	18.9288	18.9288	1.9000e-004	0.0000	18.9328
Worker	0.0116	0.0175	0.1706	2.9000e-004	0.0251	2.1000e-004	0.0253	6.6700e-003	2.0000e-004	6.8600e-003	0.0000	22.4244	22.4244	1.3200e-003	0.0000	22.4522
Total	0.0192	0.1157	0.2223	5.0000e-004	0.0329	2.7000e-003	0.0356	9.0000e-003	2.4900e-003	0.0115	0.0000	41.4506	41.4506	1.5100e-003	0.0000	41.4823

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.8600e-003	0.0000	7.8600e-003	8.5000e-004	0.0000	8.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	7.8600e-003	0.0000	7.8600e-003	8.5000e-004	0.0000	8.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	4.4000e-004	2.9000e-004	0.0000	2.0000e-005	1.0000e-005	3.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.0974	0.0974	0.0000	0.0000	0.0974
Vendor	7.6000e-003	0.0978	0.0513	2.1000e-004	7.8100e-003	2.4800e-003	0.0103	2.3200e-003	2.2800e-003	4.6000e-003	0.0000	18.9288	18.9288	1.9000e-004	0.0000	18.9328
Worker	0.0116	0.0175	0.1706	2.9000e-004	0.0251	2.1000e-004	0.0253	6.6700e-003	2.0000e-004	6.8600e-003	0.0000	22.4244	22.4244	1.3200e-003	0.0000	22.4522
Total	0.0192	0.1157	0.2223	5.0000e-004	0.0329	2.7000e-003	0.0356	9.0000e-003	2.4900e-003	0.0115	0.0000	41.4506	41.4506	1.5100e-003	0.0000	41.4823

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2568	3.2134	2.5532	9.1200e-003	0.2103	0.0504	0.2607	0.0578	0.0463	0.1041	0.0000	833.9022	833.9022	6.1600e-003	0.0000	834.0315
Unmitigated	0.2568	3.2134	2.5532	9.1200e-003	0.2103	0.0504	0.2607	0.0578	0.0463	0.1041	0.0000	833.9022	833.9022	6.1600e-003	0.0000	834.0315

4.2 Trip Summary Information

	Average Daily Trip Rate	Unmitigated	Mitigated
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Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	76.00	0.00	0.00	494,000	494,000
Total	76.00	0.00	0.00	494,000	494,000

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	25.00	25.00	25.00	0.00	100.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000

Deer Creek Rock Company - Project - Year 3**Tulare County, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	57.00	User Defined Unit	38.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	51
Climate Zone	7			Operational Year	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Amount mined per year

Construction Phase - Based on 45 weeks of mining

Off-road Equipment - onsite and offsite mobile only

Trips and VMT - Based on applicant provided information, maximum 27 employees ~ 54 trips at full capacity

On-road Fugitive Dust -

Grading - based on amount mined per year

Vehicle Trips - Based on 57 trucks per day x 2 trips = 114 total trips and estimated 25 mile trip length

Vehicle Emission Factors - 100 percent heavy duty diesel haul trucks

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use - 3,902,993 kwh

Construction Off-road Equipment Mitigation - applicant provided information

Operational Off-Road Equipment - x

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	75.00	225.00
tblGrading	AcresOfGrading	0.00	38.00
tblLandUse	LotAcreage	0.00	38.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	42.60
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripLength	6.60	42.60
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	WorkerTripNumber	0.00	54.00
tblVehicleEF	HHD	0.07	1.00
tblVehicleEF	LDA	0.41	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT2	0.16	0.00
tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD2	8.1910e-003	0.00
tblVehicleEF	MCY	6.1580e-003	0.00
tblVehicleEF	MDV	0.19	0.00
tblVehicleEF	MH	2.2400e-003	0.00
tblVehicleEF	MHD	0.02	0.00

tblVehicleEF	OBUS	1.8870e-003	0.00
tblVehicleEF	SBUS	1.1820e-003	0.00
tblVehicleEF	UBUS	1.4870e-003	0.00
tblVehicleTrips	CC_TL	6.60	25.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	6.60	25.00
tblVehicleTrips	CW_TL	14.70	25.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	2.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2017	11/10/2017	5	225	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 38

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	0	8.00	162	0.38
Grading	Excavators	0	8.00	162	0.38
Grading	Graders	0	8.00	174	0.41
Grading	Rubber Tired Dozers	0	8.00	255	0.40
Grading	Scrapers	0	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	0	54.00	8.00	2.00	16.80	42.60	42.60	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0202	0.0000	0.0202	2.1800e-003	0.0000	2.1800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0202	0.0000	0.0202	2.1800e-003	0.0000	2.1800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	4.7000e-004	2.8000e-004	0.0000	4.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1408	0.1408	0.0000	0.0000	0.1409
Vendor	0.0253	0.3751	0.1997	1.1600e-003	0.0339	7.2800e-003	0.0412	9.6900e-003	6.7000e-003	0.0164	0.0000	104.4033	104.4033	7.6000e-004	0.0000	104.4193
Worker	0.0258	0.0401	0.3833	8.7000e-004	0.0752	5.6000e-004	0.0758	0.0200	5.1000e-004	0.0205	0.0000	62.1106	62.1106	3.1600e-003	0.0000	62.1770
Total	0.0511	0.4157	0.5833	2.0300e-003	0.1092	7.8500e-003	0.1170	0.0297	7.2200e-003	0.0369	0.0000	166.6547	166.6547	3.9200e-003	0.0000	166.7371

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.8600e-003	0.0000	7.8600e-003	8.5000e-004	0.0000	8.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	7.8600e-003	0.0000	7.8600e-003	8.5000e-004	0.0000	8.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	4.7000e-004	2.8000e-004	0.0000	4.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1408	0.1408	0.0000	0.0000	0.1409
Vendor	0.0253	0.3751	0.1997	1.1600e-003	0.0339	7.2800e-003	0.0412	9.6900e-003	6.7000e-003	0.0164	0.0000	104.4033	104.4033	7.6000e-004	0.0000	104.4193
Worker	0.0258	0.0401	0.3833	8.7000e-004	0.0752	5.6000e-004	0.0758	0.0200	5.1000e-004	0.0205	0.0000	62.1106	62.1106	3.1600e-003	0.0000	62.1770
Total	0.0511	0.4157	0.5833	2.0300e-003	0.1092	7.8500e-003	0.1170	0.0297	7.2200e-003	0.0369	0.0000	166.6547	166.6547	3.9200e-003	0.0000	166.7371

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3225	4.2131	3.3949	0.0136	0.3154	0.0652	0.3806	0.0867	0.0600	0.1467	0.0000	1,228.1399	1,228.1399	8.7300e-003	0.0000	1,228.3232
Unmitigated	0.3225	4.2131	3.3949	0.0136	0.3154	0.0652	0.3806	0.0867	0.0600	0.1467	0.0000	1,228.1399	1,228.1399	8.7300e-003	0.0000	1,228.3232

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	114.00	0.00	0.00	741,000	741,000
Total	114.00	0.00	0.00	741,000	741,000

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	25.00	25.00	25.00	0.00	100.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000

Deer Creek Rock Company - Project - Year 4**Tulare County, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	76.00	User Defined Unit	38.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	51
Climate Zone	7			Operational Year	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Amount mined per year

Construction Phase - Based on 45 weeks of mining

Off-road Equipment - onsite and offsite mobile only

Trips and VMT - Based on applicant provided information, maximum 27 employees ~ 54 trips at full capacity

On-road Fugitive Dust -

Grading - based on amount mined per year

Vehicle Trips - Based on 76 trucks per day x 2 trips = 152 total trips and estimated 25 mile trip length

Vehicle Emission Factors - 100 percent heavy duty diesel haul trucks

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use - 3,902,993 kwh

Construction Off-road Equipment Mitigation - applicant provided information

Operational Off-Road Equipment - x

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	75.00	225.00
tblGrading	AcresOfGrading	0.00	38.00
tblLandUse	LotAcreage	0.00	38.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2018
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	56.80
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripLength	6.60	56.80
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	WorkerTripNumber	0.00	54.00
tblVehicleEF	HHD	0.07	1.00
tblVehicleEF	LDA	0.41	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT2	0.16	0.00
tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD2	8.2080e-003	0.00
tblVehicleEF	MCY	6.1050e-003	0.00
tblVehicleEF	MDV	0.19	0.00
tblVehicleEF	MH	2.2370e-003	0.00
tblVehicleEF	MHD	0.02	0.00

tblVehicleEF	OBUS	1.8580e-003	0.00
tblVehicleEF	SBUS	1.1540e-003	0.00
tblVehicleEF	UBUS	1.4740e-003	0.00
tblVehicleTrips	CC_TL	6.60	25.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	6.60	25.00
tblVehicleTrips	CW_TL	14.70	25.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	2.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2018	11/9/2018	5	225	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 38

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	0	8.00	162	0.38
Grading	Excavators	0	8.00	162	0.38
Grading	Graders	0	8.00	174	0.41
Grading	Rubber Tired Dozers	0	8.00	255	0.40
Grading	Scrapers	0	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	0	54.00	8.00	2.00	16.80	56.80	56.80	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0202	0.0000	0.0202	2.1800e-003	0.0000	2.1800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0202	0.0000	0.0202	2.1800e-003	0.0000	2.1800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	5.6000e-004	3.1000e-004	0.0000	5.0000e-005	1.0000e-005	6.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1839	0.1839	0.0000	0.0000	0.1840
Vendor	0.0290	0.4381	0.2155	1.5400e-003	0.0452	8.8700e-003	0.0541	0.0129	8.1600e-003	0.0211	0.0000	136.2439	136.2439	9.6000e-004	0.0000	136.2641
Worker	0.0220	0.0349	0.3314	8.6000e-004	0.0752	5.3000e-004	0.0758	0.0200	4.9000e-004	0.0205	0.0000	59.3257	59.3257	2.8300e-003	0.0000	59.3852
Total	0.0510	0.4736	0.5473	2.4000e-003	0.1205	9.4100e-003	0.1299	0.0329	8.6600e-003	0.0416	0.0000	195.7535	195.7535	3.7900e-003	0.0000	195.8333

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.8600e-003	0.0000	7.8600e-003	8.5000e-004	0.0000	8.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	7.8600e-003	0.0000	7.8600e-003	8.5000e-004	0.0000	8.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	5.6000e-004	3.1000e-004	0.0000	5.0000e-005	1.0000e-005	6.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1839	0.1839	0.0000	0.0000	0.1840
Vendor	0.0290	0.4381	0.2155	1.5400e-003	0.0452	8.8700e-003	0.0541	0.0129	8.1600e-003	0.0211	0.0000	136.2439	136.2439	9.6000e-004	0.0000	136.2641
Worker	0.0220	0.0349	0.3314	8.6000e-004	0.0752	5.3000e-004	0.0758	0.0200	4.9000e-004	0.0205	0.0000	59.3257	59.3257	2.8300e-003	0.0000	59.3852
Total	0.0510	0.4736	0.5473	2.4000e-003	0.1205	9.4100e-003	0.1299	0.0329	8.6600e-003	0.0416	0.0000	195.7535	195.7535	3.7900e-003	0.0000	195.8333

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3936	5.0141	4.2648	0.0181	0.4205	0.0853	0.5058	0.1156	0.0785	0.1941	0.0000	1,608.4768	1,608.4768	0.0116	0.0000	1,608.7195
Unmitigated	0.3936	5.0141	4.2648	0.0181	0.4205	0.0853	0.5058	0.1156	0.0785	0.1941	0.0000	1,608.4768	1,608.4768	0.0116	0.0000	1,608.7195

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	152.00	0.00	0.00	988,000	988,000
Total	152.00	0.00	0.00	988,000	988,000

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	25.00	25.00	25.00	0.00	100.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000

Deer Creek Rock Company - Project - Year 5

Tulare County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	87.50	User Defined Unit	38.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	51
Climate Zone	7			Operational Year	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Amount mined per year

Construction Phase - Based on 45 weeks of mining

Off-road Equipment - onsite and offsite mobile only

Trips and VMT - Based on applicant provided information, maximum 27 employees ~ 54 trips at full capacity

On-road Fugitive Dust -

Grading - based on amount mined per year

Vehicle Trips - Based on 87.5 trucks per day x 2 trips = 175 total trips and estimated 25 mile trip length

Vehicle Emission Factors - 100 percent heavy duty diesel haul trucks

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use - 3,902,993 kwh

Construction Off-road Equipment Mitigation - applicant provided information

Operational Off-Road Equipment - x

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	75.00	225.00
tblGrading	AcresOfGrading	0.00	38.00
tblLandUse	LotAcreage	0.00	38.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	64.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripLength	6.60	64.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	MHDT
tblTripsAndVMT	WorkerTripNumber	0.00	54.00
tblVehicleEF	HHD	0.06	1.00
tblVehicleEF	LDA	0.41	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT2	0.16	0.00
tblVehicleEF	LHD1	0.06	0.00
tblVehicleEF	LHD2	8.2230e-003	0.00
tblVehicleEF	MCY	6.0760e-003	0.00
tblVehicleEF	MDV	0.19	0.00
tblVehicleEF	MH	2.2360e-003	0.00

tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	OBUS	1.8320e-003	0.00
tblVehicleEF	SBUS	1.1290e-003	0.00
tblVehicleEF	UBUS	1.4670e-003	0.00
tblVehicleTrips	CC_TL	6.60	25.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	6.60	25.00
tblVehicleTrips	CW_TL	14.70	25.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	2.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2019	11/11/2019	5	225	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 38

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	0	8.00	162	0.38
Grading	Excavators	0	8.00	162	0.38
Grading	Graders	0	8.00	174	0.41
Grading	Rubber Tired Dozers	0	8.00	255	0.40
Grading	Scrapers	0	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	0	54.00	8.00	2.00	16.80	64.00	64.00	LD_Mix	MHDT	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0202	0.0000	0.0202	2.1800e-003	0.0000	2.1800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0202	0.0000	0.0202	2.1800e-003	0.0000	2.1800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	5.7000e-004	3.2000e-004	0.0000	5.0000e-005	1.0000e-005	7.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2035	0.2035	0.0000	0.0000	0.2035
Vendor	0.0246	0.3667	0.1437	1.3600e-003	0.0527	8.6200e-003	0.0613	0.0156	7.9300e-003	0.0235	0.0000	118.1160	118.1160	8.0000e-004	0.0000	118.1329
Worker	0.0193	0.0311	0.2930	8.6000e-004	0.0752	5.1000e-004	0.0758	0.0200	4.7000e-004	0.0205	0.0000	57.1155	57.1155	2.5900e-003	0.0000	57.1699
Total	0.0440	0.3983	0.4370	2.2200e-003	0.1280	9.1400e-003	0.1372	0.0356	8.4100e-003	0.0440	0.0000	175.4350	175.4350	3.3900e-003	0.0000	175.5062

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.8600e-003	0.0000	7.8600e-003	8.5000e-004	0.0000	8.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	7.8600e-003	0.0000	7.8600e-003	8.5000e-004	0.0000	8.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	5.7000e-004	3.2000e-004	0.0000	5.0000e-005	1.0000e-005	7.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2035	0.2035	0.0000	0.0000	0.2035
Vendor	0.0246	0.3667	0.1437	1.3600e-003	0.0527	8.6200e-003	0.0613	0.0156	7.9300e-003	0.0235	0.0000	118.1160	118.1160	8.0000e-004	0.0000	118.1329
Worker	0.0193	0.0311	0.2930	8.6000e-004	0.0752	5.1000e-004	0.0758	0.0200	4.7000e-004	0.0205	0.0000	57.1155	57.1155	2.5900e-003	0.0000	57.1699
Total	0.0440	0.3983	0.4370	2.2200e-003	0.1280	9.1400e-003	0.1372	0.0356	8.4100e-003	0.0440	0.0000	175.4350	175.4350	3.3900e-003	0.0000	175.5062

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4241	5.2571	4.7260	0.0209	0.4842	0.0963	0.5804	0.1331	0.0886	0.2217	0.0000	1,819.6582	1,819.6582	0.0131	0.0000	1,819.9336
Unmitigated	0.4241	5.2571	4.7260	0.0209	0.4842	0.0963	0.5804	0.1331	0.0886	0.2217	0.0000	1,819.6582	1,819.6582	0.0131	0.0000	1,819.9336

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	175.00	0.00	0.00	1,137,500	1,137,500
Total	175.00	0.00	0.00	1,137,500	1,137,500

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	25.00	25.00	25.00	0.00	100.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000

Deer Creek Rock Company - Project - BAU

Tulare County, Annual

1.0 Project Characteristics**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	175.00	User Defined Unit	38.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	51
Climate Zone	7			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - based on amt mined per year

Construction Phase - Based on 45 weeks of mining x 5 = 225

Off-road Equipment - based on applicant info

Trips and VMT - based on max 27 employees x 2 = 54

Construction Off-road Equipment Mitigation - based on applicant info

Grading - based on amt mined

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 1
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 1
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 1
tblConstructionPhase	NumDays	75.00	225.00
tblGrading	AcresOfGrading	562.50	38.00
tblLandUse	LotAcreage	0.00	38.00
tblOffRoadEquipment	HorsePower	162.00	450.00
tblOffRoadEquipment	HorsePower	162.00	454.00
tblOffRoadEquipment	HorsePower	97.00	300.00
tblOffRoadEquipment	HorsePower	205.00	194.00
tblOffRoadEquipment	HorsePower	226.00	175.00
tblOffRoadEquipment	HorsePower	226.00	200.00
tblOffRoadEquipment	HorsePower	89.00	82.00
tblOffRoadEquipment	HorsePower	122.00	285.00
tblOffRoadEquipment	HorsePower	400.00	385.00
tblOffRoadEquipment	HorsePower	400.00	385.00
tblOffRoadEquipment	HorsePower	64.00	67.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	UsageHours	8.00	3.20
tblOffRoadEquipment	UsageHours	8.00	3.20

tblOffRoadEquipment	UsageHours	8.00	9.00
tblProjectCharacteristics	OperationalYear	2014	2005
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	135.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripLength	6.60	135.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	WorkerTripNumber	43.00	54.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2005											0.0000	2,030.2050	2,030.2050	0.1997	0.0000	2,034.3996
Total											0.0000	2,030.2050	2,030.2050	0.1997	0.0000	2,034.3996

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2005											0.0000	2,366.9284	2,366.9284	0.2353	0.0000	2,371.8696
Total											0.0000	2,366.9284	2,366.9284	0.2353	0.0000	2,371.8696

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-16.59	-16.59	-17.80	0.00	-16.59

Unmitigated Operational

[illegible]

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.4300e-003
Energy											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile																
Waste											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total											0.0000	4,251.6727	4,251.6727	0.1654	0.0000	4,255.1469

[illegible]

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	2/1/2005	12/12/2005	5	225	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 38

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Bore/Drill Rigs	1	9.00	194	0.50
Grading	Cranes	1	0.40	175	0.29
Grading	Cranes	1	0.40	200	0.29
Grading	Excavators	1	3.20	450	0.38
Grading	Excavators	1	3.20	454	0.38
Grading	Forklifts	1	9.00	82	0.20
Grading	Graders	1	8.00	174	0.41
Grading	Off-Highway Tractors	1	1.30	285	0.44
Grading	Off-Highway Trucks	1	9.00	385	0.38
Grading	Off-Highway Trucks	1	9.00	385	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Skid Steer Loaders	1	9.00	67	0.37
Grading	Tractors/Loaders/Backhoes	3	9.00	300	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	17	54.00	8.00	2.00	16.80	135.00	135.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2005

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	1,556.9220	1,556.9220	0.1762	0.0000	1,560.6220
Total											0.0000	1,556.9220	1,556.9220	0.1762	0.0000	1,560.6220

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.4913	0.4913	2.0000e-005	0.0000	0.4917
Vendor											0.0000	390.8034	390.8034	0.0126	0.0000	391.0676
Worker											0.0000	81.9883	81.9883	0.0110	0.0000	82.2183
Total											0.0000	473.2830	473.2830	0.0236	0.0000	473.7776

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	1,893.6455	1,893.6455	0.2117	0.0000	1,898.0920
Total											0.0000	1,893.6455	1,893.6455	0.2117	0.0000	1,898.0920

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.4913	0.4913	2.0000e-005	0.0000	0.4917
Vendor											0.0000	390.8034	390.8034	0.0126	0.0000	391.0676
Worker											0.0000	81.9883	81.9883	0.0110	0.0000	82.2183
Total											0.0000	473.2830	473.2830	0.0236	0.0000	473.7776

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

NaturalGas Mitigated											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

Mitigated

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

5.3 Energy by Land Use - Electricity

Unmitigated

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

Mitigated

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

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.4300e-003
Unmitigated											0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.4300e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.4300e-003
Total											0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.4300e-003

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.4300e-003
Total											0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.4300e-003

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

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

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

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

Deer Creek Rock Company - Truck Trips BAU

Tulare County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	188.00	User Defined Unit	38.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	51
Climate Zone	7			Operational Year	2005
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Vehicle Trips - Based on 187.5 trips x 2 = 375 trucks per day, 25 mile average trip length

Vehicle Emission Factors - 100 percent HHD trucks

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	0.00	38.00
tblProjectCharacteristics	OperationalYear	2014	2005
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleEF	HHD	0.07	1.00
tblVehicleEF	LDA	0.39	0.00
tblVehicleEF	LDT1	0.14	0.00
tblVehicleEF	LDT2	0.20	0.00

tblVehicleEF	LHD1	0.03	0.00
tblVehicleEF	LHD2	9.4340e-003	0.00
tblVehicleEF	MCY	9.8420e-003	0.00
tblVehicleEF	MDV	0.12	0.00
tblVehicleEF	MH	2.8220e-003	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	OBUS	1.1860e-003	0.00
tblVehicleEF	SBUS	2.0530e-003	0.00
tblVehicleEF	UBUS	1.4140e-003	0.00
tblVehicleTrips	CC_TL	6.60	25.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	6.60	25.00
tblVehicleTrips	CW_TL	14.70	25.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	2.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

[illegible]

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area																
Energy																
Mobile											0.0000	4,567.5079	4,567.5079	0.1777	0.0000	4,571.2398
Waste																
Water																
Total																

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	4,567.5079	4,567.5079	0.1777	0.0000	4,571.2398
Unmitigated											0.0000	4,567.5079	4,567.5079	0.1777	0.0000	4,571.2398

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	376.00	0.00	0.00	2,444,000	2,444,000
Total	376.00	0.00	0.00	2,444,000	2,444,000

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	25.00	25.00	25.00	0.00	100.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000

Deer Creek Rock Company - Project 2020
Tulare County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	175.00	User Defined Unit	38.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	51
Climate Zone	7			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - based on amt mined per year

Construction Phase - 45 weeks x 5 days per week = 225 days

Off-road Equipment - based on applicant info

Trips and VMT - based on 27 max employees

Grading - based on amt mined per year

Construction Off-road Equipment Mitigation - based on applicant info

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	0.00	225.00
tblGrading	AcresOfGrading	0.00	38.00
tblLandUse	LotAcreage	0.00	38.00

tblProjectCharacteristics	OperationalYear	2014	2020
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	135.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripLength	6.60	135.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	WorkerTripNumber	38.00	54.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020											0.0000	1,212.9258	1,212.9258	0.2790	0.0000	1,218.7841
Total											0.0000	1,212.9258	1,212.9258	0.2790	0.0000	1,218.7841

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020											0.0000	1,809.8682	1,809.8682	0.4720	0.0000	1,819.7809
Total											0.0000	1,809.8682	1,809.8682	0.4720	0.0000	1,819.7809

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-49.22	-49.22	-69.20	0.00	-49.31

Unmitigated Operational

[illegible]

Mitigated Operational

[illegible][illegible]

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	2/1/2020	12/11/2020	5	225	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 38

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Bore/Drill Rigs	1	9.00	194	0.50
Grading	Cranes	1	0.40	175	0.29
Grading	Cranes	1	0.40	200	0.29
Grading	Excavators	1	3.20	450	0.38
Grading	Excavators	1	3.20	454	0.38
Grading	Forklifts	1	9.00	82	0.20
Grading	Off-Highway Tractors	1	1.30	285	0.44
Grading	Off-Highway Trucks	1	9.00	385	0.38
Grading	Off-Highway Trucks	1	9.00	385	0.38
Grading	Skid Steer Loaders	1	9.00	67	0.37
Grading	Tractors/Loaders/Backhoes	3	9.00	300	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	15	54.00	8.00	2.00	16.80	135.00	135.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	848.9479	848.9479	0.2746	0.0000	854.7138
Total											0.0000	848.9479	848.9479	0.2746	0.0000	854.7138

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.4176	0.4176	0.0000	0.0000	0.4177
Vendor											0.0000	308.7636	308.7636	2.0000e-003	0.0000	308.8055
Worker											0.0000	54.7967	54.7967	2.4000e-003	0.0000	54.8471
Total											0.0000	363.9779	363.9779	4.4000e-003	0.0000	364.0703

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	1,445.8903	1,445.8903	0.4676	0.0000	1,455.7106
Total											0.0000	1,445.8903	1,445.8903	0.4676	0.0000	1,455.7106

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.4176	0.4176	0.0000	0.0000	0.4177
Vendor											0.0000	308.7636	308.7636	2.0000e-003	0.0000	308.8055
Worker											0.0000	54.7967	54.7967	2.4000e-003	0.0000	54.8471
Total											0.0000	363.9779	363.9779	4.4000e-003	0.0000	364.0703

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

Mitigated

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

5.3 Energy by Land Use - Electricity

Unmitigated

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

Mitigated

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

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.3000e-003
Unmitigated											0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.3000e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.3000e-003
Total											0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.3000e-003

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.3000e-003
Total											0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.3000e-003

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

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

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

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

Deer Creek Rock Company - Truck Trips 2020

Tulare County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	188.00	User Defined Unit	38.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	51
Climate Zone	7			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Vehicle Trips - Based on 187.5 trips x 2 = 375 trucks per day, 25 mile average trip length

Vehicle Emission Factors - 100 percent HDD trucks

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2020
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleEF	HDD	0.06	1.00
tblVehicleEF	LDA	0.41	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT2	0.16	0.00
tblVehicleEF	LHD1	0.06	0.00

tblVehicleEF	LHD2	8.2370e-003	0.00
tblVehicleEF	MCY	6.0550e-003	0.00
tblVehicleEF	MDV	0.20	0.00
tblVehicleEF	MH	2.2380e-003	0.00
tblVehicleEF	MHD	0.02	0.00
tblVehicleEF	OBUS	1.8130e-003	0.00
tblVehicleEF	SBUS	1.1060e-003	0.00
tblVehicleEF	UBUS	1.4630e-003	0.00
tblVehicleTrips	CC_TL	6.60	25.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	6.60	25.00
tblVehicleTrips	CW_TL	14.70	25.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	2.00

Unmitigated Operational

[illegible]

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	3,818.8996	3,818.8996	0.0279	0.0000	3,819.4859
Unmitigated											0.0000	3,818.8996	3,818.8996	0.0279	0.0000	3,819.4859

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	376.00	0.00	0.00	2,444,000	2,444,000
Total	376.00	0.00	0.00	2,444,000	2,444,000

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	25.00	25.00	25.00	0.00	100.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000

APPENDIX C

HEALTH RISK ASSESSMENT
DEER CREEK ROCK COMPANY HARD
ROCK MINE EXPANSION PROJECT
COUNTY OF TULARE

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PROJECT NO. 14052

NOVEMBER 20, 2014

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ACRONYMS AND ABBREVIATIONS

ANFO	Ammonium Nitrate Fuel Oil
AREL	Acute Reference Exposure Level
REL	Reference Exposure Level
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
DPM	Diesel particulate matter
EPA	Environmental Protection Agency
GAMAQI	Guide for Assessing and Mitigating Air Quality Impacts
HAP	Hazardous Air Pollutants
HI	Hazard Index
LPG	Liquid Propane Gas
MICR	Maximum Individual Cancer Risk
MSAT	Mobile Source Air Toxics
NAAQS	National Ambient Air Quality Standards
NSPS	New Source Performance Standards
PM	Particle Matter
PM10	Particles that are less than 10 micrometers in diameter
PM2.5	Particles that are less than 2.5 micrometers in diameter
PPM	Parts Per Million
ROG	Reactive Organic Gases
SCAQMD	South Coast Air Quality Management District
SJVAPCD	San Joaquin Valley Air Pollution Control District
TAC	Toxic Air Contaminants
TOG	Total Organic Gases

1.0 INTRODUCTION

1.1 Purpose of Analysis and Study Objectives

This Health Risk Assessment has been completed to determine the potential cancer risks from the on-site stationary sources associated with the operation of the proposed Deer Creek Rock Company Hard Rock Mine Expansion project (proposed project). This analysis has been prepared based on the analysis procedure provided in the *Guidance for Air Dispersion Modeling*, prepared by San Joaquin Valley Air Pollution Control District (SJVAPCD), January 2007. The following is provided in this report:

- A description of the proposed project;
- A description of toxic air contaminants;
- A description of health risk standards;
- An analysis of the on-site sources of Toxic Air Contaminants (TACs) from the proposed project;
- A comparison of the calculated cancer and acute non-cancer risks with the SJVAPCD thresholds;

1.2 Site Location and Study Area

The project site is located in Tulare County, approximately 2.2 miles southeast of the City of Porterville. The project site is approximately 217.5 acres, however only 98 acres of the project site would contain active mining operations. The project site is located in a rural area and is bounded by Avenue 120, Deer Creek, vacant land and rural residential uses to the north and vacant land, rural residential and agricultural uses to the east, south and west. The project study area is shown in Figure 1.

Sensitive Receptors

Individuals who are more sensitive to toxic exposures than the general population are considered sensitive receptors. This would include children, the elderly, and persons with preexisting respiratory or cardiovascular illness. Such receptors may reside at hospitals, residences, convalescent facilities, and schools. The nearest existing sensitive receptors to the project site are single-family homes located as near as 410 feet east of the project site, 760 feet northwest of the project site, and 1,700 feet southwest of the project site.

1.3 Proposed Project Description

The project site is currently utilized as a rock, sand, and gravel mine and an asphalt concrete drum mix plant. The proposed project would consist of: (1) the expansion of production from the current hard rock mine operations from the 500,000 tons of material per year to 950,000 tons of material per year (implemented over a five year period); (2) affirm that the allowed operating hours are between 7:00 a.m. on Mondays to 6:00 p.m. on Fridays with an allowance to work on weekends due to utility demands and State and local governments paving requirements; and (3) increase the number of allowed truck trips to the project site from the existing 100 truck loads per day (200 truck trips to or from the facility) to the proposed 187 truck loads per day (375 truck trips to or from the facility, which results in a net increase of 87 truck loads per day (175 truck trips to or from the facility).



Figure 1
Project Study Area

2.0 TOXIC AIR CONTAMINANTS

Toxic air contaminants (TACs) is a term that is defined under the California Clean Air Act and consists of the same substances that are defined as Hazardous Air Pollutants (HAPs) in the Federal Clean Air Act. There are over 700 hundred different types of TACs with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least 40 different toxic air contaminants. The most important of these TACs, in terms of health risk, are diesel particulates, benzene, formaldehyde, 1,3-butadiene, and acetaldehyde. Public exposure to TACs can result from emissions from normal operations as well as from accidental releases. Health effects of TACs include cancer, birth defects, neurological damage, and death.

2.1 Diesel Particulate Matter

According to *The California Almanac of Emissions and Air Quality 2013 Edition*, the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important of which is diesel particulate matter (DPM). DPM is a subset of PM_{2.5} because the size of diesel particles are typically 2.5 microns and smaller. The identification of DPM as a TAC in 1998 led the California Air Resources Board (CARB) to adopt the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-fueled Engines and Vehicles in September 2000. The plan's goals are a 75-percent reduction in DPM by 2010 and an 85-percent reduction by 2020 from the 2000 baseline. 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." Diesel exhaust also contains a variety of harmful gases and over 40 other cancer-causing substances. California's identification of DPM as a toxic air contaminant was based on its potential to cause cancer, premature deaths, and other health problems. Exposure to DPM is a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. Overall, diesel engine emissions are responsible for the majority of California's potential airborne cancer risk from combustion sources. The various pollutants within DPM that also cause acute and chronic health impacts are detailed below in Table A. Table A was developed through crosschecking all diesel emissions pollutants provided in *2010 California Toxic Inventory in Tons per Year*, prepared by CARB, November 2013 to the list of acute and chronic reference exposure levels provided at: <http://oehha.ca.gov/air/allrels.html>.

2.2 Asbestos

Asbestos is listed as a TAC by CARB and as a Hazardous Air Pollutant by the EPA. Asbestos occurs naturally in mineral formations and crushing or breaking these rocks, through construction or other means, can release asbestiform fibers into the air. Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining. The risk of disease is dependent upon the intensity and duration of exposure. When inhaled, asbestos fibers may remain in the lungs and with time may be linked to such diseases as asbestosis, lung cancer, and mesothelioma.

According to the *General Location Guide for Ultramafic Rocks in California*, prepared by the California Division of Mines and Geology, there is potential for naturally occurring asbestos in the vicinity of the project site. CGI Technical Services, Inc. (CGI) has analyzed the potential for the presence of ultramafic rocks and asbestos on the project site through exploration and in depth testing of the rock materials on the project site for asbestos. CGI determined that asbestos is not present within rock materials on the project site. Therefore, no further asbestos analysis is provided in this analysis.

Table A – Diesel Emission Pollutants that Cause Acute and Chronic Health Impacts

TAC	Acute (A) or Chronic (C)	Diesel Weight Fraction¹	Target Organ Systems
Acetaldehyde	A and C	0.0735	Eyes, respiratory system (sensory irritation)
Acrolein	A and C	0.003	Eyes, respiratory system
Arsenic	A and C	0.000002	Reproductive/developmental, cardiovascular system, nervous system
Benzene	A and C	0.02	Hematologic system, immune system, reproductive/developmental
Cadmium	C		kidney, respiratory system
Chlorine	A and C	0.00003	Eyes, respiratory system
Chromium (hexavalent)	C		Respiratory system, hematologic system
Copper	A	0.00006	Respiratory system
Ethyl benzene	C		Liver, kidney, developmental
Formaldehyde	A and C	0.1471	Eyes, immune system, respiratory
Hexane	C		Nervous system
Manganese	C		Nervous system
Mercury	A and C	0.000006	Reproductive/developmental
Methanol	A and C	0.0408	Nervous system, developmental
Methyl Ethyl Ketone	A	0.0148	Eyes, respiratory system
Naphthalene	C		Respiratory system
Nickel	A and C	0.000008	Immune system, respiratory system
Propylene	C		Respiratory System
Selenium	C		Liver, cardiovascular system, nervous system
Styrene	A and C	0.0006	Eyes, respiratory system, reproductive/development
Toluene	A and C	0.0147	Nervous system, eyes, respiratory system, reproduction/developmental
Vanadium	A	0.001	Eyes, respiratory system
Xylene	A and C	0.0104	Eyes, nervous and respiratory systems

Notes:

¹ Diesel related TAC composition is based on the CARB speciation profile 6099 for PM and 818 for VOC.

Sources: CARB, 2013 and OEHHA, 2014.

3.0 REGULATORY SETTING

The TACs at the project site is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to reduce TACs through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for improving TACs are discussed below.

3.1 Federal and State

The United States Environmental Protection Agency (EPA) is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for atmospheric pollutants. There are national standards for six common “criteria” air pollutants including ozone, nitrogen dioxide, carbon monoxide, particulate matter (PM₁₀ and PM_{2.5}), lead, and sulfur dioxide, which were identified from provisions of the Clean Air Act of 1970. California, under the California Clean Air Act, has also defined a set of health protective California Ambient Air Quality Standards (CAAQS).

Besides the “criteria” air pollutants, there is another group of substances found in ambient air referred as Hazardous Air Pollutants (HAPs) under the Federal Clean Air Act and Toxic Air Contaminants (TACs) under the California Clean Air Act. These contaminants tend to be localized to their sources and are found in relatively low concentrations in ambient air. They are regulated at the federal, state and regional levels, due to their potential of causing adverse health effects from exposure to low concentrations for long periods of time. HAPs are the air contaminants identified by the EPA as known or suspected to cause cancer, serious illness, birth defects, or death. Many of the contaminants originate from human activities, such as fuel combustion and solvent use. Mobile Source Air Toxics (MSATs) are a subset of the 188 identified HAPs. Of the 21 different HAPs that constitute the MSATs, there are six primary HAPs identified that include diesel exhaust, benzene, formaldehyde, acetaldehyde, acrolein, and 1, 3-butadiene. While vehicle miles traveled in the United States is anticipated to increase by 64 percent between 2000 and 2020, emissions of MSATs are anticipated to decrease between 57 and 67 percent as a result of efforts to control mobile source emissions.

The CARB Statewide comprehensive air toxics program was established in the early 1980s. The TAC Identification and Control Act (Assembly Bill 1807, Tanner 1983 [AB 1807]) created California’s program to reduce exposure to air toxics. The Air Toxics “Hot Spots” Information and Assessment Act (Assembly Bill 2588, Connelly 1987 [AB 2588]) supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks.

AB 1807, requires the CARB to identify and control TACs. In selecting substances, the CARB must consider “the risk of harm to the public health, amount or potential amount of emissions, manner of, and exposure to, usage of the substance in California, persistence in the atmosphere, and ambient concentrations in the community.” AB 1807 also requires the CARB to use available information gathered from the AB 2588 program to include in the prioritization of compounds. In 1992, the Hot Spots Act was amended by Senate Bill 1731, to require facilities that pose a significant health risk to reduce their risk through a risk management plan.

In 2000, the CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled engines and vehicles. The goal of the plan is to reduce PM emissions and the associated health risks by 75 percent by 2010 and 85 percent by 2020. The plan provides a roadmap that identifies steps CARB will be taking to develop specific regulations to reduce diesel particulate matter (DPM) emissions.

As a result of controls on motor vehicles, fuels, stationary sources, and consumer products, the public's exposure to air toxics has decreased dramatically. Between the early 1990's and today, the decrease in statewide average health risk ranged from approximately 20 percent from formaldehyde to approximately 90 for perchlorethylene. 1,3-butadiene and benzene have also seen significant decreases of 80 to 85 percent as a result of CARB's mobile source control program. In addition dioxins have been reduced by 99 percent in that time period, however that is primarily due to CARB's restrictions on medical waste incinerators.

On July 26, 2007, CARB adopted regulations to reduce DPM and NOx emissions from in-use off-road heavy-duty equipment in California that are typically used in construction, mining and industrial operations. The regulation limits idling to no more than five consecutive minutes, requires reporting and labeling, and requires disclosures of the regulation upon sale of equipment. The 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 combined horsepower), 2017 for medium fleets (2,501-5,000 horsepower) and 2019 for small fleets (2,500 horsepower or less).

3.2 Regional

The SJVAPCD is the agency principally responsible for comprehensive air pollution control for the San Joaquin Valley Air Basin (Air Basin). The SJVAPCD is responsible for regulating emissions primarily from stationary sources and certain areawide and indirect sources, but has no authority over motor vehicle emissions and other non-stationary sources of TAC emissions. To that end, as a regional agency, the SJVAPCD works directly with the eight countywide transportation commissions and local governments and cooperates actively with all federal and state agencies. The SJVAPCD with coordination of the eight county transportation agencies is also responsible for developing, updating and implementing the Air Quality Plans for the Air Basin. In addition, the SJVAPCD has prepared the *Guide for Assessing and Mitigating Air Quality Impact* (GAMAQI), with the most recent version dated July 7, 2014, which sets forth recommended thresholds of significance, analysis methodologies, and provides guidance on mitigating significant impacts.

4.0 MODELING PARAMETERS AND ASSUMPTIONS

4.1 Dispersion Modeling

The dispersion modeling utilized in this analysis has been based on the recommended methodology described in *Guidance for Air Dispersion Modeling* (Modeling Guidance), prepared by SJVAPCD, January 2007. Important issues that affect the dispersion modeling include the following: 1) Model Selection, 2) Source Treatment, 3) Meteorological Data, and 4) Receptor Grid. Each of these issues is addressed below.

Model Selection

The AERMOD View Version 8.8.5 Model was used for all dispersion modeling. Key dispersion modeling options selected include the regulatory default option and rural modeling option. Flagpole receptor height was set to 0 meters. AERMAP was run with two 7.5 Minute USGS DEM Maps of Success Dam for the project site and the area north of the project site and Fountain Springs for the area south of the project site.

Source Treatment

The project site is currently operating as a rock, sand and gravel mine and asphalt concrete drum mix plant. The proposed project involves the expansion and production from the current 500,000 tons of material to 950,000 tons per year, which would result in increased usage of onsite stationary equipment, and additional truck trips. The proposed project would incrementally over five years increase operations to 950,000 tons per year and is anticipated to reach maximum capacity in year 2019. In order to provide a worst-case analysis, the maximum capacity year 2019 scenario was analyzed. The permitted (stationary) and non-permitted (on-road mobile and off-road mobile sources are analyzed separately below.

Permitted Equipment

The permitted equipment refers to the crushers, feeders, jaws, screens, cones, and conveyors that would process the material onsite and requires permits to operate from the Air District. Table B provides a summary of the permitted equipment onsite. As shown in Table B, the air permits allow for the use of diesel engines to power the stationary equipment, however the applicant has indicated that electrical equipment is currently being used in lieu of diesel and anticipates to continue utilizing electrical equipment during operations of the proposed project. The Air District estimated exhaust and dust emissions for the permitted equipment to be used for total operations when it issued its Authority to Construct Permit Requirements.

Implementation of the proposed project would not require any modifications to the existing air permits. No change in use would occur to the portable drum mix asphaltic concrete plant and the LPG-fired process heater. The rock crushing would have an increase in throughput from 500,000 tons to 950,000 tons, although it would not exceed the permitted amount of 1,500,000 tons per year. However, as detailed above, the stationary equipment associated with the rock crushing is powered by electrical engines and no increase in DPM emissions would occur from implementation of the proposed with regard to permitted equipment.

Table B – Permitted Equipment on Project Site

Permit Number	Description	Maximum Throughput	Specific Equipment
S-4136-3-6	Rock rushing and screening plant	10,000 tons/day 1,500,000 tons/year	Grizzly feeder, jaw crusher, omnicone rock crusher, svedala g-gone crusher, Nordberg cone crusher, three 3-deck screens, 120-foot radial stacker, associated conveyors, and wash plant consisting of blade mill, Krebs water cyclone, gyrodisk rock crusher, dewatering screen, triple deck wet screen with a sand screw, and stacking conveyors
S-4136-1-0	Permit-Exempt Equipment Registration. LPG-fired process heater	LPG gas usage of 7,000 gallons/day and 1,100,000 gallons/year	2.0 MMBTU/Hour Hy-Way Model HYFG200-LN S/N 5708-112304 LPG-fired process heater with a power flame model LNIC2-G-20A Low NOx burner and flue gas recirculation
N-4012-2-3	Portable drum mix asphaltic concrete plant	3,500 tons/day of asphaltic concrete produced 808 tons/day of reclaimed asphalt pavement (RAP) received or processed 549,500 tons/year of asphaltic concrete produced 126,878 tons/year of RAP received or processed. LPG gas usage of 7,000 gallons/day and 1,100,000 gallons/year	Portable drum mix asphaltic concrete plant consisting of five aggregate storage bins, one 75 MMBTU/Hour rotary drum dryer with a Hauck model Novastar 75 low-NOx burner, associated elevators, one drag slot conveyor all served by an all-mix model 300 baghouse, one reclaim asphalt pavement (RAP) feed hopper with associated conveyors and screen and two 200 ton storage silos each with a truck loadout.

Source: San Joaquin Valley Air Pollution Control District, 2013.

Non-Permitted Equipment

The non-permitted equipment would include the operation of off-road equipment such as loaders, excavators, etc., drilling and blasting emissions, onsite and offsite haul truck emissions, and other vehicles such as water trucks, mechanics trucks, etc. The project contribution of DPM emissions from each source has been obtained from the Air Quality Analysis that has been prepared by First Carbon Solutions.

Off-Road Equipment

The project applicant provided a list of off-road equipment that currently exists onsite and indicated that no additional equipment would be needed to increase production from 500,000 tons of material to 950,000 tons of material per year. The proposed increase in production would be implemented over a five year period with maximum the 950,000 tons of material production rate anticipated to be reached by year 2019. The applicant provided an estimate of the number of hours the equipment would operate to produce 950,000 tons of material. Based on the ratio of existing production to proposed production, the existing hours of operation were adjusted to reflect baseline conditions. First Carbon Solutions utilized the equipment list provided by the applicant and developed the information provided in Table C, which is based on an increase of 450,000 tons of material and the off-road equipment that is currently operating on the project site. The load factors were determined by First Carbon Solution based on the default load factors for each type of equipment provided in the CalEEMod model.

Table C –Proposed Off-Road Equipment for 450,000 Ton Per Year Increase

Equipment	Make	Model	Tier	Horse Power	Load Factor	Increase in Max Hours/Day
Rubber-tired loader	Caterpillar	980G	1	300	0.37	4.26
Rubber-tired loader	Caterpillar	980G	1	300	0.37	4.26
Rubber-tired loader	Caterpillar	980G	1	300	0.37	4.26
Crawler Tractor	Caterpillar	D8N	0	285	0.44	0.63
Excavator	Hitachi	EX700H	0	450	0.38	4.26
Excavator	Hitachi	ZX 800	0	454	0.38	4.26
Skid steer loader	Bobcat	S220	2	66.8	0.37	4.26
Forklift	Genie	GTH-1048	2	82	0.20	4.26
Bore/Drill Rig	Ingersoll-Rand	1753NA001	1	194	0.5	4.26
Crane	Grove	1753NA058	0	175	0.29	1.9
Crane	Grove	1753NA058	0	200	0.29	1.9
Off-highway truck	Caterpillar	D400E	1	385	0.38	4.26
Off-highway truck	Komatsu	HD325-7	3	385	0.38	4.26

Source: First Carbon Solutions, 2014.

As detailed above, the off-road equipment detailed in Table C is based on the equipment that is currently operating onsite. The project applicant has stated that the existing equipment is adequate to handle the proposed increase in capacity, however it would result in the existing equipment operating more hours per day that is detailed in Table C. Section 2449 in Title 13, Article 4.8, Chapter 9 of the California Code of Regulations provides specific requirements for large off-road diesel fueled fleets to reduce NOx and PM emissions. The regulations provide a variety of methods for the fleet owners to meet the pollution reduction requirements and include reduction target rates that are required to be met each year. The first target date was January 1, 2014 and between 2015 and 2017 large fleets are required to show an 8 percent reduction each year in emissions and between 2018 and 2023 large fleets are required to show a 10 percent reduction in emissions each year. The reduction in emissions may be met through either installation of additional pollution control equipment on existing equipment, installing new more efficient engines on the existing equipment, or replacing the old equipment with newer equipment.

Since the project applicant has many options to meet Section 2449, it is not possible today to know the exact makeup of the off-road equipment fleet that would be operational on the project site in 2019, when the proposed project would reach full capacity. Therefore, the PM10 and ROG emissions from the off-road equipment have been calculated through use of the CalEEMod model and the equipment list provided above in Table C. The algorithm used in the CalEEMod is based on the equipment meeting the minimum emissions requirements detailed in Section 2449 and would be considered a worst-case analysis, since due to phase in of new equipment or other emissions improvements, it is most likely that the actual off-road equipment emission rates would be less than the minimum reduction requirements. In order to be consistent with the Air Quality Analysis, the off-road equipment was modeled based on being operational 225 days per year. The CalEEMod model printouts are provided in Appendix A.

The CalEEMod model calculated that the off-road equipment from the proposed project would create a net increase of 0.12 tons of PM10 and 0.31 tons of reactive organic gas (ROG) exhaust emissions per year from the onsite off-road equipment. This results in the onsite equipment producing an average of 0.66 pounds of PM10 per day and 1.70 pounds of ROG per day. The onsite diesel equipment was modeled as an 98-acre area source located in the central area of the project site with emission rates of 8.708E-09 grams of PM10 per second and 2.249E-08 grams of ROG per second. The equipment area source was modeled with

a 12 foot release height and a 100 foot initial vertical dimension of the plume in order to account for the vertical velocity of the exhaust leaving the off-road equipment.

Drilling and Blasting

Currently, the applicant drills five days per week to create holes for a licensed explosives contractor to insert explosives to break up larger rocks that cannot be moved or broken. Currently, the licensed contractor blasts once per week. Implementation of the proposed project would not increase the amount of equipment or time spent or associated with blasting activities, however additional holes would be drilled and additional explosives would be required to meet the increased throughput associated with the proposed project. The emissions associated with the additional drilling has been analyzed above under Off-Road Equipment, where the Bore/Drill Rig was modeled based on an increase of 4.24 hours of operating time per day. The blasting emissions would be created through use of the explosive ANFO (ammonium nitrate and fuel oil), which has a composition of ammonium nitrate with a small percentage of fuel oil. Ammonium nitrate is not listed as a TAC and emissions from fuel oil has negligible amounts of TAC emissions. Therefore, due to the nominal amount of TAC emissions created from blasting, the blasting TAC emissions have not been analyzed in this HRA.

Onsite Trucks

The proposed project would increase the haul truck trips to the project site from the current 100 truck loads per day (200 truck trips to or from facility) to the proposed 187 truck loads per day (375 truck trips to or from the facility), this results in a net increase of 87 truck loads per day (175 truck trips to or from the facility). According to the project applicant, all of the new haul truck traffic would first go to the scales and then to the aggregate loading area. The project applicant has also stated that there are two diesel powered water trucks and two diesel powered mechanics trucks that currently operate on the project site and that there operational time would increase to 9 hours per day, from the currently estimated 4.74 hours per day. It was assumed that each of the four maintenance trucks would make a loop around the project site every hour, which would result in an additional 4.3 trips per truck or a total of 17 new maintenance truck trips. The onsite truck emissions have been analyzed separately for onsite truck travel and truck idling. The onsite off-road haul trucks that would transport the material from the operating mine areas to the processing plant have been analyzed combined with the off-road equipment detailed above and are detailed above in Table C.

Onsite Truck Travel

The onsite diesel truck travel was modeled by using two line volume sources. The haul truck line volume source was modeled based on the most direct onsite route from the project entrance to the scale to the aggregate loading area and back to the project entrance. The maintenance vehicles line volume source was modeled based on a loop of where they would most likely travel on the project site.

The emission factor used for the roadway line volume sources was obtained from a model run of the web based version of EMFAC2011 for Tulare County at <http://www.arb.ca.gov/emfac/> for the year 2019 for a T7 truck for traveling at 15 miles per hour, which provided emission rates of 0.0794 grams of PM10 per mile and 0.921 grams of total organic gas (TOG) per mile. The EMFAC2011 model run printout is provided in Appendix B. This resulted in emission rates of 3.634E-07 grams per second of PM10 and 4.215E-06 grams per second of TOG for the haul truck line source and 7.100E-08 grams per second of PM10 and 8.236E-07 grams per second of TOG for the maintenance truck line source, which is based on an annual average of the proposed project's operations. Both line sources were modeled with a 6 foot height and 12 foot width.

Onsite Truck Idling

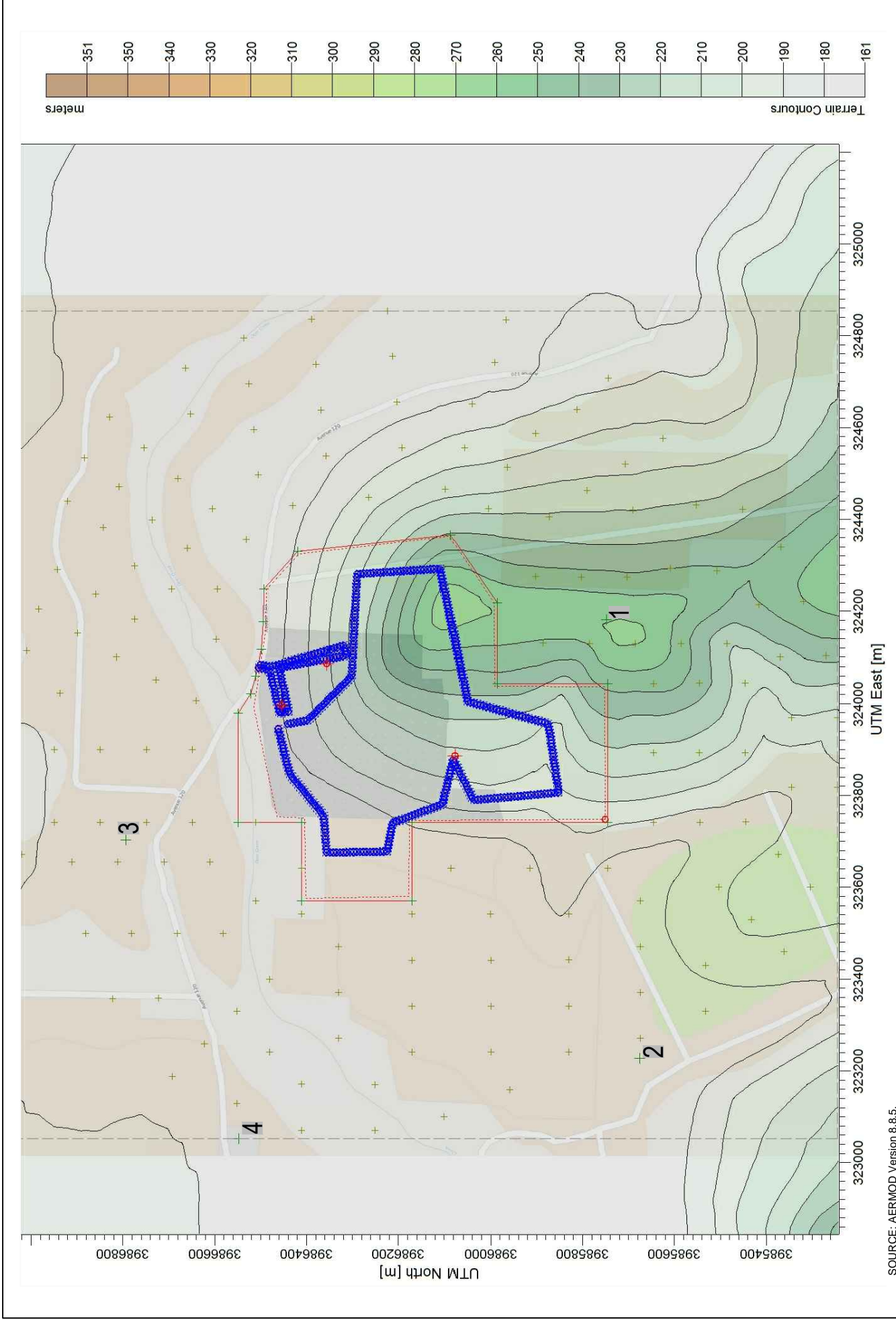
The onsite diesel truck idling was modeled as three point sources. One point source was located at the scales for the haul trucks, another point source was located at the aggregate loading operations for the haul trucks and the third was located in the central portion of the project site for the maintenance truck idling and was chosen based on where the maintenance trucks are currently stored. The analysis was based on each truck idling for five minutes at each idling location. The emissions factor used for the truck idling point source was based on the EMFAC2011 Idling Emission Rates spreadsheet, which details that for the year 2019 for T7 trucks, model year 2007 or newer vehicles produce 0.1078 grams of PM10 per hour and 8.4196 grams of TOG per hour. The model year 2007 or newer vehicles were chosen, since Section 2025, Title 13 Article 4.5, Chapter 1 of the California Code of Regulations requires all commercial trucks operating in California to meet the model year 2007 PM standards by year 2015. This results in point source emissions rates of 9.046E-06 grams per second of PM10 and 7.065E-04 grams per second of TOG for the two haul truck idling point sources and 1.768E-06 grams per second of PM10 and 1.381E-04 grams per second of TOG for the maintenance trucks idling point source. The idling point sources were modeled with a 12.6 foot height, a 0.1 meter diameter, a velocity of 51.71 meters per second, and a temperature of 366 K.

Meteorological Data

Meteorological data from the National Climatological Data Center at the Porterville Airport was selected for this modeling application. Four full years of sequential meteorological data was collected at the Porterville Airport from 2006 to 2009. The SJVAPCD processed the data for input to the model. The data was obtained at: http://www.valleyair.org/busind/pto/Tox_Resources/2013_Modeling/Porterville.htm.

Receptor Grid

The nearest sensitive receptors that may be impacted by the proposed project are single-family homes located as near as 410 feet east of the project site, 760 feet northwest of the project site, and 1,700 feet southwest of the project site. Discrete receptors were placed at the locations of the nearest off-site residential structures and grid receptors were used out to 500 meters (1,640 feet). Figure 2 shows the locations of the sources and receptors modeled in the AERMOD model.



SOURCE: AERMOD Version 8.8.5.



VISTA ENVIRONMENTAL

Figure 2
Air Dispersion Model Source and Receptor Locations

5.0 HEALTH RISK STANDARDS

Any project with the potential to expose sensitive receptors or the general public to substantial levels of TACs would be deemed to have a potentially significant impact. A health risk is the probability that exposure to a TAC under a given set of conditions will result in an adverse health effect. The health risk is affected by several factors, such as the amount, toxicity, and concentration of the contaminant; meteorological conditions; distance from the emission sources to people; the distance between emission sources; the age, health, and lifestyle of the people living or working at a location; and the length of exposure to the toxic air contaminant.

The term “risk” usually refers to the chance of contracting cancer as a result of an exposure, and it is expressed as a probability: chances-in-a-million. The values expressed for cancer risk do not predict actual cases that will result from exposure to toxic air contaminants. Rather, they state a probability of contracting cancer over and above the background level and over a given exposure to toxic air contaminants.

According to the GAMAQI, any project that has the potential to expose the public to TACs in excess of the following threshold would be considered to result in a significant impact:

- If the Maximum Exposed Individual Cancer Risk from carcinogens equals or exceeds 10 in one million persons;
- If the Maximum Exposed Individual Acute Hazard Index from non-carcinogens equals or exceeds 1.0; or
- If the Maximum Exposed Individual Chronic Hazard Index from non-carcinogens equals or exceeds 1.0.

6.0 PROJECT IMPACTS

The project site is currently operating as a rock, sand and gravel mine and asphalt concrete drum mix plant. The proposed project involves the expansion and production from the current 500,000 tons of material to 950,000 tons per year, which would result in increased usage of onsite equipment, and additional truck trips to the project site. The increased usage of diesel equipment and trucks would result in an increase in diesel particulate matter (DPM), which is a TAC. The proposed project impacts from DPM to the nearby sensitive receptors has been analyzed through use of the AERMOD model and the model input parameters including a discussion of the project DPM emissions sources have been detailed above in Section 4.0

6.1 Estimation of Health Risks

Health risks from TACs are twofold. First, TACs are carcinogens according to the State of California. Second, short-term acute and long-term chronic exposure to TACs can cause health effects to the respiratory system. Each of these health risks is discussed below.

Cancer Risks

According to the Modeling Guidance, the cancer risk should be calculated using the following formula:

$$[\text{Dose-inh (mg/(Kg-day))}] * [\text{Oral Slope Factor (kg-day)/mg}] * [1 \times 10^6] = \text{Potential Cancer Risk}$$

Where:

Oral Slope Factor = 1.1

$$\text{Dose-inh} = (C_{\text{air}} * \text{DBR} * A * \text{EF} * \text{ED} * 10^6) / \text{AT}$$

Where:

C_{air} [Concentration in air ($\mu\text{g}/\text{m}^3$)] = (Calculated by AERMOD Model)

DBR [Daily breathing rate (L/kg body weight – day)] = 393 for residential uses

A [Inhalation absorption factor] = 1

EF [Exposure frequency (days/year)] = 350

ED [Exposure duration (years)] = 70

10^6 [Micrograms to milligrams conversion]

AT [Average time period over which exposure is averaged in days] = 25,550

According to the Modeling Guidance formula the residential receptors equates to $C_{\text{air}} * 4.1453\text{E-}04 =$ Potential Cancer Risk for DPM equivalent emissions. The model run results are shown below on Figure 3 and Appendix C for the PM10 emissions. Table D provides a summary of the calculated diesel emission concentrations at the nearest sensitive receptors.

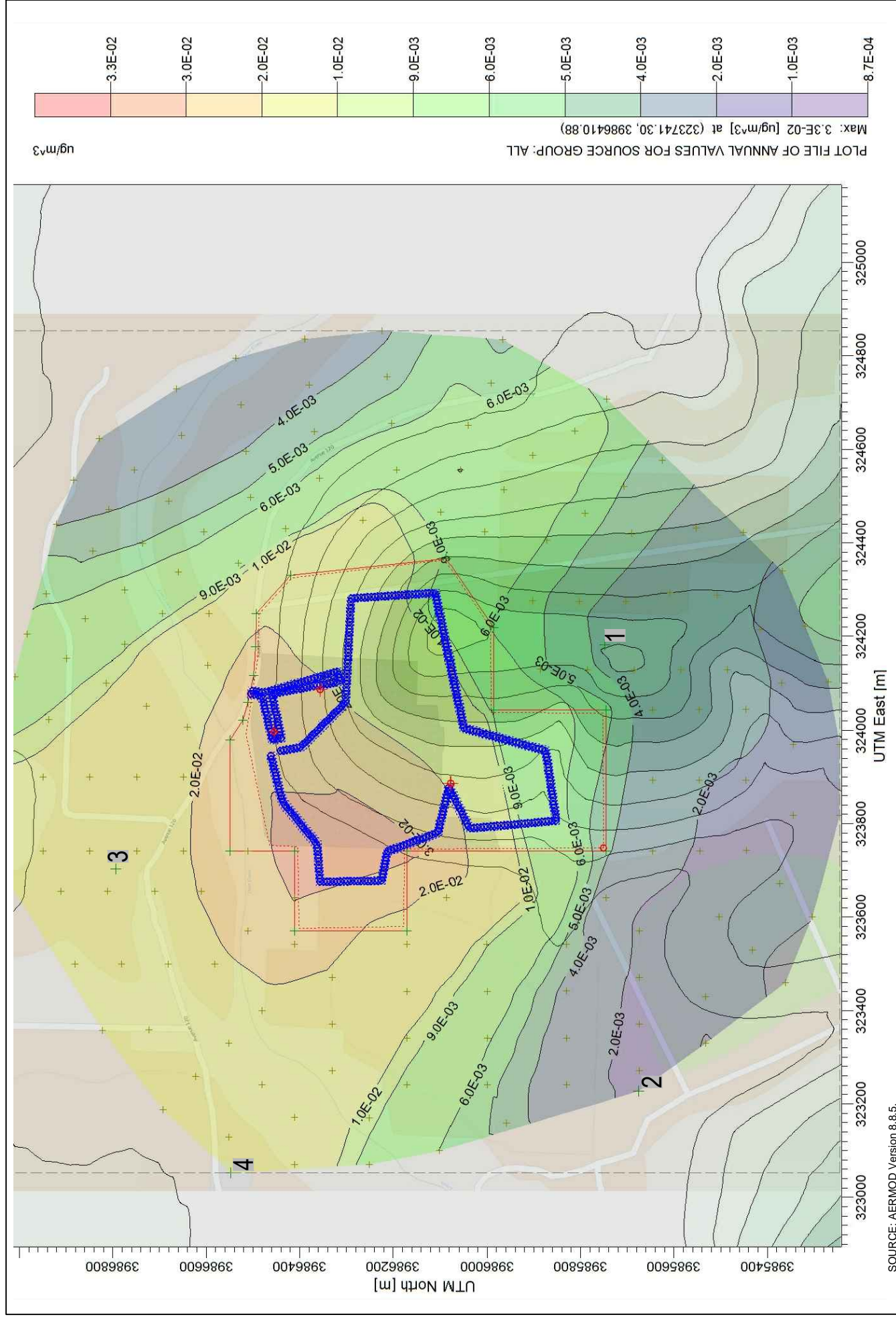
Table D – Diesel Particulate Emission Levels at Nearby Sensitive Receptors

Sensitive Receptor	Receptor Description	Receptor Location		Annual PM10 Concentration ($\mu\text{g}/\text{m}^3$)	Cancer Risk Per Million People ¹
		X	Y		
1	SFR – Southeast of Project Site	324,181	3,985,748	0.0034	1.4
2	SFR – Southwest of Project Site	323,227	3,985,676	0.0014	0.6
3	SFR – Northwest of Project Site	323,703	3,986,794	0.0148	6.1
4	SFR – West of Project Site	323,052	3,986,547	0.0120	5.0
Threshold of Significance					10

Notes:

¹ Cancer risk based on a residential receptor cancer risk = $4.1453\text{E-}04 \times C_{\text{air}}$.

Source: Calculated from ISC-AERMOD View Version 8.8.5.



SOURCE: AERMOD Version 8.8.5.



VISTA ENVIRONMENTAL

Figure 3
Modeled Study Area Annual Diesel PM10 Concentrations

Table D shows the highest concentration of DPM created from the proposed project is 0.0148 µg per m³ and would occur at Sensitive Receptor 3, which represents the home located northwest of the project site. Sensitive Receptor 3 was found to result in a cancer risk increase of 6.1 per million people. All diesel emissions concentrations at the nearby sensitive receptors were found to be below the 10.0 in a million cancer risk threshold that has been discussed above in Section 5.0. Therefore, no significant long-term health impacts would occur from the operation of diesel trucks and equipment on the project site.

Non-Cancer Risks

In addition to the cancer risk from exposure to DPM there is also the potential DPM exposure may result in adverse health impacts from acute and chronic illnesses, which are detailed below.

Chronic Health Impacts

Chronic health effects are characterized by prolonged or repeated exposure to a TAC over many days, months, or years. Symptoms from chronic health impacts may not be immediately apparent and are often irreversible. The chronic hazard index is based on the most impacted sensitive receptor from the proposed project and is calculated from the annual average concentrations of PM10. The relationship for non-cancer chronic health effects is given by the equation:

$$HI_{DPM} = C_{DPM} / REL_{DPM}$$

Where,

HI_{DPM} = Hazard Index; an expression of the potential for non-cancer health effects.

C_{DPM} = Annual average diesel particulate matter concentration in µg/m³.

REL_{DPM} = Reference Exposure Level (REL) for diesel particulate matter; the diesel particulate matter concentration at which no adverse health effects are anticipated.

The REL_{DPM} is 5 µg/m³. The Office of Environmental Health Hazard Assessment as protective for the respiratory system has established this concentration. The AERMOD model found that the annual concentration at the nearest sensitive receptor is 0.0148 µg/m³ for DPM equivalent chronic non-cancer risk emissions. The resulting Hazard Index is:

$$HI_{DPM} = 0.0148 / 5 = 0.00296$$

The criterion for significance is a Chronic Hazard Index increase of 1.0 or greater, which is detailed above in Section 3.0. Therefore, the on-going operations of the proposed project would result in a less than significant impact due to the non-cancer chronic health risk from TAC emissions created by the proposed project.

Acute Health Impacts

Acute health effects are characterized by sudden and severe exposure and rapid absorption of a TAC. Normally, a single large exposure is involved. Acute health effects are often treatable and reversible. The acute hazard index is calculated from the maximum hourly concentrations of PM10 and TOG at the point of maximum impact (PMI), which has been calculated with the AERMOD model and the parameters detailed above in Section 4.0. The relationship for non-cancer acute health effects is given by the equation:

$$AHI = C / AREL$$

Where,

AHI = Acute Hazard Index; an expression of the potential for non-cancer health effects.

C = Maximum hourly concentration of either PM10 or TOG in µg/m³.

AREL = Acute Reference Exposure Level.

The AERMOD model found that the proposed project would create maximum hourly concentrations of 0.305 µg/m³ of PM₁₀ and 0.788 µg/m³ of TOG at the PMI. Appendix B provides the AERMOD output files for the PM₁₀ calculations and Appendix C provides the AERMOD output files for the TOG calculations. Table E provides a list of TAC pollutants from diesel emissions that have the potential to cause acute health risks, the associated pollutant analyzed in the AERMOD model, the ratio of the pollutant to total diesel emissions, the AREL for each pollutant and the calculated Acute Hazard Index for each pollutant.

Table E – Acute Non-Cancer Assessment

TAC from Diesel Emissions	Pollutant	Diesel Weight Ratio¹	Acute Reference Exposure Level (AREL)² µg/m³	Acute Hazard Index (AHI)
Acetaldehyde	TOG	0.0735	470	1.23E-04
Acrolein	TOG	0.003	25	9.46E-05
Arsenic	PM	0.000002	0.2	3.05E-06
Benzene	TOG	0.02	1,300	1.21E-05
Chlorine	PM	0.00003	210	4.36E-08
Copper	PM	0.00006	100	1.83E-07
Formaldehyde	TOG	0.1471	55	2.11E-03
Mercury	PM	0.000006	0.6	3.05E-06
Methanol	TOG	0.0408	28,000	1.15E-06
Methyl Ethyl Ketone	TOG	0.0148	13,000	8.97E-07
Nickel	PM	0.000008	6	4.07E-07
Styrene	TOG	0.0006	21,000	2.25E-08
Toluene	TOG	0.0147	37,000	3.13E-07
Vanadium	PM	0.001	30	1.02E-05
Xylene	TOG	0.0104	22,000	3.73E-07
Total				2.36E-03 (0.0024)

Notes:

¹ Diesel related TAC composition is based on the ARB speciation profile 6099 for PM and 818 for VOC.

² Acute REL is from <http://oehha.ca.gov/air/allrels.html>.

Table E shows that the total acute hazard index from the proposed project would be 0.0024. The criterion for significance is an Acute Hazard Index increase of 1.0 or greater, which is detailed above in Section 5.0. Therefore, the on-going operations of the proposed project would result in a less than significant impact due to the non-cancer acute health risk from TAC emissions created by the proposed project.

7.0 REFERENCES

California Air Resources Board, 2010 California Toxic Inventory in Tons per Year, November 2013.

California Air Resources Board, Appendix VII Risk Characterization Scenarios, October 2000.

California Air Pollution Control Officers Association, Health Risk Assessments for Proposed Land Use Projects, 2009.

California Air Resources Board, The California Almanac of Emissions and Air Quality – 2013 Edition.

California Air Resources Board, Resolution 08-43, December 12, 2008.

CGI Technical Services, Inc., Assessment of the Presence of Ultramafic Rocks and Asbestos Deer Creek Rock Company Tulare County, California, November 8, 2010.

Environmental Protection Agency, Code of Federal Regulation Title 40 Protection of Environment Part 60, July, 2013.

First Carbon Solutions, Air Quality and Greenhouse Gas Analysis Report Deer Creek Rock Company, Inc. Quarry Expansion, October 16, 2014.

Office of Environmental Health Hazard Assessment, Air Toxics Program Risk Assessment Guidelines, August 2003.

San Joaquin Valley Air Pollution Control District, Draft Guidance for Assessing and Mitigating Air Quality Impacts, July 7, 2014.

San Joaquin Valley Air Pollution Control District, Guidance for Air Dispersion Modeling, January, 2007.

APPENDIX A

CalEEMod Model Off-Road Equipment Printouts

Deer Creek Rock Co Quarry Expansion by 450,000 tons per year
Tulare County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	98.00	User Defined Unit	98.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	51
Climate Zone	7			Operational Year	2019

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MW/hr)	641.35	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 98 acres of User Defined Industrial use

Construction Phase - Grading 1-1-19 to 12-31-19. Operational 225 days per year.

Off-road Equipment - Off-Road Equipment List obtained from Air Quality Analysis

Grading -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	155.00	225.00
tblGrading	AcresOfGrading	9.79	10.28
tblLandUse	LotAcreage	0.00	98.00

tbIOffRoadEquipment	HorsePower	162.00	454.00
tbIOffRoadEquipment	HorsePower	205.00	194.00
tbIOffRoadEquipment	HorsePower	226.00	200.00
tbIOffRoadEquipment	HorsePower	208.00	285.00
tbIOffRoadEquipment	HorsePower	89.00	82.00
tbIOffRoadEquipment	HorsePower	400.00	385.00
tbIOffRoadEquipment	HorsePower	199.00	300.00
tbIOffRoadEquipment	HorsePower	64.00	67.00
tbIOffRoadEquipment	LoadFactor	0.43	0.44
tbIOffRoadEquipment	LoadFactor	0.36	0.37
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tbIOffRoadEquipment	PhaseName		Grading
tbIOffRoadEquipment	PhaseName		Grading
tbIOffRoadEquipment	PhaseName		Grading
tbIOffRoadEquipment	PhaseName		Grading
tbIOffRoadEquipment	PhaseName		Grading
tbIOffRoadEquipment	PhaseName		Grading
tbIOffRoadEquipment	PhaseName		Grading
tbIOffRoadEquipment	UsageHours	8.00	4.30
tbIProjectCharacteristics	Operational Year	2014	2019

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr															
2019	0.3194					0.1249	0.1599									
Total	0.3194					0.1249	0.1599									

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr															
2019	0.3194					0.1249	0.1599									
Total	0.3194					0.1249	0.1599									

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2019	11/11/2019	5	225	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10.28

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Bore/Drill Rigs	1	4.30	194	0.50
Grading	Cranes	2	1.90	200	0.29
Grading	Crawler Tractors	1	0.60	285	0.44
Grading	Excavators	2	4.30	454	0.38
Grading	Forklifts	1	4.30	82	0.20
Grading	Off-Highway Trucks	2	4.30	385	0.38
Grading	Rubber Tired Loaders	3	4.30	300	0.37
Grading	Skid Steer Loaders	1	4.30	67	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	13	33.00	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Grading - 2019

Unmitigated Construction On-Site

Mitigated Construction Off-Site

[illegible]

APPENDIX B

EMFAC2011 Printouts

EMFAC2011 Emission Rates

Region Type: County

Region: Tulare

Calendar Year: 2019

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdYr	Speed (miles/hr)	VMT (miles/day)	ROG_RUNE (gms/mile)	TOG_RUNE (gms/mile)	CO_RUNE (gms/mile)	NOX_RUNE (gms/mile)	CO2_RUNE (gms/mile)	PM10_RUNE (gms/mile)	PM2_5_RUNE (gms/mile)
Tulare	2019	Annual	T7	DSL	Aggregater	15	13674.8	0.808898	0.9208689	1.9878438	6.8111342	2701.6394	2485.5083	0.079386999

0.073036

APPENDIX C

AERMOD Model PM10 Printouts

```

**
*****
**
** AERMOD Input Produced by:
** AERMOD View Ver. 8.8.5
** Lakes Environmental Software Inc.
** Date: 11/19/2014
** File: C:\Vista Env\2014\14052 Deer Creek Rock\AERMOD\Deer Creek PM\Deer Creek PM.ADI
**
*****
**
**
*****
** AERMOD Control Pathway
*****
**
**
CO STARTING
  TITLEONE Deer Creek Rock Co - Hard Rock Mine Expansion
  TITLETWO Diesel PM10 Emissions
  MODELOPT DFAULT CONC
  AVERTIME 1 ANNUAL
  POLLUTID PM_10
  RUNORNOT RUN
  ERRORFIL "Deer Creek PM.err"
CO FINISHED
**
*****
** AERMOD Source Pathway
*****
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** -----
** Line Source Represented by Separated Volume Sources
** LINE VOLUME Source ID = RDHAUL
** DESCRSRC Onsite Haul Trucks
** PREFIX
** Length of Side = 3.66
** Configuration = Separated
** Emission Rate = 3.634E-07
** Vertical Dimension = 1.83
** SZINIT = 0.85
** Nodes = 9
** 324078.330, 3986505.217, 174.10, 1.83, 3.39
** 324071.575, 3986479.428, 177.02, 1.83, 3.39
** 323978.856, 3986457.937, 181.11, 1.83, 3.39
** 323983.155, 3986438.902, 181.60, 1.83, 3.39
** 324078.410, 3986459.998, 179.13, 1.83, 3.39
** 324104.756, 3986313.819, 208.68, 1.83, 3.39
** 324126.003, 3986318.068, 207.40, 1.83, 3.39
** 324079.260, 3986478.696, 177.27, 1.83, 3.39
** 324084.774, 3986503.468, 173.94, 1.83, 3.39
** -----
LOCATION L0005039      VOLUME  324077.866 3986503.448 174.11
LOCATION L0005040      VOLUME  324076.018 3986496.392 174.91
LOCATION L0005041      VOLUME  324074.170 3986489.336 175.69
LOCATION L0005042      VOLUME  324072.322 3986482.279 176.44
LOCATION L0005043      VOLUME  324067.341 3986478.446 176.84
LOCATION L0005044      VOLUME  324060.235 3986476.799 177.00
LOCATION L0005045      VOLUME  324053.129 3986475.152 177.22
LOCATION L0005046      VOLUME  324046.024 3986473.505 177.44
LOCATION L0005047      VOLUME  324038.918 3986471.858 177.66
LOCATION L0005048      VOLUME  324031.812 3986470.211 177.88
LOCATION L0005049      VOLUME  324024.706 3986468.564 178.10
LOCATION L0005050      VOLUME  324017.600 3986466.917 178.32
LOCATION L0005051      VOLUME  324010.494 3986465.270 178.54
LOCATION L0005052      VOLUME  324003.388 3986463.623 178.63
LOCATION L0005053      VOLUME  323996.283 3986461.976 178.75
LOCATION L0005054      VOLUME  323989.177 3986460.329 178.89
LOCATION L0005055      VOLUME  323982.071 3986458.682 179.05
LOCATION L0005056      VOLUME  323979.736 3986454.040 179.79
LOCATION L0005057      VOLUME  323981.343 3986446.925 180.98
LOCATION L0005058      VOLUME  323982.949 3986439.810 181.96
LOCATION L0005059      VOLUME  323989.367 3986440.278 181.94
LOCATION L0005060      VOLUME  323996.489 3986441.855 181.75
LOCATION L0005061      VOLUME  324003.610 3986443.432 181.54

```

LOCATION L0005062	VOLUME	324010.732	3986445.009	181.30
LOCATION L0005063	VOLUME	324017.854	3986446.587	181.04
LOCATION L0005064	VOLUME	324024.975	3986448.164	180.82
LOCATION L0005065	VOLUME	324032.097	3986449.741	180.61
LOCATION L0005066	VOLUME	324039.219	3986451.318	180.40
LOCATION L0005067	VOLUME	324046.340	3986452.896	180.19
LOCATION L0005068	VOLUME	324053.462	3986454.473	179.98
LOCATION L0005069	VOLUME	324060.584	3986456.050	179.77
LOCATION L0005070	VOLUME	324067.705	3986457.628	179.56
LOCATION L0005071	VOLUME	324074.827	3986459.205	179.26
LOCATION L0005072	VOLUME	324079.053	3986456.431	179.52
LOCATION L0005073	VOLUME	324080.347	3986449.253	180.36
LOCATION L0005074	VOLUME	324081.640	3986442.074	181.47
LOCATION L0005075	VOLUME	324082.934	3986434.896	182.73
LOCATION L0005076	VOLUME	324084.228	3986427.717	184.01
LOCATION L0005077	VOLUME	324085.522	3986420.538	185.32
LOCATION L0005078	VOLUME	324086.816	3986413.360	186.69
LOCATION L0005079	VOLUME	324088.109	3986406.181	188.13
LOCATION L0005080	VOLUME	324089.403	3986399.003	189.56
LOCATION L0005081	VOLUME	324090.697	3986391.824	191.00
LOCATION L0005082	VOLUME	324091.991	3986384.646	192.49
LOCATION L0005083	VOLUME	324093.285	3986377.467	194.11
LOCATION L0005084	VOLUME	324094.579	3986370.288	195.76
LOCATION L0005085	VOLUME	324095.872	3986363.110	197.42
LOCATION L0005086	VOLUME	324097.166	3986355.931	199.11
LOCATION L0005087	VOLUME	324098.460	3986348.753	200.83
LOCATION L0005088	VOLUME	324099.754	3986341.574	202.55
LOCATION L0005089	VOLUME	324101.048	3986334.396	204.23
LOCATION L0005090	VOLUME	324102.341	3986327.217	205.91
LOCATION L0005091	VOLUME	324103.635	3986320.038	207.58
LOCATION L0005092	VOLUME	324105.712	3986314.010	208.99
LOCATION L0005093	VOLUME	324112.864	3986315.441	208.65
LOCATION L0005094	VOLUME	324120.017	3986316.871	208.32
LOCATION L0005095	VOLUME	324125.671	3986319.211	207.77
LOCATION L0005096	VOLUME	324123.633	3986326.214	206.14
LOCATION L0005097	VOLUME	324121.595	3986333.218	204.51
LOCATION L0005098	VOLUME	324119.556	3986340.222	202.87
LOCATION L0005099	VOLUME	324117.518	3986347.226	201.24
LOCATION L0005100	VOLUME	324115.480	3986354.229	199.60
LOCATION L0005101	VOLUME	324113.442	3986361.233	197.97
LOCATION L0005102	VOLUME	324111.404	3986368.237	196.33
LOCATION L0005103	VOLUME	324109.366	3986375.240	194.70
LOCATION L0005104	VOLUME	324107.328	3986382.244	193.07
LOCATION L0005105	VOLUME	324105.290	3986389.248	191.50
LOCATION L0005106	VOLUME	324103.251	3986396.252	190.08
LOCATION L0005107	VOLUME	324101.213	3986403.255	188.69
LOCATION L0005108	VOLUME	324099.175	3986410.259	187.31
LOCATION L0005109	VOLUME	324097.137	3986417.263	185.91
LOCATION L0005110	VOLUME	324095.099	3986424.266	184.55
LOCATION L0005111	VOLUME	324093.061	3986431.270	183.22
LOCATION L0005112	VOLUME	324091.023	3986438.274	181.92
LOCATION L0005113	VOLUME	324088.985	3986445.277	180.66
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LOCATION L0005115	VOLUME	324084.908	3986459.285	179.05
LOCATION L0005116	VOLUME	324082.870	3986466.289	178.25
LOCATION L0005117	VOLUME	324080.832	3986473.292	177.43
LOCATION L0005118	VOLUME	324079.622	3986480.323	176.61
LOCATION L0005119	VOLUME	324081.207	3986487.443	175.81
LOCATION L0005120	VOLUME	324082.792	3986494.563	174.97
LOCATION L0005121	VOLUME	324084.377	3986501.683	174.12

** End of LINE VOLUME Source ID = RDHAUL

** -----

** Line Source Represented by Separated Volume Sources

** LINE VOLUME Source ID = RDONSITE

** DESCRSRC Onsite Maintenance Trucks

** PREFIX

** Length of Side = 3.66

** Configuration = Separated

** Emission Rate = 7.1E-08

** Vertical Dimension = 1.83

** SZINIT = 0.85

** Nodes = 17

** 323946.521, 3986461.935, 177.89, 0.00, 3.40

** 323847.044, 3986436.759, 174.62, 0.00, 3.40

** 323755.550, 3986362.458, 170.44, 0.00, 3.40

** 323675.367, 3986356.126, 168.97, 0.00, 3.40

** 323677.908, 3986224.329, 171.06, 0.00, 3.40

** 323740.084, 3986213.645, 178.05, 0.00, 3.40

** 323781.001, 3986104.642, 189.08, 0.00, 3.40

** 323877.608, 3986081.389, 205.62, 0.00, 3.40
** 323789.780, 3986037.865, 193.02, 0.00, 3.40
** 323806.381, 3985852.080, 197.42, 0.00, 3.40
** 323955.846, 3985874.223, 209.41, 0.00, 3.40
** 324004.284, 3986049.983, 228.70, 0.00, 3.40
** 324292.656, 3986109.117, 249.33, 0.00, 3.40
** 324280.906, 3986290.064, 207.65, 0.00, 3.40
** 324059.642, 3986301.860, 211.75, 0.00, 3.40
** 323964.150, 3986397.352, 189.65, 0.00, 3.40
** 323955.846, 3986443.022, 180.39, 0.00, 3.40
**

LOCATION L0005122 VOLUME 323944.749 3986461.487 177.87
LOCATION L0005123 VOLUME 323937.672 3986459.695 177.87
LOCATION L0005124 VOLUME 323930.594 3986457.904 177.87
LOCATION L0005125 VOLUME 323923.517 3986456.113 177.88
LOCATION L0005126 VOLUME 323916.440 3986454.322 177.88
LOCATION L0005127 VOLUME 323909.363 3986452.531 177.88
LOCATION L0005128 VOLUME 323902.286 3986450.740 177.88
LOCATION L0005129 VOLUME 323895.209 3986448.949 177.89
LOCATION L0005130 VOLUME 323888.132 3986447.158 177.83
LOCATION L0005131 VOLUME 323881.055 3986445.367 177.53
LOCATION L0005132 VOLUME 323873.978 3986443.576 177.19
LOCATION L0005133 VOLUME 323866.901 3986441.784 176.83
LOCATION L0005134 VOLUME 323859.824 3986439.993 176.43
LOCATION L0005135 VOLUME 323852.747 3986438.202 175.84
LOCATION L0005136 VOLUME 323845.944 3986435.865 175.32
LOCATION L0005137 VOLUME 323840.277 3986431.263 175.06
LOCATION L0005138 VOLUME 323834.610 3986426.661 174.80
LOCATION L0005139 VOLUME 323828.943 3986422.059 174.54
LOCATION L0005140 VOLUME 323823.276 3986417.457 174.28
LOCATION L0005141 VOLUME 323817.609 3986412.855 173.96
LOCATION L0005142 VOLUME 323811.942 3986408.253 173.59
LOCATION L0005143 VOLUME 323806.275 3986403.651 173.15
LOCATION L0005144 VOLUME 323800.608 3986399.049 172.66
LOCATION L0005145 VOLUME 323794.941 3986394.447 172.23
LOCATION L0005146 VOLUME 323789.274 3986389.845 171.82
LOCATION L0005147 VOLUME 323783.607 3986385.243 171.43
LOCATION L0005148 VOLUME 323777.941 3986380.641 171.05
LOCATION L0005149 VOLUME 323772.274 3986376.039 170.61
LOCATION L0005150 VOLUME 323766.607 3986371.437 170.40
LOCATION L0005151 VOLUME 323760.940 3986366.835 170.36
LOCATION L0005152 VOLUME 323755.194 3986362.430 170.32
LOCATION L0005153 VOLUME 323747.916 3986361.855 170.09
LOCATION L0005154 VOLUME 323740.639 3986361.281 169.87
LOCATION L0005155 VOLUME 323733.361 3986360.706 169.68
LOCATION L0005156 VOLUME 323726.084 3986360.131 169.47
LOCATION L0005157 VOLUME 323718.806 3986359.556 169.26
LOCATION L0005158 VOLUME 323711.529 3986358.982 169.04
LOCATION L0005159 VOLUME 323704.251 3986358.407 168.99
LOCATION L0005160 VOLUME 323696.974 3986357.832 168.99
LOCATION L0005161 VOLUME 323689.696 3986357.257 168.99
LOCATION L0005162 VOLUME 323682.419 3986356.682 169.00
LOCATION L0005163 VOLUME 323675.371 3986355.899 168.85
LOCATION L0005164 VOLUME 323675.512 3986348.600 168.89
LOCATION L0005165 VOLUME 323675.653 3986341.301 168.93
LOCATION L0005166 VOLUME 323675.794 3986334.003 168.97
LOCATION L0005167 VOLUME 323675.934 3986326.704 169.00
LOCATION L0005168 VOLUME 323676.075 3986319.405 169.21
LOCATION L0005169 VOLUME 323676.216 3986312.106 169.43
LOCATION L0005170 VOLUME 323676.357 3986304.807 169.64
LOCATION L0005171 VOLUME 323676.497 3986297.508 169.86
LOCATION L0005172 VOLUME 323676.638 3986290.210 169.91
LOCATION L0005173 VOLUME 323676.779 3986282.911 169.94
LOCATION L0005174 VOLUME 323676.919 3986275.612 169.97
LOCATION L0005175 VOLUME 323677.060 3986268.313 170.00
LOCATION L0005176 VOLUME 323677.201 3986261.014 170.18
LOCATION L0005177 VOLUME 323677.342 3986253.716 170.40
LOCATION L0005178 VOLUME 323677.482 3986246.417 170.62
LOCATION L0005179 VOLUME 323677.623 3986239.118 170.85
LOCATION L0005180 VOLUME 323677.764 3986231.819 170.92
LOCATION L0005181 VOLUME 323677.905 3986224.520 170.93
LOCATION L0005182 VOLUME 323684.915 3986223.125 171.40
LOCATION L0005183 VOLUME 323692.109 3986221.889 172.00
LOCATION L0005184 VOLUME 323699.304 3986220.653 172.63
LOCATION L0005185 VOLUME 323706.499 3986219.416 173.27
LOCATION L0005186 VOLUME 323713.694 3986218.180 174.06
LOCATION L0005187 VOLUME 323720.888 3986216.944 174.98
LOCATION L0005188 VOLUME 323728.083 3986215.707 175.93
LOCATION L0005189 VOLUME 323735.278 3986214.471 176.89

LOCATION	L0005190	VOLUME	323740.936	3986211.376	177.81
LOCATION	L0005191	VOLUME	323743.501	3986204.542	178.61
LOCATION	L0005192	VOLUME	323746.067	3986197.707	179.41
LOCATION	L0005193	VOLUME	323748.632	3986190.873	180.20
LOCATION	L0005194	VOLUME	323751.198	3986184.038	181.00
LOCATION	L0005195	VOLUME	323753.763	3986177.204	181.80
LOCATION	L0005196	VOLUME	323756.329	3986170.369	182.60
LOCATION	L0005197	VOLUME	323758.894	3986163.535	183.39
LOCATION	L0005198	VOLUME	323761.460	3986156.700	184.19
LOCATION	L0005199	VOLUME	323764.025	3986149.865	184.99
LOCATION	L0005200	VOLUME	323766.591	3986143.031	185.76
LOCATION	L0005201	VOLUME	323769.156	3986136.196	186.56
LOCATION	L0005202	VOLUME	323771.722	3986129.362	187.46
LOCATION	L0005203	VOLUME	323774.287	3986122.527	188.35
LOCATION	L0005204	VOLUME	323776.853	3986115.693	189.17
LOCATION	L0005205	VOLUME	323779.418	3986108.858	189.82
LOCATION	L0005206	VOLUME	323783.720	3986103.988	190.70
LOCATION	L0005207	VOLUME	323790.817	3986102.279	191.94
LOCATION	L0005208	VOLUME	323797.915	3986100.571	193.18
LOCATION	L0005209	VOLUME	323805.012	3986098.863	194.32
LOCATION	L0005210	VOLUME	323812.110	3986097.154	195.40
LOCATION	L0005211	VOLUME	323819.207	3986095.446	196.45
LOCATION	L0005212	VOLUME	323826.305	3986093.738	197.47
LOCATION	L0005213	VOLUME	323833.402	3986092.029	198.53
LOCATION	L0005214	VOLUME	323840.500	3986090.321	199.70
LOCATION	L0005215	VOLUME	323847.597	3986088.613	200.89
LOCATION	L0005216	VOLUME	323854.695	3986086.904	202.10
LOCATION	L0005217	VOLUME	323861.792	3986085.196	203.34
LOCATION	L0005218	VOLUME	323868.890	3986083.487	204.55
LOCATION	L0005219	VOLUME	323875.987	3986081.779	205.73
LOCATION	L0005220	VOLUME	323872.560	3986078.888	205.23
LOCATION	L0005221	VOLUME	323866.019	3986075.646	204.29
LOCATION	L0005222	VOLUME	323859.478	3986072.405	203.38
LOCATION	L0005223	VOLUME	323852.937	3986069.163	202.40
LOCATION	L0005224	VOLUME	323846.396	3986065.922	201.42
LOCATION	L0005225	VOLUME	323839.855	3986062.680	200.43
LOCATION	L0005226	VOLUME	323833.314	3986059.439	199.45
LOCATION	L0005227	VOLUME	323826.773	3986056.197	198.58
LOCATION	L0005228	VOLUME	323820.232	3986052.956	197.77
LOCATION	L0005229	VOLUME	323813.691	3986049.714	196.92
LOCATION	L0005230	VOLUME	323807.150	3986046.473	196.02
LOCATION	L0005231	VOLUME	323800.608	3986043.231	195.08
LOCATION	L0005232	VOLUME	323794.067	3986039.990	194.00
LOCATION	L0005233	VOLUME	323790.004	3986035.360	193.32
LOCATION	L0005234	VOLUME	323790.654	3986028.088	193.43
LOCATION	L0005235	VOLUME	323791.303	3986020.817	193.68
LOCATION	L0005236	VOLUME	323791.953	3986013.546	193.97
LOCATION	L0005237	VOLUME	323792.603	3986006.275	194.27
LOCATION	L0005238	VOLUME	323793.253	3985999.003	194.58
LOCATION	L0005239	VOLUME	323793.902	3985991.732	194.63
LOCATION	L0005240	VOLUME	323794.552	3985984.461	194.56
LOCATION	L0005241	VOLUME	323795.202	3985977.190	194.48
LOCATION	L0005242	VOLUME	323795.851	3985969.919	194.38
LOCATION	L0005243	VOLUME	323796.501	3985962.647	194.28
LOCATION	L0005244	VOLUME	323797.151	3985955.376	194.17
LOCATION	L0005245	VOLUME	323797.801	3985948.105	194.04
LOCATION	L0005246	VOLUME	323798.450	3985940.834	193.91
LOCATION	L0005247	VOLUME	323799.100	3985933.563	193.76
LOCATION	L0005248	VOLUME	323799.750	3985926.291	193.61
LOCATION	L0005249	VOLUME	323800.399	3985919.020	193.44
LOCATION	L0005250	VOLUME	323801.049	3985911.749	193.25
LOCATION	L0005251	VOLUME	323801.699	3985904.478	193.11
LOCATION	L0005252	VOLUME	323802.349	3985897.206	193.18
LOCATION	L0005253	VOLUME	323802.998	3985889.935	193.25
LOCATION	L0005254	VOLUME	323803.648	3985882.664	193.33
LOCATION	L0005255	VOLUME	323804.298	3985875.393	193.63
LOCATION	L0005256	VOLUME	323804.947	3985868.122	194.74
LOCATION	L0005257	VOLUME	323805.597	3985860.850	195.88
LOCATION	L0005258	VOLUME	323806.247	3985853.579	197.03
LOCATION	L0005259	VOLUME	323812.113	3985852.929	198.03
LOCATION	L0005260	VOLUME	323819.334	3985853.999	198.94
LOCATION	L0005261	VOLUME	323826.556	3985855.069	199.83
LOCATION	L0005262	VOLUME	323833.777	3985856.138	200.42
LOCATION	L0005263	VOLUME	323840.998	3985857.208	200.78
LOCATION	L0005264	VOLUME	323848.220	3985858.278	201.15
LOCATION	L0005265	VOLUME	323855.441	3985859.348	201.54
LOCATION	L0005266	VOLUME	323862.663	3985860.418	201.95
LOCATION	L0005267	VOLUME	323869.884	3985861.488	202.38
LOCATION	L0005268	VOLUME	323877.105	3985862.557	202.78

LOCATION	L0005269	VOLUME	323884.327	3985863.627	203.17
LOCATION	L0005270	VOLUME	323891.548	3985864.697	203.56
LOCATION	L0005271	VOLUME	323898.769	3985865.767	204.05
LOCATION	L0005272	VOLUME	323905.991	3985866.837	204.59
LOCATION	L0005273	VOLUME	323913.212	3985867.907	205.18
LOCATION	L0005274	VOLUME	323920.433	3985868.976	205.82
LOCATION	L0005275	VOLUME	323927.655	3985870.046	206.52
LOCATION	L0005276	VOLUME	323934.876	3985871.116	207.26
LOCATION	L0005277	VOLUME	323942.098	3985872.186	208.06
LOCATION	L0005278	VOLUME	323949.319	3985873.256	208.91
LOCATION	L0005279	VOLUME	323956.033	3985874.899	210.35
LOCATION	L0005280	VOLUME	323957.972	3985881.937	211.48
LOCATION	L0005281	VOLUME	323959.912	3985888.975	212.78
LOCATION	L0005282	VOLUME	323961.851	3985896.013	214.06
LOCATION	L0005283	VOLUME	323963.791	3985903.050	215.30
LOCATION	L0005284	VOLUME	323965.731	3985910.088	216.35
LOCATION	L0005285	VOLUME	323967.670	3985917.126	217.21
LOCATION	L0005286	VOLUME	323969.610	3985924.164	218.06
LOCATION	L0005287	VOLUME	323971.549	3985931.202	218.92
LOCATION	L0005288	VOLUME	323973.489	3985938.239	219.78
LOCATION	L0005289	VOLUME	323975.428	3985945.277	220.63
LOCATION	L0005290	VOLUME	323977.368	3985952.315	221.49
LOCATION	L0005291	VOLUME	323979.307	3985959.353	222.35
LOCATION	L0005292	VOLUME	323981.247	3985966.391	223.21
LOCATION	L0005293	VOLUME	323983.187	3985973.428	223.62
LOCATION	L0005294	VOLUME	323985.126	3985980.466	224.01
LOCATION	L0005295	VOLUME	323987.066	3985987.504	224.40
LOCATION	L0005296	VOLUME	323989.005	3985994.542	224.79
LOCATION	L0005297	VOLUME	323990.945	3986001.580	225.17
LOCATION	L0005298	VOLUME	323992.884	3986008.618	225.56
LOCATION	L0005299	VOLUME	323994.824	3986015.655	225.95
LOCATION	L0005300	VOLUME	323996.763	3986022.693	226.34
LOCATION	L0005301	VOLUME	323998.703	3986029.731	226.72
LOCATION	L0005302	VOLUME	324000.643	3986036.769	227.11
LOCATION	L0005303	VOLUME	324002.582	3986043.807	227.50
LOCATION	L0005304	VOLUME	324005.159	3986050.163	228.02
LOCATION	L0005305	VOLUME	324012.311	3986051.629	229.45
LOCATION	L0005306	VOLUME	324019.462	3986053.096	230.88
LOCATION	L0005307	VOLUME	324026.613	3986054.562	232.31
LOCATION	L0005308	VOLUME	324033.765	3986056.029	233.74
LOCATION	L0005309	VOLUME	324040.916	3986057.495	235.12
LOCATION	L0005310	VOLUME	324048.068	3986058.961	236.28
LOCATION	L0005311	VOLUME	324055.219	3986060.428	237.46
LOCATION	L0005312	VOLUME	324062.370	3986061.894	238.67
LOCATION	L0005313	VOLUME	324069.522	3986063.361	239.90
LOCATION	L0005314	VOLUME	324076.673	3986064.827	241.38
LOCATION	L0005315	VOLUME	324083.824	3986066.294	242.89
LOCATION	L0005316	VOLUME	324090.976	3986067.760	244.43
LOCATION	L0005317	VOLUME	324098.127	3986069.227	246.00
LOCATION	L0005318	VOLUME	324105.279	3986070.693	247.76
LOCATION	L0005319	VOLUME	324112.430	3986072.160	249.60
LOCATION	L0005320	VOLUME	324119.581	3986073.626	251.47
LOCATION	L0005321	VOLUME	324126.733	3986075.092	253.37
LOCATION	L0005322	VOLUME	324133.884	3986076.559	255.08
LOCATION	L0005323	VOLUME	324141.035	3986078.025	256.60
LOCATION	L0005324	VOLUME	324148.187	3986079.492	258.13
LOCATION	L0005325	VOLUME	324155.338	3986080.958	259.66
LOCATION	L0005326	VOLUME	324162.490	3986082.425	261.26
LOCATION	L0005327	VOLUME	324169.641	3986083.891	263.00
LOCATION	L0005328	VOLUME	324176.792	3986085.358	264.77
LOCATION	L0005329	VOLUME	324183.944	3986086.824	266.57
LOCATION	L0005330	VOLUME	324191.095	3986088.291	267.86
LOCATION	L0005331	VOLUME	324198.246	3986089.757	268.04
LOCATION	L0005332	VOLUME	324205.398	3986091.224	268.13
LOCATION	L0005333	VOLUME	324212.549	3986092.690	268.13
LOCATION	L0005334	VOLUME	324219.701	3986094.156	268.03
LOCATION	L0005335	VOLUME	324226.852	3986095.623	266.49
LOCATION	L0005336	VOLUME	324234.003	3986097.089	264.95
LOCATION	L0005337	VOLUME	324241.155	3986098.556	263.48
LOCATION	L0005338	VOLUME	324248.306	3986100.022	262.08
LOCATION	L0005339	VOLUME	324255.457	3986101.489	259.94
LOCATION	L0005340	VOLUME	324262.609	3986102.955	257.58
LOCATION	L0005341	VOLUME	324269.760	3986104.422	255.28
LOCATION	L0005342	VOLUME	324276.912	3986105.888	253.02
LOCATION	L0005343	VOLUME	324284.063	3986107.355	250.79
LOCATION	L0005344	VOLUME	324291.214	3986108.821	248.56
LOCATION	L0005345	VOLUME	324292.278	3986114.933	247.56
LOCATION	L0005346	VOLUME	324291.805	3986122.218	246.25
LOCATION	L0005347	VOLUME	324291.332	3986129.503	244.72

LOCATION	L0005348	VOLUME	324290.859	3986136.788	243.16
LOCATION	L0005349	VOLUME	324290.386	3986144.073	241.58
LOCATION	L0005350	VOLUME	324289.913	3986151.357	239.87
LOCATION	L0005351	VOLUME	324289.440	3986158.642	238.10
LOCATION	L0005352	VOLUME	324288.967	3986165.927	236.31
LOCATION	L0005353	VOLUME	324288.494	3986173.212	234.52
LOCATION	L0005354	VOLUME	324288.021	3986180.497	232.73
LOCATION	L0005355	VOLUME	324287.548	3986187.782	230.92
LOCATION	L0005356	VOLUME	324287.075	3986195.067	229.11
LOCATION	L0005357	VOLUME	324286.602	3986202.351	227.29
LOCATION	L0005358	VOLUME	324286.129	3986209.636	225.55
LOCATION	L0005359	VOLUME	324285.656	3986216.921	223.96
LOCATION	L0005360	VOLUME	324285.183	3986224.206	222.36
LOCATION	L0005361	VOLUME	324284.710	3986231.491	220.75
LOCATION	L0005362	VOLUME	324284.237	3986238.776	219.14
LOCATION	L0005363	VOLUME	324283.764	3986246.060	217.51
LOCATION	L0005364	VOLUME	324283.291	3986253.345	215.88
LOCATION	L0005365	VOLUME	324282.818	3986260.630	214.24
LOCATION	L0005366	VOLUME	324282.345	3986267.915	212.63
LOCATION	L0005367	VOLUME	324281.872	3986275.200	211.19
LOCATION	L0005368	VOLUME	324281.399	3986282.485	209.75
LOCATION	L0005369	VOLUME	324280.926	3986289.769	208.33
LOCATION	L0005370	VOLUME	324273.912	3986290.437	208.73
LOCATION	L0005371	VOLUME	324266.622	3986290.826	209.18
LOCATION	L0005372	VOLUME	324259.332	3986291.214	209.63
LOCATION	L0005373	VOLUME	324252.042	3986291.603	210.07
LOCATION	L0005374	VOLUME	324244.752	3986291.992	210.48
LOCATION	L0005375	VOLUME	324237.462	3986292.380	210.88
LOCATION	L0005376	VOLUME	324230.173	3986292.769	211.27
LOCATION	L0005377	VOLUME	324222.883	3986293.158	211.67
LOCATION	L0005378	VOLUME	324215.593	3986293.546	211.93
LOCATION	L0005379	VOLUME	324208.303	3986293.935	212.10
LOCATION	L0005380	VOLUME	324201.013	3986294.323	212.27
LOCATION	L0005381	VOLUME	324193.723	3986294.712	212.43
LOCATION	L0005382	VOLUME	324186.434	3986295.101	212.58
LOCATION	L0005383	VOLUME	324179.144	3986295.489	212.73
LOCATION	L0005384	VOLUME	324171.854	3986295.878	212.88
LOCATION	L0005385	VOLUME	324164.564	3986296.267	213.01
LOCATION	L0005386	VOLUME	324157.274	3986296.655	213.05
LOCATION	L0005387	VOLUME	324149.984	3986297.044	212.95
LOCATION	L0005388	VOLUME	324142.695	3986297.433	212.86
LOCATION	L0005389	VOLUME	324135.405	3986297.821	212.76
LOCATION	L0005390	VOLUME	324128.115	3986298.210	212.67
LOCATION	L0005391	VOLUME	324120.825	3986298.599	212.58
LOCATION	L0005392	VOLUME	324113.535	3986298.987	212.49
LOCATION	L0005393	VOLUME	324106.245	3986299.376	212.40
LOCATION	L0005394	VOLUME	324098.956	3986299.764	212.27
LOCATION	L0005395	VOLUME	324091.666	3986300.153	211.94
LOCATION	L0005396	VOLUME	324084.376	3986300.542	211.61
LOCATION	L0005397	VOLUME	324077.086	3986300.930	211.27
LOCATION	L0005398	VOLUME	324069.796	3986301.319	210.93
LOCATION	L0005399	VOLUME	324062.506	3986301.708	210.39
LOCATION	L0005400	VOLUME	324056.508	3986304.994	209.31
LOCATION	L0005401	VOLUME	324051.346	3986310.156	207.92
LOCATION	L0005402	VOLUME	324046.184	3986315.318	206.58
LOCATION	L0005403	VOLUME	324041.022	3986320.480	205.31
LOCATION	L0005404	VOLUME	324035.860	3986325.642	203.95
LOCATION	L0005405	VOLUME	324030.698	3986330.804	202.58
LOCATION	L0005406	VOLUME	324025.536	3986335.966	201.20
LOCATION	L0005407	VOLUME	324020.374	3986341.128	199.82
LOCATION	L0005408	VOLUME	324015.212	3986346.290	198.45
LOCATION	L0005409	VOLUME	324010.050	3986351.452	197.07
LOCATION	L0005410	VOLUME	324004.888	3986356.614	195.87
LOCATION	L0005411	VOLUME	323999.726	3986361.776	194.83
LOCATION	L0005412	VOLUME	323994.564	3986366.938	193.80
LOCATION	L0005413	VOLUME	323989.402	3986372.100	192.76
LOCATION	L0005414	VOLUME	323984.240	3986377.262	191.73
LOCATION	L0005415	VOLUME	323979.078	3986382.424	190.69
LOCATION	L0005416	VOLUME	323973.916	3986387.586	189.67
LOCATION	L0005417	VOLUME	323968.754	3986392.748	188.63
LOCATION	L0005418	VOLUME	323964.009	3986398.128	187.58
LOCATION	L0005419	VOLUME	323962.703	3986405.311	186.34
LOCATION	L0005420	VOLUME	323961.397	3986412.493	185.10
LOCATION	L0005421	VOLUME	323960.091	3986419.676	183.95
LOCATION	L0005422	VOLUME	323958.785	3986426.858	182.95
LOCATION	L0005423	VOLUME	323957.479	3986434.041	181.95
LOCATION	L0005424	VOLUME	323956.174	3986441.223	180.95

** End of LINE VOLUME Source ID = RDONSITE

LOCATION	IDLESCALE	POINT	323996.790	3986454.370	179.880
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** DESCRSRC Haul Trucks Idling at Scale
LOCATION IDLEAGG POINT 324087.440 3986355.830 198.810
** DESCRSRC Haul Trucks Idling at Aggregate Loading
LOCATION IDLEMAIN POINT 323886.590 3986077.540 207.450
** DESCRSRC Maintenance Trucks Idling
LOCATION OFFROAD AREAPOLY 323748.680 3985751.233 192.120
** DESCRSRC Off-Road Diesel Equipment
** Source Parameters **
** LINE VOLUME Source ID = RDHAUL
SRCPARAM L0005039 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005040 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005041 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005042 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005043 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005044 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005045 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005046 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005047 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005048 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005049 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005050 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005051 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005052 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005053 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005054 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005055 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005056 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005057 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005058 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005059 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005060 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005061 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005062 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005063 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005064 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005065 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005066 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005067 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005068 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005069 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005070 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005071 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005072 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005073 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005074 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005075 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005076 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005077 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005078 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005079 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005080 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005081 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005082 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005083 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005084 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005085 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005086 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005087 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005088 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005089 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005090 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005091 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005092 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005093 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005094 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005095 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005096 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005097 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005098 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005099 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005100 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005101 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005102 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005103 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005104 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005105 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005106 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005107 0.000000004378 1.83 3.39 0.85
SRCPARAM L0005108 0.000000004378 1.83 3.39 0.85

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[illegible]

[illegible]

[illegible]

SRCPARAM L0005423	0.000000000234	0.00	3.40	0.85
SRCPARAM L0005424	0.000000000234	0.00	3.40	0.85

**

SRCPARAM IDLESCALE	9.046E-06	3.840	366.000	51.71000	0.100
SRCPARAM IDLEAGG	9.046E-06	3.840	366.000	51.71000	0.100
SRCPARAM IDLEMAIN	1.768E-06	3.840	366.000	51.71000	0.100
SRCPARAM OFFROAD	8.708E-09	3.658	14	30.480	
AREAVERT OFFROAD	323748.680	3985751.233	323745.701	3986175.992	
AREAVERT OFFROAD	323580.374	3986177.540	323576.213	3986401.170	
AREAVERT OFFROAD	323750.957	3986404.291	323754.078	3986464.618	
AREAVERT OFFROAD	323990.954	3986515.229	324161.314	3986488.269	
AREAVERT OFFROAD	324246.206	3986487.691	324325.072	3986416.720	
AREAVERT OFFROAD	324362.408	3986090.198	324217.649	3985993.179	
AREAVERT OFFROAD	324037.598	3985990.916	324036.586	3985752.631	

SRCGROUP ALL

SO FINISHED

**

** AERMOD Receptor Pathway

**

**

RE STARTING

INCLUDED "Deer Creek PM.rou"

RE FINISHED

**

** AERMOD Meteorology Pathway

**

**

ME STARTING

SURFFILE ..\23149_06-09.SFC

PROFFILE ..\23149_06-09.PFL

SURFDATA 23149 2006 Porterville_Airport

UAIRDATA 23230 2006 OAKLAND/WSO_AP

PROFBASE 135.0 METERS

ME FINISHED

**

** AERMOD Output Pathway

**

**

OU STARTING

RECTABLE ALLAVE 1ST

RECTABLE 1 1ST

** Auto-Generated Plotfiles

PLOTFILE 1 ALL 1ST "DEER CREEK PM.AD\01H1GALL.PLT" 31

PLOTFILE ANNUAL ALL "DEER CREEK PM.AD\AN00GALL.PLT" 32

SUMMFILE "Deer Creek PM.sum"

OU FINISHED

*** Message Summary For AERMOD Model Setup ***

----- Summary of Total Messages -----

A Total of	0 Fatal Error Message(s)
A Total of	3 Warning Message(s)
A Total of	0 Informational Message(s)

***** FATAL ERROR MESSAGES *****

*** NONE ***

***** WARNING MESSAGES *****

SO W320	873	PPARM: Input Parameter May Be Out-of-Range for Parameter	VS
SO W320	874	PPARM: Input Parameter May Be Out-of-Range for Parameter	VS
SO W320	875	PPARM: Input Parameter May Be Out-of-Range for Parameter	VS

*** SETUP Finishes Successfully ***

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
11/19/14
*** AERMET - VERSION 14134 *** *** Diesel PM10 Emissions ***
19:32:16

PAGE 1
**MODELOPTs: RegDEFAULT CONC ELEV

*** MODEL SETUP OPTIONS SUMMARY ***

**Model Is Setup For Calculation of Average CONCentration Values.

-- DEPOSITION LOGIC --

**NO GAS DEPOSITION Data Provided.

**NO PARTICLE DEPOSITION Data Provided.

**Model Uses NO DRY DEPLETION. DRYDPLT = F

**Model Uses NO WET DEPLETION. WETDPLT = F

**Model Uses RURAL Dispersion Only.

**Model Uses Regulatory DEFAULT Options:

1. Stack-tip Downwash.
2. Model Accounts for ELEVated Terrain Effects.
3. Use Calms Processing Routine.
4. Use Missing Data Processing Routine.
5. No Exponential Decay.

**Other Options Specified:

CCVR_Sub - Meteorological data includes CCVR substitutions

TEMP_Sub - Meteorological data includes TEMP substitutions

**Model Assumes No FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of: PM_10

**Model Calculates 1 Short Term Average(s) of: 1-HR
and Calculates ANNUAL Averages

**This Run Includes: 390 Source(s); 1 Source Group(s); and 173 Receptor(s)

**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 14134

**Output Options Selected:

Model Outputs Tables of ANNUAL Averages by Receptor

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)

Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 135.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0

Emission Units = GRAMS/SEC ; Emission Rate Unit Factor =

0.10000E+07

Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.8 MB of RAM.

**Detailed Error/Message File: Deer Creek PM.err

**File for Summary of Results: Deer Creek PM.sum

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
11/19/14
*** AERMET - VERSION 14134 *** *** Diesel PM10 Emissions ***
19:32:16

PAGE 2
**MODELOPTs: RegDFAULT CONC ELEV

*** POINT SOURCE DATA ***

EMIS RATE	NUMBER	EMISSION RATE			BASE	STACK	STACK	STACK	STACK	BLDG	URBAN	CAP/
SOURCE	PART.	(GRAMS/SEC)	X	Y	ELEV.	HEIGHT	TEMP.	EXIT VEL.	DIAMETER	EXISTS	SOURCE	HOR
SCALAR												
ID	CATS.		(METERS)	(METERS)	(METERS)	(METERS)	(DEG.K)	(M/SEC)	(METERS)			
VARY BY												
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
IDLESCALE	0	0.90460E-05	323996.8	3986454.4	179.9	3.84	366.00	51.71	0.10	NO	NO	NO
IDLEAGG	0	0.90460E-05	324087.4	3986355.8	198.8	3.84	366.00	51.71	0.10	NO	NO	NO
IDLEMAIN	0	0.17680E-05	323886.6	3986077.5	207.5	3.84	366.00	51.71	0.10	NO	NO	NO

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
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 *** AERMET - VERSION 14134 *** *** Diesel PM10 Emissions ***
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PAGE 3
 **MODELOPTs: RegDFAULT CONC ELEV

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0005039	0	0.43780E-08	324077.9	3986503.4	174.1	1.83	3.39	0.85	NO	
L0005040	0	0.43780E-08	324076.0	3986496.4	174.9	1.83	3.39	0.85	NO	
L0005041	0	0.43780E-08	324074.2	3986489.3	175.7	1.83	3.39	0.85	NO	
L0005042	0	0.43780E-08	324072.3	3986482.3	176.4	1.83	3.39	0.85	NO	
L0005043	0	0.43780E-08	324067.3	3986478.4	176.8	1.83	3.39	0.85	NO	
L0005044	0	0.43780E-08	324060.2	3986476.8	177.0	1.83	3.39	0.85	NO	
L0005045	0	0.43780E-08	324053.1	3986475.2	177.2	1.83	3.39	0.85	NO	
L0005046	0	0.43780E-08	324046.0	3986473.5	177.4	1.83	3.39	0.85	NO	
L0005047	0	0.43780E-08	324038.9	3986471.9	177.7	1.83	3.39	0.85	NO	
L0005048	0	0.43780E-08	324031.8	3986470.2	177.9	1.83	3.39	0.85	NO	
L0005049	0	0.43780E-08	324024.7	3986468.6	178.1	1.83	3.39	0.85	NO	
L0005050	0	0.43780E-08	324017.6	3986466.9	178.3	1.83	3.39	0.85	NO	
L0005051	0	0.43780E-08	324010.5	3986465.3	178.5	1.83	3.39	0.85	NO	
L0005052	0	0.43780E-08	324003.4	3986463.6	178.6	1.83	3.39	0.85	NO	
L0005053	0	0.43780E-08	323996.3	3986462.0	178.8	1.83	3.39	0.85	NO	
L0005054	0	0.43780E-08	323989.2	3986460.3	178.9	1.83	3.39	0.85	NO	
L0005055	0	0.43780E-08	323982.1	3986458.7	179.1	1.83	3.39	0.85	NO	
L0005056	0	0.43780E-08	323979.7	3986454.0	179.8	1.83	3.39	0.85	NO	
L0005057	0	0.43780E-08	323981.3	3986446.9	181.0	1.83	3.39	0.85	NO	
L0005058	0	0.43780E-08	323982.9	3986439.8	182.0	1.83	3.39	0.85	NO	
L0005059	0	0.43780E-08	323989.4	3986440.3	181.9	1.83	3.39	0.85	NO	
L0005060	0	0.43780E-08	323996.5	3986441.9	181.8	1.83	3.39	0.85	NO	
L0005061	0	0.43780E-08	324003.6	3986443.4	181.5	1.83	3.39	0.85	NO	
L0005062	0	0.43780E-08	324010.7	3986445.0	181.3	1.83	3.39	0.85	NO	
L0005063	0	0.43780E-08	324017.9	3986446.6	181.0	1.83	3.39	0.85	NO	
L0005064	0	0.43780E-08	324025.0	3986448.2	180.8	1.83	3.39	0.85	NO	
L0005065	0	0.43780E-08	324032.1	3986449.7	180.6	1.83	3.39	0.85	NO	
L0005066	0	0.43780E-08	324039.2	3986451.3	180.4	1.83	3.39	0.85	NO	
L0005067	0	0.43780E-08	324046.3	3986452.9	180.2	1.83	3.39	0.85	NO	
L0005068	0	0.43780E-08	324053.5	3986454.5	180.0	1.83	3.39	0.85	NO	
L0005069	0	0.43780E-08	324060.6	3986456.0	179.8	1.83	3.39	0.85	NO	
L0005070	0	0.43780E-08	324067.7	3986457.6	179.6	1.83	3.39	0.85	NO	
L0005071	0	0.43780E-08	324074.8	3986459.2	179.3	1.83	3.39	0.85	NO	
L0005072	0	0.43780E-08	324079.1	3986456.4	179.5	1.83	3.39	0.85	NO	
L0005073	0	0.43780E-08	324080.3	3986449.3	180.4	1.83	3.39	0.85	NO	
L0005074	0	0.43780E-08	324081.6	3986442.1	181.5	1.83	3.39	0.85	NO	
L0005075	0	0.43780E-08	324082.9	3986434.9	182.7	1.83	3.39	0.85	NO	
L0005076	0	0.43780E-08	324084.2	3986427.7	184.0	1.83	3.39	0.85	NO	
L0005077	0	0.43780E-08	324085.5	3986420.5	185.3	1.83	3.39	0.85	NO	
L0005078	0	0.43780E-08	324086.8	3986413.4	186.7	1.83	3.39	0.85	NO	

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
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 *** AERMET - VERSION 14134 *** *** Diesel PM10 Emissions ***
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 **MODELOPTs: RegDFAULT CONC ELEV

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
---	---	---	---	---	---	---	---	---	---	---
L0005079	0	0.43780E-08	324088.1	3986406.2	188.1	1.83	3.39	0.85	NO	
L0005080	0	0.43780E-08	324089.4	3986399.0	189.6	1.83	3.39	0.85	NO	
L0005081	0	0.43780E-08	324090.7	3986391.8	191.0	1.83	3.39	0.85	NO	
L0005082	0	0.43780E-08	324092.0	3986384.6	192.5	1.83	3.39	0.85	NO	
L0005083	0	0.43780E-08	324093.3	3986377.5	194.1	1.83	3.39	0.85	NO	
L0005084	0	0.43780E-08	324094.6	3986370.3	195.8	1.83	3.39	0.85	NO	
L0005085	0	0.43780E-08	324095.9	3986363.1	197.4	1.83	3.39	0.85	NO	
L0005086	0	0.43780E-08	324097.2	3986355.9	199.1	1.83	3.39	0.85	NO	
L0005087	0	0.43780E-08	324098.5	3986348.8	200.8	1.83	3.39	0.85	NO	
L0005088	0	0.43780E-08	324099.8	3986341.6	202.6	1.83	3.39	0.85	NO	
L0005089	0	0.43780E-08	324101.0	3986334.4	204.2	1.83	3.39	0.85	NO	
L0005090	0	0.43780E-08	324102.3	3986327.2	205.9	1.83	3.39	0.85	NO	
L0005091	0	0.43780E-08	324103.6	3986320.0	207.6	1.83	3.39	0.85	NO	
L0005092	0	0.43780E-08	324105.7	3986314.0	209.0	1.83	3.39	0.85	NO	
L0005093	0	0.43780E-08	324112.9	3986315.4	208.7	1.83	3.39	0.85	NO	
L0005094	0	0.43780E-08	324120.0	3986316.9	208.3	1.83	3.39	0.85	NO	
L0005095	0	0.43780E-08	324125.7	3986319.2	207.8	1.83	3.39	0.85	NO	
L0005096	0	0.43780E-08	324123.6	3986326.2	206.1	1.83	3.39	0.85	NO	
L0005097	0	0.43780E-08	324121.6	3986333.2	204.5	1.83	3.39	0.85	NO	
L0005098	0	0.43780E-08	324119.6	3986340.2	202.9	1.83	3.39	0.85	NO	
L0005099	0	0.43780E-08	324117.5	3986347.2	201.2	1.83	3.39	0.85	NO	
L0005100	0	0.43780E-08	324115.5	3986354.2	199.6	1.83	3.39	0.85	NO	
L0005101	0	0.43780E-08	324113.4	3986361.2	198.0	1.83	3.39	0.85	NO	
L0005102	0	0.43780E-08	324111.4	3986368.2	196.3	1.83	3.39	0.85	NO	
L0005103	0	0.43780E-08	324109.4	3986375.2	194.7	1.83	3.39	0.85	NO	
L0005104	0	0.43780E-08	324107.3	3986382.2	193.1	1.83	3.39	0.85	NO	
L0005105	0	0.43780E-08	324105.3	3986389.2	191.5	1.83	3.39	0.85	NO	
L0005106	0	0.43780E-08	324103.3	3986396.3	190.1	1.83	3.39	0.85	NO	
L0005107	0	0.43780E-08	324101.2	3986403.3	188.7	1.83	3.39	0.85	NO	
L0005108	0	0.43780E-08	324099.2	3986410.3	187.3	1.83	3.39	0.85	NO	
L0005109	0	0.43780E-08	324097.1	3986417.3	185.9	1.83	3.39	0.85	NO	
L0005110	0	0.43780E-08	324095.1	3986424.3	184.6	1.83	3.39	0.85	NO	
L0005111	0	0.43780E-08	324093.1	3986431.3	183.2	1.83	3.39	0.85	NO	
L0005112	0	0.43780E-08	324091.0	3986438.3	181.9	1.83	3.39	0.85	NO	
L0005113	0	0.43780E-08	324089.0	3986445.3	180.7	1.83	3.39	0.85	NO	
L0005114	0	0.43780E-08	324086.9	3986452.3	179.8	1.83	3.39	0.85	NO	
L0005115	0	0.43780E-08	324084.9	3986459.3	179.1	1.83	3.39	0.85	NO	
L0005116	0	0.43780E-08	324082.9	3986466.3	178.2	1.83	3.39	0.85	NO	
L0005117	0	0.43780E-08	324080.8	3986473.3	177.4	1.83	3.39	0.85	NO	
L0005118	0	0.43780E-08	324079.6	3986480.3	176.6	1.83	3.39	0.85	NO	

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 **MODELOPTs: RegDFAULT CONC ELEV

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0005119	0	0.43780E-08	324081.2	3986487.4	175.8	1.83	3.39	0.85	NO	
L0005120	0	0.43780E-08	324082.8	3986494.6	175.0	1.83	3.39	0.85	NO	
L0005121	0	0.43780E-08	324084.4	3986501.7	174.1	1.83	3.39	0.85	NO	
L0005122	0	0.23400E-09	323944.7	3986461.5	177.9	0.00	3.40	0.85	NO	
L0005123	0	0.23400E-09	323937.7	3986459.7	177.9	0.00	3.40	0.85	NO	
L0005124	0	0.23400E-09	323930.6	3986457.9	177.9	0.00	3.40	0.85	NO	
L0005125	0	0.23400E-09	323923.5	3986456.1	177.9	0.00	3.40	0.85	NO	
L0005126	0	0.23400E-09	323916.4	3986454.3	177.9	0.00	3.40	0.85	NO	
L0005127	0	0.23400E-09	323909.4	3986452.5	177.9	0.00	3.40	0.85	NO	
L0005128	0	0.23400E-09	323902.3	3986450.7	177.9	0.00	3.40	0.85	NO	
L0005129	0	0.23400E-09	323895.2	3986448.9	177.9	0.00	3.40	0.85	NO	
L0005130	0	0.23400E-09	323888.1	3986447.2	177.8	0.00	3.40	0.85	NO	
L0005131	0	0.23400E-09	323881.1	3986445.4	177.5	0.00	3.40	0.85	NO	
L0005132	0	0.23400E-09	323874.0	3986443.6	177.2	0.00	3.40	0.85	NO	
L0005133	0	0.23400E-09	323866.9	3986441.8	176.8	0.00	3.40	0.85	NO	
L0005134	0	0.23400E-09	323859.8	3986440.0	176.4	0.00	3.40	0.85	NO	
L0005135	0	0.23400E-09	323852.7	3986438.2	175.8	0.00	3.40	0.85	NO	
L0005136	0	0.23400E-09	323845.9	3986435.9	175.3	0.00	3.40	0.85	NO	
L0005137	0	0.23400E-09	323840.3	3986431.3	175.1	0.00	3.40	0.85	NO	
L0005138	0	0.23400E-09	323834.6	3986426.7	174.8	0.00	3.40	0.85	NO	
L0005139	0	0.23400E-09	323828.9	3986422.1	174.5	0.00	3.40	0.85	NO	
L0005140	0	0.23400E-09	323823.3	3986417.5	174.3	0.00	3.40	0.85	NO	
L0005141	0	0.23400E-09	323817.6	3986412.9	174.0	0.00	3.40	0.85	NO	
L0005142	0	0.23400E-09	323811.9	3986408.3	173.6	0.00	3.40	0.85	NO	
L0005143	0	0.23400E-09	323806.3	3986403.7	173.2	0.00	3.40	0.85	NO	
L0005144	0	0.23400E-09	323800.6	3986399.0	172.7	0.00	3.40	0.85	NO	
L0005145	0	0.23400E-09	323794.9	3986394.4	172.2	0.00	3.40	0.85	NO	
L0005146	0	0.23400E-09	323789.3	3986389.8	171.8	0.00	3.40	0.85	NO	
L0005147	0	0.23400E-09	323783.6	3986385.2	171.4	0.00	3.40	0.85	NO	
L0005148	0	0.23400E-09	323777.9	3986380.6	171.1	0.00	3.40	0.85	NO	
L0005149	0	0.23400E-09	323772.3	3986376.0	170.6	0.00	3.40	0.85	NO	
L0005150	0	0.23400E-09	323766.6	3986371.4	170.4	0.00	3.40	0.85	NO	
L0005151	0	0.23400E-09	323760.9	3986366.8	170.4	0.00	3.40	0.85	NO	
L0005152	0	0.23400E-09	323755.2	3986362.4	170.3	0.00	3.40	0.85	NO	
L0005153	0	0.23400E-09	323747.9	3986361.9	170.1	0.00	3.40	0.85	NO	
L0005154	0	0.23400E-09	323740.6	3986361.3	169.9	0.00	3.40	0.85	NO	
L0005155	0	0.23400E-09	323733.4	3986360.7	169.7	0.00	3.40	0.85	NO	
L0005156	0	0.23400E-09	323726.1	3986360.1	169.5	0.00	3.40	0.85	NO	
L0005157	0	0.23400E-09	323718.8	3986359.6	169.3	0.00	3.40	0.85	NO	
L0005158	0	0.23400E-09	323711.5	3986359.0	169.0	0.00	3.40	0.85	NO	

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*** AERMET - VERSION 14134 *** *** Diesel PM10 Emissions ***

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**MODELOPTs: RegDFAULT CONC ELEV

*** VOLUME SOURCE DATA ***

SOURCE	NUMBER	EMISSION RATE			BASE	RELEASE	INIT.	INIT.	URBAN	EMISSION RATE
ID	PART.	(GRAMS/SEC)	X	Y	ELEV.	HEIGHT	SY	SZ	SOURCE	SCALAR VARY
	CATS.		(METERS)	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)		BY
L0005159	0	0.23400E-09	323704.3	3986358.4	169.0	0.00	3.40	0.85	NO	
L0005160	0	0.23400E-09	323697.0	3986357.8	169.0	0.00	3.40	0.85	NO	
L0005161	0	0.23400E-09	323689.7	3986357.3	169.0	0.00	3.40	0.85	NO	
L0005162	0	0.23400E-09	323682.4	3986356.7	169.0	0.00	3.40	0.85	NO	
L0005163	0	0.23400E-09	323675.4	3986355.9	168.9	0.00	3.40	0.85	NO	
L0005164	0	0.23400E-09	323675.5	3986348.6	168.9	0.00	3.40	0.85	NO	
L0005165	0	0.23400E-09	323675.7	3986341.3	168.9	0.00	3.40	0.85	NO	
L0005166	0	0.23400E-09	323675.8	3986334.0	169.0	0.00	3.40	0.85	NO	
L0005167	0	0.23400E-09	323675.9	3986326.7	169.0	0.00	3.40	0.85	NO	
L0005168	0	0.23400E-09	323676.1	3986319.4	169.2	0.00	3.40	0.85	NO	
L0005169	0	0.23400E-09	323676.2	3986312.1	169.4	0.00	3.40	0.85	NO	
L0005170	0	0.23400E-09	323676.4	3986304.8	169.6	0.00	3.40	0.85	NO	
L0005171	0	0.23400E-09	323676.5	3986297.5	169.9	0.00	3.40	0.85	NO	
L0005172	0	0.23400E-09	323676.6	3986290.2	169.9	0.00	3.40	0.85	NO	
L0005173	0	0.23400E-09	323676.8	3986282.9	169.9	0.00	3.40	0.85	NO	
L0005174	0	0.23400E-09	323676.9	3986275.6	170.0	0.00	3.40	0.85	NO	
L0005175	0	0.23400E-09	323677.1	3986268.3	170.0	0.00	3.40	0.85	NO	
L0005176	0	0.23400E-09	323677.2	3986261.0	170.2	0.00	3.40	0.85	NO	
L0005177	0	0.23400E-09	323677.3	3986253.7	170.4	0.00	3.40	0.85	NO	
L0005178	0	0.23400E-09	323677.5	3986246.4	170.6	0.00	3.40	0.85	NO	
L0005179	0	0.23400E-09	323677.6	3986239.1	170.9	0.00	3.40	0.85	NO	
L0005180	0	0.23400E-09	323677.8	3986231.8	170.9	0.00	3.40	0.85	NO	
L0005181	0	0.23400E-09	323677.9	3986224.5	170.9	0.00	3.40	0.85	NO	
L0005182	0	0.23400E-09	323684.9	3986223.1	171.4	0.00	3.40	0.85	NO	
L0005183	0	0.23400E-09	323692.1	3986221.9	172.0	0.00	3.40	0.85	NO	
L0005184	0	0.23400E-09	323699.3	3986220.7	172.6	0.00	3.40	0.85	NO	
L0005185	0	0.23400E-09	323706.5	3986219.4	173.3	0.00	3.40	0.85	NO	
L0005186	0	0.23400E-09	323713.7	3986218.2	174.1	0.00	3.40	0.85	NO	
L0005187	0	0.23400E-09	323720.9	3986216.9	175.0	0.00	3.40	0.85	NO	
L0005188	0	0.23400E-09	323728.1	3986215.7	175.9	0.00	3.40	0.85	NO	
L0005189	0	0.23400E-09	323735.3	3986214.5	176.9	0.00	3.40	0.85	NO	
L0005190	0	0.23400E-09	323740.9	3986211.4	177.8	0.00	3.40	0.85	NO	
L0005191	0	0.23400E-09	323743.5	3986204.5	178.6	0.00	3.40	0.85	NO	
L0005192	0	0.23400E-09	323746.1	3986197.7	179.4	0.00	3.40	0.85	NO	
L0005193	0	0.23400E-09	323748.6	3986190.9	180.2	0.00	3.40	0.85	NO	
L0005194	0	0.23400E-09	323751.2	3986184.0	181.0	0.00	3.40	0.85	NO	
L0005195	0	0.23400E-09	323753.8	3986177.2	181.8	0.00	3.40	0.85	NO	
L0005196	0	0.23400E-09	323756.3	3986170.4	182.6	0.00	3.40	0.85	NO	
L0005197	0	0.23400E-09	323758.9	3986163.5	183.4	0.00	3.40	0.85	NO	
L0005198	0	0.23400E-09	323761.5	3986156.7	184.2	0.00	3.40	0.85	NO	

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***

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*** AERMET - VERSION 14134 *** *** Diesel PM10 Emissions ***

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**MODELOPTs: RegDFAULT CONC ELEV

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0005199	0	0.23400E-09	323764.0	3986149.9	185.0	0.00	3.40	0.85	NO	
L0005200	0	0.23400E-09	323766.6	3986143.0	185.8	0.00	3.40	0.85	NO	
L0005201	0	0.23400E-09	323769.2	3986136.2	186.6	0.00	3.40	0.85	NO	
L0005202	0	0.23400E-09	323771.7	3986129.4	187.5	0.00	3.40	0.85	NO	
L0005203	0	0.23400E-09	323774.3	3986122.5	188.4	0.00	3.40	0.85	NO	
L0005204	0	0.23400E-09	323776.9	3986115.7	189.2	0.00	3.40	0.85	NO	
L0005205	0	0.23400E-09	323779.4	3986108.9	189.8	0.00	3.40	0.85	NO	
L0005206	0	0.23400E-09	323783.7	3986104.0	190.7	0.00	3.40	0.85	NO	
L0005207	0	0.23400E-09	323790.8	3986102.3	191.9	0.00	3.40	0.85	NO	
L0005208	0	0.23400E-09	323797.9	3986100.6	193.2	0.00	3.40	0.85	NO	
L0005209	0	0.23400E-09	323805.0	3986098.9	194.3	0.00	3.40	0.85	NO	
L0005210	0	0.23400E-09	323812.1	3986097.2	195.4	0.00	3.40	0.85	NO	
L0005211	0	0.23400E-09	323819.2	3986095.4	196.5	0.00	3.40	0.85	NO	
L0005212	0	0.23400E-09	323826.3	3986093.7	197.5	0.00	3.40	0.85	NO	
L0005213	0	0.23400E-09	323833.4	3986092.0	198.5	0.00	3.40	0.85	NO	
L0005214	0	0.23400E-09	323840.5	3986090.3	199.7	0.00	3.40	0.85	NO	
L0005215	0	0.23400E-09	323847.6	3986088.6	200.9	0.00	3.40	0.85	NO	
L0005216	0	0.23400E-09	323854.7	3986086.9	202.1	0.00	3.40	0.85	NO	
L0005217	0	0.23400E-09	323861.8	3986085.2	203.3	0.00	3.40	0.85	NO	
L0005218	0	0.23400E-09	323868.9	3986083.5	204.6	0.00	3.40	0.85	NO	
L0005219	0	0.23400E-09	323876.0	3986081.8	205.7	0.00	3.40	0.85	NO	
L0005220	0	0.23400E-09	323872.6	3986078.9	205.2	0.00	3.40	0.85	NO	
L0005221	0	0.23400E-09	323866.0	3986075.6	204.3	0.00	3.40	0.85	NO	
L0005222	0	0.23400E-09	323859.5	3986072.4	203.4	0.00	3.40	0.85	NO	
L0005223	0	0.23400E-09	323852.9	3986069.2	202.4	0.00	3.40	0.85	NO	
L0005224	0	0.23400E-09	323846.4	3986065.9	201.4	0.00	3.40	0.85	NO	
L0005225	0	0.23400E-09	323839.9	3986062.7	200.4	0.00	3.40	0.85	NO	
L0005226	0	0.23400E-09	323833.3	3986059.4	199.5	0.00	3.40	0.85	NO	
L0005227	0	0.23400E-09	323826.8	3986056.2	198.6	0.00	3.40	0.85	NO	
L0005228	0	0.23400E-09	323820.2	3986053.0	197.8	0.00	3.40	0.85	NO	
L0005229	0	0.23400E-09	323813.7	3986049.7	196.9	0.00	3.40	0.85	NO	
L0005230	0	0.23400E-09	323807.1	3986046.5	196.0	0.00	3.40	0.85	NO	
L0005231	0	0.23400E-09	323800.6	3986043.2	195.1	0.00	3.40	0.85	NO	
L0005232	0	0.23400E-09	323794.1	3986040.0	194.0	0.00	3.40	0.85	NO	
L0005233	0	0.23400E-09	323790.0	3986035.4	193.3	0.00	3.40	0.85	NO	
L0005234	0	0.23400E-09	323790.7	3986028.1	193.4	0.00	3.40	0.85	NO	
L0005235	0	0.23400E-09	323791.3	3986020.8	193.7	0.00	3.40	0.85	NO	
L0005236	0	0.23400E-09	323792.0	3986013.5	194.0	0.00	3.40	0.85	NO	
L0005237	0	0.23400E-09	323792.6	3986006.3	194.3	0.00	3.40	0.85	NO	
L0005238	0	0.23400E-09	323793.3	3985999.0	194.6	0.00	3.40	0.85	NO	

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***

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*** AERMET - VERSION 14134 *** *** Diesel PM10 Emissions ***

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**MODELOPTs: RegDFAULT CONC ELEV

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0005239	0	0.23400E-09	323793.9	3985991.7	194.6	0.00	3.40	0.85	NO	
L0005240	0	0.23400E-09	323794.6	3985984.5	194.6	0.00	3.40	0.85	NO	
L0005241	0	0.23400E-09	323795.2	3985977.2	194.5	0.00	3.40	0.85	NO	
L0005242	0	0.23400E-09	323795.9	3985969.9	194.4	0.00	3.40	0.85	NO	
L0005243	0	0.23400E-09	323796.5	3985962.6	194.3	0.00	3.40	0.85	NO	
L0005244	0	0.23400E-09	323797.2	3985955.4	194.2	0.00	3.40	0.85	NO	
L0005245	0	0.23400E-09	323797.8	3985948.1	194.0	0.00	3.40	0.85	NO	
L0005246	0	0.23400E-09	323798.5	3985940.8	193.9	0.00	3.40	0.85	NO	
L0005247	0	0.23400E-09	323799.1	3985933.6	193.8	0.00	3.40	0.85	NO	
L0005248	0	0.23400E-09	323799.8	3985926.3	193.6	0.00	3.40	0.85	NO	
L0005249	0	0.23400E-09	323800.4	3985919.0	193.4	0.00	3.40	0.85	NO	
L0005250	0	0.23400E-09	323801.0	3985911.7	193.2	0.00	3.40	0.85	NO	
L0005251	0	0.23400E-09	323801.7	3985904.5	193.1	0.00	3.40	0.85	NO	
L0005252	0	0.23400E-09	323802.3	3985897.2	193.2	0.00	3.40	0.85	NO	
L0005253	0	0.23400E-09	323803.0	3985889.9	193.2	0.00	3.40	0.85	NO	
L0005254	0	0.23400E-09	323803.6	3985882.7	193.3	0.00	3.40	0.85	NO	
L0005255	0	0.23400E-09	323804.3	3985875.4	193.6	0.00	3.40	0.85	NO	
L0005256	0	0.23400E-09	323804.9	3985868.1	194.7	0.00	3.40	0.85	NO	
L0005257	0	0.23400E-09	323805.6	3985860.8	195.9	0.00	3.40	0.85	NO	
L0005258	0	0.23400E-09	323806.2	3985853.6	197.0	0.00	3.40	0.85	NO	
L0005259	0	0.23400E-09	323812.1	3985852.9	198.0	0.00	3.40	0.85	NO	
L0005260	0	0.23400E-09	323819.3	3985854.0	198.9	0.00	3.40	0.85	NO	
L0005261	0	0.23400E-09	323826.6	3985855.1	199.8	0.00	3.40	0.85	NO	
L0005262	0	0.23400E-09	323833.8	3985856.1	200.4	0.00	3.40	0.85	NO	
L0005263	0	0.23400E-09	323841.0	3985857.2	200.8	0.00	3.40	0.85	NO	
L0005264	0	0.23400E-09	323848.2	3985858.3	201.2	0.00	3.40	0.85	NO	
L0005265	0	0.23400E-09	323855.4	3985859.3	201.5	0.00	3.40	0.85	NO	
L0005266	0	0.23400E-09	323862.7	3985860.4	202.0	0.00	3.40	0.85	NO	
L0005267	0	0.23400E-09	323869.9	3985861.5	202.4	0.00	3.40	0.85	NO	
L0005268	0	0.23400E-09	323877.1	3985862.6	202.8	0.00	3.40	0.85	NO	
L0005269	0	0.23400E-09	323884.3	3985863.6	203.2	0.00	3.40	0.85	NO	
L0005270	0	0.23400E-09	323891.5	3985864.7	203.6	0.00	3.40	0.85	NO	
L0005271	0	0.23400E-09	323898.8	3985865.8	204.1	0.00	3.40	0.85	NO	
L0005272	0	0.23400E-09	323906.0	3985866.8	204.6	0.00	3.40	0.85	NO	
L0005273	0	0.23400E-09	323913.2	3985867.9	205.2	0.00	3.40	0.85	NO	
L0005274	0	0.23400E-09	323920.4	3985869.0	205.8	0.00	3.40	0.85	NO	
L0005275	0	0.23400E-09	323927.7	3985870.0	206.5	0.00	3.40	0.85	NO	
L0005276	0	0.23400E-09	323934.9	3985871.1	207.3	0.00	3.40	0.85	NO	
L0005277	0	0.23400E-09	323942.1	3985872.2	208.1	0.00	3.40	0.85	NO	
L0005278	0	0.23400E-09	323949.3	3985873.3	208.9	0.00	3.40	0.85	NO	

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
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 **MODELOPTs: RegDFAULT CONC ELEV

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0005279	0	0.23400E-09	323956.0	3985874.9	210.4	0.00	3.40	0.85	NO	
L0005280	0	0.23400E-09	323958.0	3985881.9	211.5	0.00	3.40	0.85	NO	
L0005281	0	0.23400E-09	323959.9	3985889.0	212.8	0.00	3.40	0.85	NO	
L0005282	0	0.23400E-09	323961.9	3985896.0	214.1	0.00	3.40	0.85	NO	
L0005283	0	0.23400E-09	323963.8	3985903.0	215.3	0.00	3.40	0.85	NO	
L0005284	0	0.23400E-09	323965.7	3985910.1	216.4	0.00	3.40	0.85	NO	
L0005285	0	0.23400E-09	323967.7	3985917.1	217.2	0.00	3.40	0.85	NO	
L0005286	0	0.23400E-09	323969.6	3985924.2	218.1	0.00	3.40	0.85	NO	
L0005287	0	0.23400E-09	323971.5	3985931.2	218.9	0.00	3.40	0.85	NO	
L0005288	0	0.23400E-09	323973.5	3985938.2	219.8	0.00	3.40	0.85	NO	
L0005289	0	0.23400E-09	323975.4	3985945.3	220.6	0.00	3.40	0.85	NO	
L0005290	0	0.23400E-09	323977.4	3985952.3	221.5	0.00	3.40	0.85	NO	
L0005291	0	0.23400E-09	323979.3	3985959.4	222.4	0.00	3.40	0.85	NO	
L0005292	0	0.23400E-09	323981.2	3985966.4	223.2	0.00	3.40	0.85	NO	
L0005293	0	0.23400E-09	323983.2	3985973.4	223.6	0.00	3.40	0.85	NO	
L0005294	0	0.23400E-09	323985.1	3985980.5	224.0	0.00	3.40	0.85	NO	
L0005295	0	0.23400E-09	323987.1	3985987.5	224.4	0.00	3.40	0.85	NO	
L0005296	0	0.23400E-09	323989.0	3985994.5	224.8	0.00	3.40	0.85	NO	
L0005297	0	0.23400E-09	323990.9	3986001.6	225.2	0.00	3.40	0.85	NO	
L0005298	0	0.23400E-09	323992.9	3986008.6	225.6	0.00	3.40	0.85	NO	
L0005299	0	0.23400E-09	323994.8	3986015.7	226.0	0.00	3.40	0.85	NO	
L0005300	0	0.23400E-09	323996.8	3986022.7	226.3	0.00	3.40	0.85	NO	
L0005301	0	0.23400E-09	323998.7	3986029.7	226.7	0.00	3.40	0.85	NO	
L0005302	0	0.23400E-09	324000.6	3986036.8	227.1	0.00	3.40	0.85	NO	
L0005303	0	0.23400E-09	324002.6	3986043.8	227.5	0.00	3.40	0.85	NO	
L0005304	0	0.23400E-09	324005.2	3986050.2	228.0	0.00	3.40	0.85	NO	
L0005305	0	0.23400E-09	324012.3	3986051.6	229.5	0.00	3.40	0.85	NO	
L0005306	0	0.23400E-09	324019.5	3986053.1	230.9	0.00	3.40	0.85	NO	
L0005307	0	0.23400E-09	324026.6	3986054.6	232.3	0.00	3.40	0.85	NO	
L0005308	0	0.23400E-09	324033.8	3986056.0	233.7	0.00	3.40	0.85	NO	
L0005309	0	0.23400E-09	324040.9	3986057.5	235.1	0.00	3.40	0.85	NO	
L0005310	0	0.23400E-09	324048.1	3986059.0	236.3	0.00	3.40	0.85	NO	
L0005311	0	0.23400E-09	324055.2	3986060.4	237.5	0.00	3.40	0.85	NO	
L0005312	0	0.23400E-09	324062.4	3986061.9	238.7	0.00	3.40	0.85	NO	
L0005313	0	0.23400E-09	324069.5	3986063.4	239.9	0.00	3.40	0.85	NO	
L0005314	0	0.23400E-09	324076.7	3986064.8	241.4	0.00	3.40	0.85	NO	
L0005315	0	0.23400E-09	324083.8	3986066.3	242.9	0.00	3.40	0.85	NO	
L0005316	0	0.23400E-09	324091.0	3986067.8	244.4	0.00	3.40	0.85	NO	
L0005317	0	0.23400E-09	324098.1	3986069.2	246.0	0.00	3.40	0.85	NO	
L0005318	0	0.23400E-09	324105.3	3986070.7	247.8	0.00	3.40	0.85	NO	

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**MODELOPTs: RegDFAULT CONC ELEV

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0005319	0	0.23400E-09	324112.4	3986072.2	249.6	0.00	3.40	0.85	NO	
L0005320	0	0.23400E-09	324119.6	3986073.6	251.5	0.00	3.40	0.85	NO	
L0005321	0	0.23400E-09	324126.7	3986075.1	253.4	0.00	3.40	0.85	NO	
L0005322	0	0.23400E-09	324133.9	3986076.6	255.1	0.00	3.40	0.85	NO	
L0005323	0	0.23400E-09	324141.0	3986078.0	256.6	0.00	3.40	0.85	NO	
L0005324	0	0.23400E-09	324148.2	3986079.5	258.1	0.00	3.40	0.85	NO	
L0005325	0	0.23400E-09	324155.3	3986081.0	259.7	0.00	3.40	0.85	NO	
L0005326	0	0.23400E-09	324162.5	3986082.4	261.3	0.00	3.40	0.85	NO	
L0005327	0	0.23400E-09	324169.6	3986083.9	263.0	0.00	3.40	0.85	NO	
L0005328	0	0.23400E-09	324176.8	3986085.4	264.8	0.00	3.40	0.85	NO	
L0005329	0	0.23400E-09	324183.9	3986086.8	266.6	0.00	3.40	0.85	NO	
L0005330	0	0.23400E-09	324191.1	3986088.3	267.9	0.00	3.40	0.85	NO	
L0005331	0	0.23400E-09	324198.2	3986089.8	268.0	0.00	3.40	0.85	NO	
L0005332	0	0.23400E-09	324205.4	3986091.2	268.1	0.00	3.40	0.85	NO	
L0005333	0	0.23400E-09	324212.5	3986092.7	268.1	0.00	3.40	0.85	NO	
L0005334	0	0.23400E-09	324219.7	3986094.2	268.0	0.00	3.40	0.85	NO	
L0005335	0	0.23400E-09	324226.9	3986095.6	266.5	0.00	3.40	0.85	NO	
L0005336	0	0.23400E-09	324234.0	3986097.1	264.9	0.00	3.40	0.85	NO	
L0005337	0	0.23400E-09	324241.2	3986098.6	263.5	0.00	3.40	0.85	NO	
L0005338	0	0.23400E-09	324248.3	3986100.0	262.1	0.00	3.40	0.85	NO	
L0005339	0	0.23400E-09	324255.5	3986101.5	259.9	0.00	3.40	0.85	NO	
L0005340	0	0.23400E-09	324262.6	3986103.0	257.6	0.00	3.40	0.85	NO	
L0005341	0	0.23400E-09	324269.8	3986104.4	255.3	0.00	3.40	0.85	NO	
L0005342	0	0.23400E-09	324276.9	3986105.9	253.0	0.00	3.40	0.85	NO	
L0005343	0	0.23400E-09	324284.1	3986107.4	250.8	0.00	3.40	0.85	NO	
L0005344	0	0.23400E-09	324291.2	3986108.8	248.6	0.00	3.40	0.85	NO	
L0005345	0	0.23400E-09	324292.3	3986114.9	247.6	0.00	3.40	0.85	NO	
L0005346	0	0.23400E-09	324291.8	3986122.2	246.2	0.00	3.40	0.85	NO	
L0005347	0	0.23400E-09	324291.3	3986129.5	244.7	0.00	3.40	0.85	NO	
L0005348	0	0.23400E-09	324290.9	3986136.8	243.2	0.00	3.40	0.85	NO	
L0005349	0	0.23400E-09	324290.4	3986144.1	241.6	0.00	3.40	0.85	NO	
L0005350	0	0.23400E-09	324289.9	3986151.4	239.9	0.00	3.40	0.85	NO	
L0005351	0	0.23400E-09	324289.4	3986158.6	238.1	0.00	3.40	0.85	NO	
L0005352	0	0.23400E-09	324289.0	3986165.9	236.3	0.00	3.40	0.85	NO	
L0005353	0	0.23400E-09	324288.5	3986173.2	234.5	0.00	3.40	0.85	NO	
L0005354	0	0.23400E-09	324288.0	3986180.5	232.7	0.00	3.40	0.85	NO	
L0005355	0	0.23400E-09	324287.5	3986187.8	230.9	0.00	3.40	0.85	NO	
L0005356	0	0.23400E-09	324287.1	3986195.1	229.1	0.00	3.40	0.85	NO	
L0005357	0	0.23400E-09	324286.6	3986202.4	227.3	0.00	3.40	0.85	NO	
L0005358	0	0.23400E-09	324286.1	3986209.6	225.6	0.00	3.40	0.85	NO	

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 **MODELOPTs: RegDFAULT CONC ELEV

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
---	---	---	---	---	---	---	---	---	---	---
L0005359	0	0.23400E-09	324285.7	3986216.9	224.0	0.00	3.40	0.85	NO	
L0005360	0	0.23400E-09	324285.2	3986224.2	222.4	0.00	3.40	0.85	NO	
L0005361	0	0.23400E-09	324284.7	3986231.5	220.8	0.00	3.40	0.85	NO	
L0005362	0	0.23400E-09	324284.2	3986238.8	219.1	0.00	3.40	0.85	NO	
L0005363	0	0.23400E-09	324283.8	3986246.1	217.5	0.00	3.40	0.85	NO	
L0005364	0	0.23400E-09	324283.3	3986253.3	215.9	0.00	3.40	0.85	NO	
L0005365	0	0.23400E-09	324282.8	3986260.6	214.2	0.00	3.40	0.85	NO	
L0005366	0	0.23400E-09	324282.3	3986267.9	212.6	0.00	3.40	0.85	NO	
L0005367	0	0.23400E-09	324281.9	3986275.2	211.2	0.00	3.40	0.85	NO	
L0005368	0	0.23400E-09	324281.4	3986282.5	209.8	0.00	3.40	0.85	NO	
L0005369	0	0.23400E-09	324280.9	3986289.8	208.3	0.00	3.40	0.85	NO	
L0005370	0	0.23400E-09	324273.9	3986290.4	208.7	0.00	3.40	0.85	NO	
L0005371	0	0.23400E-09	324266.6	3986290.8	209.2	0.00	3.40	0.85	NO	
L0005372	0	0.23400E-09	324259.3	3986291.2	209.6	0.00	3.40	0.85	NO	
L0005373	0	0.23400E-09	324252.0	3986291.6	210.1	0.00	3.40	0.85	NO	
L0005374	0	0.23400E-09	324244.8	3986292.0	210.5	0.00	3.40	0.85	NO	
L0005375	0	0.23400E-09	324237.5	3986292.4	210.9	0.00	3.40	0.85	NO	
L0005376	0	0.23400E-09	324230.2	3986292.8	211.3	0.00	3.40	0.85	NO	
L0005377	0	0.23400E-09	324222.9	3986293.2	211.7	0.00	3.40	0.85	NO	
L0005378	0	0.23400E-09	324215.6	3986293.5	211.9	0.00	3.40	0.85	NO	
L0005379	0	0.23400E-09	324208.3	3986293.9	212.1	0.00	3.40	0.85	NO	
L0005380	0	0.23400E-09	324201.0	3986294.3	212.3	0.00	3.40	0.85	NO	
L0005381	0	0.23400E-09	324193.7	3986294.7	212.4	0.00	3.40	0.85	NO	
L0005382	0	0.23400E-09	324186.4	3986295.1	212.6	0.00	3.40	0.85	NO	
L0005383	0	0.23400E-09	324179.1	3986295.5	212.7	0.00	3.40	0.85	NO	
L0005384	0	0.23400E-09	324171.9	3986295.9	212.9	0.00	3.40	0.85	NO	
L0005385	0	0.23400E-09	324164.6	3986296.3	213.0	0.00	3.40	0.85	NO	
L0005386	0	0.23400E-09	324157.3	3986296.7	213.1	0.00	3.40	0.85	NO	
L0005387	0	0.23400E-09	324150.0	3986297.0	213.0	0.00	3.40	0.85	NO	
L0005388	0	0.23400E-09	324142.7	3986297.4	212.9	0.00	3.40	0.85	NO	
L0005389	0	0.23400E-09	324135.4	3986297.8	212.8	0.00	3.40	0.85	NO	
L0005390	0	0.23400E-09	324128.1	3986298.2	212.7	0.00	3.40	0.85	NO	
L0005391	0	0.23400E-09	324120.8	3986298.6	212.6	0.00	3.40	0.85	NO	
L0005392	0	0.23400E-09	324113.5	3986299.0	212.5	0.00	3.40	0.85	NO	
L0005393	0	0.23400E-09	324106.2	3986299.4	212.4	0.00	3.40	0.85	NO	
L0005394	0	0.23400E-09	324099.0	3986299.8	212.3	0.00	3.40	0.85	NO	
L0005395	0	0.23400E-09	324091.7	3986300.2	211.9	0.00	3.40	0.85	NO	
L0005396	0	0.23400E-09	324084.4	3986300.5	211.6	0.00	3.40	0.85	NO	
L0005397	0	0.23400E-09	324077.1	3986300.9	211.3	0.00	3.40	0.85	NO	
L0005398	0	0.23400E-09	324069.8	3986301.3	210.9	0.00	3.40	0.85	NO	

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*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
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*** AERMET - VERSION 14134 *** *** Diesel PM10 Emissions ***
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**MODELOPTs:  RegDEFAULT CONC      ELEV

*** VOLUME SOURCE DATA ***

SOURCE      NUMBER EMISSION RATE      BASE  RELEASE  INIT.  INIT.  URBAN  EMISSION RATE
ID          PART.  (GRAMS/SEC)      X      Y      ELEV.  HEIGHT  SY      SZ      SOURCE  SCALAR VARY
          CATS.      (METERS) (METERS) (METERS) (METERS) (METERS) (METERS)
-----
L0005399      0  0.23400E-09  324062.5  3986301.7  210.4      0.00      3.40      0.85      NO
L0005400      0  0.23400E-09  324056.5  3986305.0  209.3      0.00      3.40      0.85      NO
L0005401      0  0.23400E-09  324051.3  3986310.2  207.9      0.00      3.40      0.85      NO
L0005402      0  0.23400E-09  324046.2  3986315.3  206.6      0.00      3.40      0.85      NO
L0005403      0  0.23400E-09  324041.0  3986320.5  205.3      0.00      3.40      0.85      NO
L0005404      0  0.23400E-09  324035.9  3986325.6  204.0      0.00      3.40      0.85      NO
L0005405      0  0.23400E-09  324030.7  3986330.8  202.6      0.00      3.40      0.85      NO
L0005406      0  0.23400E-09  324025.5  3986336.0  201.2      0.00      3.40      0.85      NO
L0005407      0  0.23400E-09  324020.4  3986341.1  199.8      0.00      3.40      0.85      NO
L0005408      0  0.23400E-09  324015.2  3986346.3  198.5      0.00      3.40      0.85      NO
L0005409      0  0.23400E-09  324010.0  3986351.5  197.1      0.00      3.40      0.85      NO
L0005410      0  0.23400E-09  324004.9  3986356.6  195.9      0.00      3.40      0.85      NO
L0005411      0  0.23400E-09  323999.7  3986361.8  194.8      0.00      3.40      0.85      NO
L0005412      0  0.23400E-09  323994.6  3986366.9  193.8      0.00      3.40      0.85      NO
L0005413      0  0.23400E-09  323989.4  3986372.1  192.8      0.00      3.40      0.85      NO
L0005414      0  0.23400E-09  323984.2  3986377.3  191.7      0.00      3.40      0.85      NO
L0005415      0  0.23400E-09  323979.1  3986382.4  190.7      0.00      3.40      0.85      NO
L0005416      0  0.23400E-09  323973.9  3986387.6  189.7      0.00      3.40      0.85      NO
L0005417      0  0.23400E-09  323968.8  3986392.7  188.6      0.00      3.40      0.85      NO
L0005418      0  0.23400E-09  323964.0  3986398.1  187.6      0.00      3.40      0.85      NO
L0005419      0  0.23400E-09  323962.7  3986405.3  186.3      0.00      3.40      0.85      NO
L0005420      0  0.23400E-09  323961.4  3986412.5  185.1      0.00      3.40      0.85      NO
L0005421      0  0.23400E-09  323960.1  3986419.7  184.0      0.00      3.40      0.85      NO
L0005422      0  0.23400E-09  323958.8  3986426.9  183.0      0.00      3.40      0.85      NO
L0005423      0  0.23400E-09  323957.5  3986434.0  182.0      0.00      3.40      0.85      NO
L0005424      0  0.23400E-09  323956.2  3986441.2  181.0      0.00      3.40      0.85      NO

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*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
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*** AERMET - VERSION 14134 *** *** Diesel PM10 Emissions ***
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**MODELOPTs: RegDFAULT CONC ELEV

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X Y (METERS) (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
OFFROAD	0	0.87080E-08	323748.7 3985751.2	192.1	3.66	14	30.48	NO	

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 **MODELOPTs: RegDFAULT CONC ELEV

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs							
-----	-----							
ALL	L0005039	, L0005040	, L0005041	, L0005042	, L0005043	, L0005044	, L0005045	,
L0005046	,							
L0005054	L0005047	, L0005048	, L0005049	, L0005050	, L0005051	, L0005052	, L0005053	,
	,							
L0005062	L0005055	, L0005056	, L0005057	, L0005058	, L0005059	, L0005060	, L0005061	,
	,							
L0005070	L0005063	, L0005064	, L0005065	, L0005066	, L0005067	, L0005068	, L0005069	,
	,							
L0005078	L0005071	, L0005072	, L0005073	, L0005074	, L0005075	, L0005076	, L0005077	,
	,							
L0005086	L0005079	, L0005080	, L0005081	, L0005082	, L0005083	, L0005084	, L0005085	,
	,							
L0005094	L0005087	, L0005088	, L0005089	, L0005090	, L0005091	, L0005092	, L0005093	,
	,							
L0005102	L0005095	, L0005096	, L0005097	, L0005098	, L0005099	, L0005100	, L0005101	,
	,							
L0005110	L0005103	, L0005104	, L0005105	, L0005106	, L0005107	, L0005108	, L0005109	,
	,							
L0005118	L0005111	, L0005112	, L0005113	, L0005114	, L0005115	, L0005116	, L0005117	,
	,							
L0005126	L0005119	, L0005120	, L0005121	, L0005122	, L0005123	, L0005124	, L0005125	,
	,							
L0005134	L0005127	, L0005128	, L0005129	, L0005130	, L0005131	, L0005132	, L0005133	,
	,							
L0005142	L0005135	, L0005136	, L0005137	, L0005138	, L0005139	, L0005140	, L0005141	,
	,							
L0005150	L0005143	, L0005144	, L0005145	, L0005146	, L0005147	, L0005148	, L0005149	,
	,							
L0005158	L0005151	, L0005152	, L0005153	, L0005154	, L0005155	, L0005156	, L0005157	,
	,							
L0005166	L0005159	, L0005160	, L0005161	, L0005162	, L0005163	, L0005164	, L0005165	,
	,							
L0005174	L0005167	, L0005168	, L0005169	, L0005170	, L0005171	, L0005172	, L0005173	,
	,							
L0005182	L0005175	, L0005176	, L0005177	, L0005178	, L0005179	, L0005180	, L0005181	,
	,							
L0005190	L0005183	, L0005184	, L0005185	, L0005186	, L0005187	, L0005188	, L0005189	,
	,							
L0005198	L0005191	, L0005192	, L0005193	, L0005194	, L0005195	, L0005196	, L0005197	,
	,							

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
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 **MODELOPTs: RegDFAULT CONC ELEV

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
-----	-----
L0005206	L0005199 , L0005200 , L0005201 , L0005202 , L0005203 , L0005204 , L0005205 ,
L0005214	L0005207 , L0005208 , L0005209 , L0005210 , L0005211 , L0005212 , L0005213 ,
L0005222	L0005215 , L0005216 , L0005217 , L0005218 , L0005219 , L0005220 , L0005221 ,
L0005230	L0005223 , L0005224 , L0005225 , L0005226 , L0005227 , L0005228 , L0005229 ,
L0005238	L0005231 , L0005232 , L0005233 , L0005234 , L0005235 , L0005236 , L0005237 ,
L0005246	L0005239 , L0005240 , L0005241 , L0005242 , L0005243 , L0005244 , L0005245 ,
L0005254	L0005247 , L0005248 , L0005249 , L0005250 , L0005251 , L0005252 , L0005253 ,
L0005262	L0005255 , L0005256 , L0005257 , L0005258 , L0005259 , L0005260 , L0005261 ,
L0005270	L0005263 , L0005264 , L0005265 , L0005266 , L0005267 , L0005268 , L0005269 ,
L0005278	L0005271 , L0005272 , L0005273 , L0005274 , L0005275 , L0005276 , L0005277 ,
L0005286	L0005279 , L0005280 , L0005281 , L0005282 , L0005283 , L0005284 , L0005285 ,
L0005294	L0005287 , L0005288 , L0005289 , L0005290 , L0005291 , L0005292 , L0005293 ,
L0005302	L0005295 , L0005296 , L0005297 , L0005298 , L0005299 , L0005300 , L0005301 ,
L0005310	L0005303 , L0005304 , L0005305 , L0005306 , L0005307 , L0005308 , L0005309 ,
L0005318	L0005311 , L0005312 , L0005313 , L0005314 , L0005315 , L0005316 , L0005317 ,
L0005326	L0005319 , L0005320 , L0005321 , L0005322 , L0005323 , L0005324 , L0005325 ,
L0005334	L0005327 , L0005328 , L0005329 , L0005330 , L0005331 , L0005332 , L0005333 ,
L0005342	L0005335 , L0005336 , L0005337 , L0005338 , L0005339 , L0005340 , L0005341 ,
L0005350	L0005343 , L0005344 , L0005345 , L0005346 , L0005347 , L0005348 , L0005349 ,
L0005358	L0005351 , L0005352 , L0005353 , L0005354 , L0005355 , L0005356 , L0005357 ,

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 **MODELOPTs: RegDFAULT CONC ELEV

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
-----	-----
L0005366 ,	L0005359 , L0005360 , L0005361 , L0005362 , L0005363 , L0005364 , L0005365 ,
L0005374 ,	L0005367 , L0005368 , L0005369 , L0005370 , L0005371 , L0005372 , L0005373 ,
L0005382 ,	L0005375 , L0005376 , L0005377 , L0005378 , L0005379 , L0005380 , L0005381 ,
L0005390 ,	L0005383 , L0005384 , L0005385 , L0005386 , L0005387 , L0005388 , L0005389 ,
L0005398 ,	L0005391 , L0005392 , L0005393 , L0005394 , L0005395 , L0005396 , L0005397 ,
L0005406 ,	L0005399 , L0005400 , L0005401 , L0005402 , L0005403 , L0005404 , L0005405 ,
L0005414 ,	L0005407 , L0005408 , L0005409 , L0005410 , L0005411 , L0005412 , L0005413 ,
L0005422 ,	L0005415 , L0005416 , L0005417 , L0005418 , L0005419 , L0005420 , L0005421 ,
	L0005423 , L0005424 , IDLESCALE , IDLEAGG , IDLEMAIN , OFFROAD ,

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 **MODELOPTs: RegDFAULT CONC ELEV

*** DISCRETE CARTESIAN RECEPTORS ***
 (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
 (METERS)

(324181.0, 3985748.0, 259.9, 264.0, 0.0);	(323227.0, 3985676.0, 167.0, 429.0, 0.0);
(323703.0, 3986794.0, 172.6, 470.0, 0.0);	(323052.0, 3986547.0, 178.0, 470.0, 0.0);
(324006.2, 3986641.1, 170.0, 470.0, 0.0);	(324051.2, 3986727.9, 170.0, 470.0, 0.0);
(324100.7, 3986813.4, 171.0, 470.0, 0.0);	(324183.0, 3986774.8, 171.0, 470.0, 0.0);
(324151.9, 3986898.4, 174.1, 470.0, 0.0);	(324022.5, 3986936.3, 174.7, 470.0, 0.0);
(324236.9, 3986858.9, 172.6, 470.0, 0.0);	(324204.1, 3986983.1, 176.5, 470.0, 0.0);
(324114.2, 3987009.5, 176.9, 470.0, 0.0);	(324024.4, 3987035.8, 176.6, 470.0, 0.0);
(324290.9, 3986943.1, 175.4, 470.0, 0.0);	(324138.2, 3986596.1, 170.0, 470.0, 0.0);
(324248.1, 3986593.5, 170.1, 470.0, 0.0);	(324248.5, 3986693.5, 170.3, 470.0, 0.0);
(324355.8, 3986530.9, 173.4, 470.0, 0.0);	(324337.0, 3986659.4, 171.0, 470.0, 0.0);
(324422.6, 3986605.4, 172.5, 470.0, 0.0);	(324398.2, 3986736.0, 171.0, 470.0, 0.0);
(324298.7, 3986774.3, 171.9, 470.0, 0.0);	(324489.3, 3986679.8, 171.2, 470.0, 0.0);
(324470.5, 3986808.3, 172.1, 470.0, 0.0);	(324382.1, 3986842.4, 173.0, 470.0, 0.0);
(324556.1, 3986754.3, 171.0, 470.0, 0.0);	(324534.1, 3986884.0, 174.6, 470.0, 0.0);
(324439.3, 3986920.5, 174.8, 470.0, 0.0);	(324622.8, 3986828.7, 173.9, 470.0, 0.0);
(324429.8, 3986430.1, 177.1, 470.0, 0.0);	(324447.5, 3986264.2, 195.0, 363.0, 0.0);
(324465.3, 3986098.3, 206.8, 368.0, 0.0);	(324496.5, 3986504.5, 174.1, 470.0, 0.0);
(324538.1, 3986357.8, 177.8, 470.0, 0.0);	(324555.9, 3986191.9, 187.3, 368.0, 0.0);
(324596.0, 3986515.2, 173.3, 470.0, 0.0);	(324637.5, 3986368.4, 176.0, 470.0, 0.0);
(324655.3, 3986202.5, 177.1, 368.0, 0.0);	(324695.4, 3986525.8, 172.1, 470.0, 0.0);
(324630.1, 3986653.4, 171.0, 470.0, 0.0);	(324737.0, 3986379.0, 175.3, 470.0, 0.0);
(324754.7, 3986213.1, 177.0, 368.0, 0.0);	(324794.8, 3986536.4, 171.0, 470.0, 0.0);
(324729.5, 3986664.1, 172.2, 470.0, 0.0);	(324836.4, 3986389.7, 174.5, 470.0, 0.0);
(324854.1, 3986223.8, 177.0, 368.0, 0.0);	(324422.8, 3986005.4, 217.5, 368.0, 0.0);
(324275.1, 3985903.1, 243.9, 270.0, 0.0);	(324513.7, 3985963.8, 203.0, 368.0, 0.0);
(324556.2, 3986056.7, 195.2, 368.0, 0.0);	(324405.9, 3985872.1, 221.1, 368.0, 0.0);
(324587.6, 3985901.9, 196.2, 368.0, 0.0);	(324651.4, 3986041.2, 181.6, 368.0, 0.0);
(324462.8, 3985789.8, 213.7, 368.0, 0.0);	(324638.9, 3985812.9, 194.2, 368.0, 0.0);
(324740.9, 3985990.8, 177.0, 368.0, 0.0);	(324519.7, 3985707.6, 208.0, 368.0, 0.0);
(324707.2, 3985744.2, 186.4, 368.0, 0.0);	(324834.7, 3985966.6, 177.5, 368.0, 0.0);
(324576.6, 3985625.4, 203.4, 368.0, 0.0);	(324130.3, 3985885.6, 249.3, 262.0, 0.0);
(324274.8, 3985803.1, 242.2, 359.0, 0.0);	(324130.0, 3985785.6, 251.3, 264.0, 0.0);
(324274.5, 3985703.1, 241.3, 368.0, 0.0);	(324129.7, 3985685.6, 261.9, 261.9, 0.0);

(324293.3, 3985609.1, 238.8, 368.0, 0.0);	(324129.4, 3985585.6, 244.1, 368.0,
0.0);	
(324288.2, 3985507.6, 240.4, 368.0, 0.0);	(324431.3, 3985552.0, 220.9, 368.0,
0.0);	
(324129.1, 3985485.6, 220.9, 368.0, 0.0);	(324043.8, 3985645.7, 245.3, 368.0,
0.0);	
(323892.7, 3985645.4, 216.7, 368.0, 0.0);	(323741.5, 3985645.1, 187.6, 429.0,
0.0);	
(324044.0, 3985545.7, 234.9, 368.0, 0.0);	(323892.9, 3985545.4, 213.3, 429.0,
0.0);	
(323741.8, 3985545.1, 182.4, 429.0, 0.0);	(324044.2, 3985445.7, 215.1, 429.0,
0.0);	
(323893.1, 3985445.4, 203.9, 429.0, 0.0);	(323742.0, 3985445.1, 184.6, 429.0,
0.0);	
(324101.0, 3985369.3, 224.0, 429.0, 0.0);	(324214.0, 3985416.4, 239.4, 368.0,
0.0);	
(324420.3, 3985690.2, 219.5, 368.0, 0.0);	(323968.8, 3985345.6, 208.6, 429.0,
0.0);	
(323817.7, 3985345.3, 190.9, 429.0, 0.0);	(324103.5, 3985270.3, 233.7, 429.0,
0.0);	
(324221.3, 3985319.4, 249.8, 368.0, 0.0);	(324339.1, 3985368.5, 240.9, 368.0,
0.0);	
(324422.3, 3985452.0, 227.1, 368.0, 0.0);	(323969.0, 3985245.6, 207.7, 429.0,
0.0);	

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**MODELOPTs: RegDFAULT CONC ELEV

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(323817.9, 3985245.3, 196.3, 429.0, 0.0);	(323641.3, 3985745.1, 176.9, 429.0, 0.0);
(323641.2, 3985915.3, 178.6, 463.0, 0.0);	(323641.1, 3986085.5, 170.7, 470.0, 0.0);
(323570.7, 3985674.2, 175.8, 429.0, 0.0);	(323541.3, 3985830.1, 179.9, 429.0, 0.0);
(323541.2, 3986000.3, 170.2, 470.0, 0.0);	(323541.0, 3986170.5, 168.4, 470.0, 0.0);
(323470.7, 3985674.2, 174.5, 429.0, 0.0);	(323600.3, 3985503.5, 188.9, 429.0, 0.0);
(323441.3, 3985830.0, 170.0, 470.0, 0.0);	(323441.2, 3986000.2, 168.0, 470.0, 0.0);
(323441.0, 3986170.4, 168.0, 470.0, 0.0);	(323370.7, 3985674.1, 169.5, 429.0, 0.0);
(323429.5, 3985532.6, 183.4, 429.0, 0.0);	(323529.7, 3985432.7, 191.6, 429.0, 0.0);
(323671.3, 3985374.3, 191.3, 429.0, 0.0);	(323341.3, 3985829.9, 168.7, 470.0, 0.0);
(323341.2, 3986000.1, 167.9, 470.0, 0.0);	(323341.0, 3986170.4, 167.0, 470.0, 0.0);
(323270.7, 3985674.0, 167.9, 429.0, 0.0);	(323329.5, 3985532.6, 174.4, 429.0, 0.0);
(323459.1, 3985361.9, 186.9, 429.0, 0.0);	(323600.7, 3985303.5, 196.4, 429.0, 0.0);
(323241.3, 3985829.9, 167.0, 470.0, 0.0);	(323241.2, 3986000.1, 166.4, 470.0, 0.0);
(323241.0, 3986170.3, 166.0, 470.0, 0.0);	(323470.7, 3986330.5, 167.0, 470.0, 0.0);
(323370.7, 3986330.6, 167.0, 470.0, 0.0);	(323270.7, 3986330.7, 167.0, 470.0, 0.0);
(323170.6, 3986250.8, 166.5, 470.0, 0.0);	(323170.8, 3986410.8, 167.8, 470.0, 0.0);
(323099.9, 3986100.0, 165.0, 470.0, 0.0);	(323158.5, 3985958.3, 165.6, 470.0, 0.0);
(323070.6, 3986250.8, 167.0, 470.0, 0.0);	(323070.8, 3986410.9, 170.0, 470.0, 0.0);
(323570.5, 3986510.4, 168.0, 470.0, 0.0);	(323741.0, 3986510.9, 168.0, 470.0, 0.0);
(323499.7, 3986581.0, 169.0, 470.0, 0.0);	(323400.0, 3986481.1, 168.1, 470.0, 0.0);
(323655.5, 3986610.6, 168.5, 470.0, 0.0);	(323499.4, 3986681.0, 170.0, 470.0, 0.0);
(323329.2, 3986551.8, 170.0, 470.0, 0.0);	(323655.2, 3986710.6, 170.0, 470.0, 0.0);
(323499.2, 3986781.0, 173.4, 470.0, 0.0);	(323358.2, 3986722.3, 171.0, 470.0, 0.0);
(323258.5, 3986622.4, 173.8, 470.0, 0.0);	(323654.9, 3986810.6, 173.2, 470.0, 0.0);
(323498.9, 3986881.0, 177.5, 470.0, 0.0);	(323357.9, 3986822.3, 172.1, 470.0, 0.0);
(323187.7, 3986693.1, 178.0, 470.0, 0.0);	(323129.2, 3986552.0, 176.9, 470.0, 0.0);
(323654.6, 3986910.6, 177.3, 470.0, 0.0);	(323641.3, 3986411.0, 168.0, 470.0, 0.0);
(323541.3, 3986411.1, 167.0, 470.0, 0.0);	(323241.4, 3986480.4, 168.1, 470.0, 0.0);
(323741.5, 3986649.1, 168.7, 470.0, 0.0);	(323900.0, 3986649.0, 170.3, 470.0, 0.0);
(323741.5, 3986749.1, 171.0, 470.0, 0.0);	(323900.0, 3986749.0, 170.0, 470.0, 0.0);
(323741.5, 3986849.1, 174.4, 470.0, 0.0);	(323900.1, 3986849.0, 172.8, 470.0, 0.0);
(323741.6, 3986949.1, 178.5, 470.0, 0.0);	(323900.1, 3986949.0, 177.5, 470.0, 0.0);
(323670.9, 3987019.8, 181.1, 470.0, 0.0);	(323820.9, 3987049.0, 185.8, 470.0, 0.0);

(323741.4, 3986549.1, 168.0, 470.0, 0.0);	(323979.3, 3986549.0, 171.0, 470.0, 0.0);
(324021.1, 3986522.2, 172.4, 470.0, 0.0);	(324059.1, 3986510.6, 173.7, 470.0, 0.0);
(324117.6, 3986498.3, 174.0, 470.0, 0.0);	(324177.0, 3986493.8, 173.5, 470.0, 0.0);
(324247.8, 3986493.5, 174.8, 470.0, 0.0);	(324330.4, 3986419.4, 181.0, 470.0, 0.0);
(324365.9, 3986087.6, 229.2, 270.0, 0.0);	(324218.1, 3985985.3, 258.9, 270.0, 0.0);
(324043.0, 3985985.8, 236.5, 270.0, 0.0);	(324043.6, 3985745.7, 243.1, 358.0, 0.0);
(323741.3, 3985745.1, 190.5, 429.0, 0.0);	(323741.0, 3986170.6, 180.5, 470.0, 0.0);
(323570.5, 3986170.3, 169.0, 470.0, 0.0);	(323570.8, 3986410.4, 167.3, 470.0, 0.0);
(323741.3, 3986410.9, 169.0, 470.0, 0.0);	

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 **MODELOPTs: RegDFAULT CONC ELEV

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
 (1=YES; 0=NO)

1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1			

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
 (METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

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 **MODELOPTs: RegDFAULT CONC ELEV

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: ..\23149_06-09.SFC Met Version:
 14134
 Profile file: ..\23149_06-09.PFL
 Surface format: FREE
 Profile format: FREE
 Surface station no.: 23149 Upper air station no.: 23230
 Name: PORTERVILLE_AIRPORT Name: OAKLAND/WSO_AP
 Year: 2006 Year: 2006

First 24 hours of scalar data
 YR MO DY JDY HR H0 U* W* DT/DZ ZICNV ZIMCH M-O LEN Z0 BOWEN ALBEDO REF WS WD HT REF TA
 HT
 - - - - -
 - -
 06 01 01 1 01 -23.8 0.212 -9.000 -9.000 -999. 234. 35.6 0.03 0.76 1.00 3.86 101. 10.0 280.1
 2.0
 06 01 01 1 02 -23.7 0.212 -9.000 -9.000 -999. 234. 35.8 0.03 0.76 1.00 3.86 108. 10.0 281.1
 2.0
 06 01 01 1 03 -18.2 0.162 -9.000 -9.000 -999. 158. 20.9 0.03 0.76 1.00 3.36 104. 10.0 280.1
 2.0
 06 01 01 1 04 -23.7 0.212 -9.000 -9.000 -999. 234. 35.8 0.03 0.76 1.00 3.86 113. 10.0 281.1
 2.0
 06 01 01 1 05 -23.7 0.212 -9.000 -9.000 -999. 234. 35.8 0.03 0.76 1.00 3.86 113. 10.0 281.1
 2.0
 06 01 01 1 06 -24.0 0.215 -9.000 -9.000 -999. 240. 37.0 0.03 0.76 1.00 3.86 132. 10.0 281.1
 2.0
 06 01 01 1 07 -28.8 0.258 -9.000 -9.000 -999. 315. 53.1 0.03 0.76 1.00 4.36 145. 10.0 281.1
 2.0
 06 01 01 1 08 -16.3 0.159 -9.000 -9.000 -999. 156. 21.8 0.02 0.76 0.61 3.36 163. 10.0 280.1
 2.0
 06 01 01 1 09 11.0 -9.000 -9.000 -9.000 95. -999. -99999.0 0.03 0.76 0.34 0.00 0. 10.0 282.1
 2.0
 06 01 01 1 10 48.2 -9.000 -9.000 -9.000 186. -999. -99999.0 0.03 0.76 0.25 0.00 0. 10.0 284.1
 2.0
 06 01 01 1 11 81.6 0.277 0.863 0.005 280. 350. -23.1 0.04 0.76 0.22 3.36 4. 10.0 284.1
 2.0
 06 01 01 1 12 96.6 0.230 0.994 0.005 360. 265. -11.1 0.02 0.76 0.21 2.86 306. 10.0 284.1
 2.0
 06 01 01 1 13 101.2 -9.000 -9.000 -9.000 608. -999. -99999.0 0.03 0.76 0.21 0.00 0. 10.0 284.1
 2.0
 06 01 01 1 14 17.7 0.212 0.685 0.005 644. 234. -47.5 0.03 0.76 0.22 2.86 119. 10.0 284.1
 2.0
 06 01 01 1 15 10.3 0.274 0.579 0.005 666. 344. -176.6 0.03 0.76 0.25 3.86 142. 10.0 284.1
 2.0
 06 01 01 1 16 0.1 0.263 0.123 0.005 668. 323. -8888.0 0.03 0.76 0.35 3.86 104. 10.0 284.1
 2.0
 06 01 01 1 17 -5.9 0.113 -9.000 -9.000 -999. 110. 21.6 0.02 0.76 0.62 2.36 41. 10.0 283.1
 2.0
 06 01 01 1 18 -2.7 0.060 -9.000 -9.000 -999. 37. 7.0 0.03 0.76 1.00 1.76 97. 10.0 284.1
 2.0
 06 01 01 1 19 -2.6 0.058 -9.000 -9.000 -999. 34. 6.7 0.02 0.76 1.00 1.76 44. 10.0 284.1
 2.0
 06 01 01 1 20 -8.6 0.157 -9.000 -9.000 -999. 149. 39.5 0.02 0.76 1.00 2.86 317. 10.0 284.1
 2.0
 06 01 01 1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0 0.03 0.76 1.00 0.00 0. 10.0 284.1
 2.0
 06 01 01 1 22 -6.0 0.109 -9.000 -9.000 -999. 86. 19.2 0.02 0.76 1.00 2.36 32. 10.0 284.1
 2.0
 06 01 01 1 23 -10.8 0.165 -9.000 -9.000 -999. 161. 36.8 0.04 0.76 1.00 2.86 20. 10.0 284.1
 2.0
 06 01 01 1 24 -8.6 0.157 -9.000 -9.000 -999. 149. 39.7 0.02 0.76 1.00 2.86 50. 10.0 285.1
 2.0

First hour of profile data
 YR MO DY HR HEIGHT F WDIR WSPD AMB_TMP sigmaA sigmaW sigmaV
 06 01 01 01 10.0 1 101. 3.86 280.2 99.0 -99.00 -99.00

F indicates top of profile (=1) or below (=0)


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*** AERMET - VERSION 14134 ***      *** Diesel PM10 Emissions ***
19:32:16
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**MODELOPTs:      RegDFAULT  CONC      ELEV

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*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 4 YEARS FOR SOURCE GROUP: ALL

[illegible]

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM 10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
324100.95	3985369.29	0.00182	324214.03	3985416.42	0.00191
324420.31	3985690.16	0.00439	323968.84	3985345.58	0.00165
323817.71	3985345.28	0.00172	324103.50	3985270.28	0.00121
324221.30	3985319.37	0.00131	324339.09	3985368.46	0.00181
324422.26	3985452.02	0.00261	323969.04	3985245.58	0.00135
323817.91	3985245.28	0.00147	323641.35	3985745.06	0.00291
323641.23	3985915.26	0.00985	323641.11	3986085.47	0.01542
323570.73	3985674.25	0.00173	323541.29	3985830.09	0.00474
323541.17	3986000.29	0.00908	323541.05	3986170.50	0.01412
323470.73	3985674.18	0.00159	323600.32	3985503.52	0.00129
323441.29	3985830.02	0.00355	323441.17	3986000.22	0.00726
323441.05	3986170.43	0.01161	323370.73	3985674.11	0.00145
323429.50	3985532.64	0.00110	323529.70	3985432.71	0.00105
323671.33	3985374.32	0.00125	323341.29	3985829.95	0.00306
323341.17	3986000.15	0.00618	323341.05	3986170.36	0.00983
323270.73	3985674.04	0.00139	323329.50	3985532.57	0.00097
323459.09	3985361.91	0.00087	323600.71	3985303.52	0.00101
323241.29	3985829.88	0.00274	323241.17	3986000.08	0.00534
323241.05	3986170.29	0.00850	323470.70	3986330.48	0.01881
323370.70	3986330.57	0.01521	323270.70	3986330.67	0.01277
323170.63	3986250.75	0.00940	323170.78	3986410.78	0.01215
323099.87	3986100.00	0.00596	323158.50	3985958.33	0.00420
323070.63	3986250.85	0.00833	323070.78	3986410.88	0.01083
323570.50	3986510.40	0.02280	323741.02	3986510.88	0.02744
323499.72	3986581.04	0.01876	323400.00	3986481.14	0.01768
323655.48	3986610.64	0.02035	323499.44	3986681.04	0.01609
323329.23	3986551.79	0.01551	323655.20	3986710.64	0.01674
323499.16	3986781.04	0.01414	323358.17	3986722.33	0.01358
323258.45	3986622.43	0.01392	323654.91	3986810.64	0.01435
323498.88	3986881.04	0.01267	323357.89	3986822.33	0.01212
323187.67	3986693.08	0.01264	323129.23	3986551.98	0.01290
323654.63	3986910.64	0.01266	323641.30	3986410.97	0.03037
323541.30	3986411.07	0.02452	323241.37	3986480.45	0.01385
323741.46	3986649.07	0.01933	323900.02	3986649.02	0.01881
323741.50	3986749.07	0.01589	323900.05	3986749.02	0.01473
323741.53	3986849.07	0.01362	323900.08	3986849.02	0.01234
323741.56	3986949.07	0.01198	323900.12	3986949.02	0.01080
323670.90	3987019.83	0.01111	323820.87	3987049.04	0.01046
323741.43	3986549.07	0.02478	323979.26	3986548.99	0.02449
324021.13	3986522.16	0.02662	324059.06	3986510.61	0.02693

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
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**MODELOPTs: RegDFault CONC ELEV

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL

INCLUDING SOURCE(S): L0005039 , L0005040 , L0005041 , L0005042 ,
L0005043 , L0005044 , L0005045 , L0005046 , L0005047 , L0005048 , L0005049 , L0005050 ,
L0005051 , L0005052 , L0005053 , L0005054 , L0005055 , L0005056 , L0005057 , L0005058 ,
L0005059 , L0005060 , L0005061 , L0005062 , L0005063 , L0005064 , L0005065 , L0005066 , .
. . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***
** CONC OF PM_10 IN MICROGRAMS/M**3 **
X-COORD (M) Y-COORD (M) CONC (YYMMDDHH) X-COORD (M) Y-COORD (M) CONC
(YYMMDDHH)

324181.00 3985748.00 0.03190 (09040118) 323227.00 3985676.00 0.23959
(07111904)
323703.00 3986794.00 0.18568 (07100203) 323052.00 3986547.00 0.20065
(07030420)
324006.25 3986641.09 0.20086 (07111620) 324051.22 3986727.92 0.19845
(07113007)
324100.68 3986813.43 0.19670 (07081201) 324182.99 3986774.75 0.19958
(07101722)
324151.94 3986898.42 0.19964 (07050503) 324022.53 3986936.35 0.19594
(07092101)
324236.94 3986858.95 0.19967 (07081905) 324204.09 3986983.14 0.20023
(07050503)
324114.23 3987009.48 0.19927 (07113007) 324024.36 3987035.82 0.19501
(07092101)
324290.89 3986943.14 0.20195 (07112504) 324138.25 3986596.12 0.20607
(07112504)
324248.15 3986593.49 0.21141 (07080901) 324248.54 3986693.49 0.20424
(07070122)
324355.81 3986530.91 0.21999 (07051702) 324337.02 3986659.43 0.21140
(07070202)
324422.57 3986605.36 0.21397 (07051702) 324398.25 3986736.01 0.20671
(07070202)
324298.71 3986774.33 0.20437 (07070122) 324489.33 3986679.82 0.20646
(07051702)
324470.54 3986808.34 0.20392 (07111621) 324382.06 3986842.40 0.20468
(07080901)
324556.08 3986754.27 0.20075 (07051702) 324534.14 3986884.01 0.20533
(07111621)
324439.33 3986920.50 0.20436 (07072202) 324622.84 3986828.73 0.20066
(07051702)
324429.79 3986430.06 0.21203 (07081220) 324447.55 3986264.17 0.23923
(07072022)
324465.30 3986098.28 0.12190 (08040902) 324496.55 3986504.52 0.20315
(07081220)
324538.10 3986357.76 0.20606 (07090124) 324555.86 3986191.87 0.22999
(07101504)
324595.98 3986515.16 0.18763 (07102021) 324637.53 3986368.40 0.19828
(07090124)
324655.29 3986202.51 0.20663 (07071924) 324695.41 3986525.80 0.18083
(07090120)
324630.06 3986653.43 0.19109 (07081220) 324736.97 3986379.04 0.19290
(07102506)
324754.72 3986213.15 0.20138 (07071924) 324794.85 3986536.44 0.17575
(07090120)
324729.50 3986664.07 0.18204 (07081220) 324836.40 3986389.69 0.18756
(07102506)
324854.15 3986223.80 0.19533 (07071924) 324422.80 3986005.42 0.08523
(08031405)
324275.07 3985903.13 0.04162 (09040118) 324513.72 3985963.80 0.13372
(08031405)
324556.23 3986056.66 0.24021 (07071221) 324405.86 3985872.06 0.07110
(07010318)

324587.65	3985901.88	0.22367	(07061021)	324651.41	3986041.17	0.21871
(08053020)						
324462.79	3985789.85	0.08370	(07021518)	324638.91	3985812.90	0.21216
(07071602)						
324740.92	3985990.84	0.20566	(07071221)	324519.71	3985707.63	0.09482
(07011317)						
324707.17	3985744.22	0.20012	(07060423)	324834.68	3985966.64	0.20047
(07071221)						
324576.64	3985625.42	0.10700	(07020404)	324130.26	3985885.60	0.03544
(07020917)						
324274.78	3985803.14	0.04029	(09040118)	324129.98	3985785.60	0.03779
(09040118)						
324274.50	3985703.14	0.04083	(07020917)	324129.69	3985685.60	0.03659
(09040118)						
324293.28	3985609.06	0.04333	(09040118)	324129.41	3985585.60	0.04451
(07020917)						
324288.23	3985507.58	0.04771	(09040118)	324431.26	3985552.04	0.06197
(07020404)						
324129.12	3985485.60	0.07406	(07120822)	324043.81	3985645.73	0.05133
(07020917)						
323892.68	3985645.43	0.08861	(07022019)	323741.55	3985645.13	0.25380
(08101419)						
324044.01	3985545.73	0.05916	(07020917)	323892.88	3985545.43	0.09656
(07022019)						
323741.75	3985545.13	0.23728	(08101419)	324044.21	3985445.73	0.08732
(07022520)						
323893.08	3985445.43	0.12825	(07100704)	323741.95	3985445.13	0.23393
(07102303)						

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
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**MODELOPTs: RegDFAULT CONC ELEV

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL

INCLUDING SOURCE(S): L0005039 , L0005040 , L0005041 , L0005042 ,
L0005043 , L0005044 , L0005045 , L0005046 , L0005047 , L0005048 , L0005049 , L0005050 ,
L0005051 , L0005052 , L0005053 , L0005054 , L0005055 , L0005056 , L0005057 , L0005058 ,
L0005059 , L0005060 , L0005061 , L0005062 , L0005063 , L0005064 , L0005065 , L0005066 , .
. . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***
** CONC OF PM_10 IN MICROGRAMS/M**3 **
X-COORD (M) Y-COORD (M) CONC (YYMMDDHH) X-COORD (M) Y-COORD (M) CONC
(YYMMDDHH)

324100.95 3985369.29 0.07036 (07020917) 324214.03 3985416.42 0.04319
(07020917)
324420.31 3985690.16 0.06397 (09040118) 323968.84 3985345.58 0.10612
(07022819)
323817.71 3985345.28 0.22848 (07100704) 324103.50 3985270.28 0.05725
(07020917)
324221.30 3985319.37 0.03952 (07020917) 324339.09 3985368.46 0.04408
(09040118)
324422.26 3985452.02 0.05291 (09040118) 323969.04 3985245.58 0.10878
(07022819)
323817.91 3985245.28 0.22355 (07100704) 323641.35 3985745.06 0.22112
(07111904)
323641.23 3985915.26 0.30507 (07111904) 323641.11 3986085.47 0.26604
(07111904)
323570.73 3985674.25 0.21307 (07102219) 323541.29 3985830.09 0.29694
(07111904)
323541.17 3986000.29 0.26681 (07111904) 323541.05 3986170.50 0.28466
(07111904)
323470.73 3985674.18 0.21302 (07111904) 323600.32 3985503.52 0.23180
(07021304)
323441.29 3985830.02 0.26857 (07111904) 323441.17 3986000.22 0.25465
(07111904)
323441.05 3986170.43 0.25125 (07111904) 323370.73 3985674.11 0.22669
(07111904)
323429.50 3985532.64 0.21905 (07102219) 323529.70 3985432.71 0.23381
(07021304)
323671.33 3985374.32 0.23962 (08101419) 323341.29 3985829.95 0.26096
(07111904)
323341.17 3986000.15 0.25543 (07111904) 323341.05 3986170.36 0.20323
(07111904)
323270.73 3985674.04 0.23725 (07111904) 323329.50 3985532.57 0.18489
(08041320)
323459.09 3985361.91 0.22749 (07121102) 323600.71 3985303.52 0.23535
(08101419)
323241.29 3985829.88 0.25106 (07111904) 323241.17 3986000.08 0.25077
(07111904)
323241.05 3986170.29 0.18491 (07080221) 323470.70 3986330.48 0.20522
(07112702)
323370.70 3986330.57 0.20108 (07112702) 323270.70 3986330.67 0.19592
(07102405)
323170.63 3986250.75 0.18773 (07103122) 323170.78 3986410.78 0.19158
(07112702)
323099.87 3986100.00 0.17312 (07111223) 323158.50 3985958.33 0.24384
(07111904)
323070.63 3986250.85 0.18378 (07103122) 323070.78 3986410.88 0.19178
(07112702)
323570.50 3986510.40 0.18028 (07111807) 323741.02 3986510.88 0.19046
(07111404)
323499.72 3986581.04 0.17461 (07062101) 323400.00 3986481.14 0.19795
(07111420)
323655.48 3986610.64 0.17501 (07080202) 323499.44 3986681.04 0.17280
(07111807)

323329.23	3986551.79	0.18990	(07110204)	323655.20	3986710.64	0.17849
(07080202)						
323499.16	3986781.04	0.17284	(07100323)	323358.17	3986722.33	0.16768
(07110104)						
323258.45	3986622.43	0.18782	(07060823)	323654.91	3986810.64	0.18259
(07111404)						
323498.88	3986881.04	0.17720	(07111802)	323357.89	3986822.33	0.16403
(07062101)						
323187.67	3986693.08	0.18781	(07111905)	323129.23	3986551.98	0.20190
(07110602)						
323654.63	3986910.64	0.18599	(07100204)	323641.30	3986410.97	0.19637
(07110204)						
323541.30	3986411.07	0.21105	(07110602)	323241.37	3986480.45	0.19453
(07110502)						
323741.46	3986649.07	0.18780	(07090504)	323900.02	3986649.02	0.19723
(07101103)						
323741.50	3986749.07	0.18753	(07091703)	323900.05	3986749.02	0.19232
(07101103)						
323741.53	3986849.07	0.18880	(07050101)	323900.08	3986849.02	0.19279
(07101103)						
323741.56	3986949.07	0.19188	(07050101)	323900.12	3986949.02	0.19666
(07101103)						
323670.90	3987019.83	0.18946	(07030803)	323820.87	3987049.04	0.20210
(07030822)						
323741.43	3986549.07	0.19000	(07100204)	323979.26	3986548.99	0.20551
(07081705)						
324021.13	3986522.16	0.21127	(07071803)	324059.06	3986510.61	0.21545
(07050503)						

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
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**MODELOPTs: RegDFAULT CONC ELEV

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 4 YEARS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	0.03287 AT (323741.30, 3986410.88, 169.01, 470.00, 0.00)	DC	
	2ND HIGHEST VALUE IS	0.03248 AT (323741.05, 3986170.64, 180.54, 470.00, 0.00)	DC	
	3RD HIGHEST VALUE IS	0.03037 AT (323641.30, 3986410.97, 168.00, 470.00, 0.00)	DC	
	4TH HIGHEST VALUE IS	0.02744 AT (323741.02, 3986510.88, 168.00, 470.00, 0.00)	DC	
	5TH HIGHEST VALUE IS	0.02693 AT (323570.78, 3986410.40, 167.28, 470.00, 0.00)	DC	
	6TH HIGHEST VALUE IS	0.02693 AT (324059.06, 3986510.61, 173.67, 470.00, 0.00)	DC	
	7TH HIGHEST VALUE IS	0.02662 AT (324021.13, 3986522.16, 172.35, 470.00, 0.00)	DC	
	8TH HIGHEST VALUE IS	0.02559 AT (324117.63, 3986498.27, 173.97, 470.00, 0.00)	DC	
	9TH HIGHEST VALUE IS	0.02478 AT (323741.43, 3986549.07, 168.00, 470.00, 0.00)	DC	
	10TH HIGHEST VALUE IS	0.02452 AT (323541.30, 3986411.07, 167.00, 470.00, 0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
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*** AERMET - VERSION 14134 *** *** Diesel PM10 Emissions ***
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**MODELOPTs: RegDFAULT CONC ELEV

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

DATE

NETWORK GROUP ID OF TYPE	GRID-ID	AVERAGE CONC (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)
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ALL HIGH 1ST HIGH VALUE IS 0.30507 ON 07111904: AT (323641.23, 3985915.26, 178.64, 463.00,
0.00) DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
11/19/14
*** AERMET - VERSION 14134 *** *** Diesel PM10 Emissions ***
19:32:16

PAGE 29

**MODELOPTs: RegDFAULT CONC ELEV

*** Message Summary : AERMOD Model Execution ***

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)
A Total of 3 Warning Message(s)
A Total of 7447 Informational Message(s)

A Total of 35064 Hours Were Processed

A Total of 6519 Calm Hours Identified

A Total of 928 Missing Hours Identified (2.65 Percent)

***** FATAL ERROR MESSAGES *****
*** NONE ***

***** WARNING MESSAGES *****
SO W320 873 PPARM: Input Parameter May Be Out-of-Range for Parameter VS
SO W320 874 PPARM: Input Parameter May Be Out-of-Range for Parameter VS
SO W320 875 PPARM: Input Parameter May Be Out-of-Range for Parameter VS

*** AERMOD Finishes Successfully ***

* AERMOD (14134): Deer Creek Rock Co - Hard Rock Mine Expansion

11/19/14

* AERMET (14134):

19:32:16

* MODELING OPTIONS USED: RegDFAULT CONC ELEV

* PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

* FOR A TOTAL OF 173 RECEPTORS.

* FORMAT: (3(1X,F13.5),3(1X,F8.2),2X,A6,2X,A8,2X,I8.8,2X,A8)

X	Y	AVERAGE CONC	ZELEV	ZHILL	ZFLAG	AVE	GRP	NUM YRS	NET ID
324181.00000	3985748.00000	0.00339	259.87	264.00	0.00	ANNUAL	ALL	00000004	
323227.00000	3985676.00000	0.00138	167.00	429.00	0.00	ANNUAL	ALL	00000004	
323703.00000	3986794.00000	0.01478	172.57	470.00	0.00	ANNUAL	ALL	00000004	
323052.00000	3986547.00000	0.01197	177.96	470.00	0.00	ANNUAL	ALL	00000004	
324006.25000	3986641.09000	0.01701	170.00	470.00	0.00	ANNUAL	ALL	00000004	
324051.22000	3986727.92000	0.01261	170.00	470.00	0.00	ANNUAL	ALL	00000004	
324100.68000	3986813.43000	0.00966	171.00	470.00	0.00	ANNUAL	ALL	00000004	
324182.99000	3986774.75000	0.00872	171.00	470.00	0.00	ANNUAL	ALL	00000004	
324151.94000	3986898.42000	0.00780	174.05	470.00	0.00	ANNUAL	ALL	00000004	
324022.53000	3986936.35000	0.00923	174.72	470.00	0.00	ANNUAL	ALL	00000004	
324236.94000	3986858.95000	0.00682	172.62	470.00	0.00	ANNUAL	ALL	00000004	
324204.09000	3986983.14000	0.00643	176.47	470.00	0.00	ANNUAL	ALL	00000004	
324114.23000	3987009.48000	0.00732	176.87	470.00	0.00	ANNUAL	ALL	00000004	
324024.36000	3987035.82000	0.00807	176.63	470.00	0.00	ANNUAL	ALL	00000004	
324290.89000	3986943.14000	0.00553	175.35	470.00	0.00	ANNUAL	ALL	00000004	
324138.25000	3986596.12000	0.01490	170.00	470.00	0.00	ANNUAL	ALL	00000004	
324248.15000	3986593.49000	0.01066	170.10	470.00	0.00	ANNUAL	ALL	00000004	
324248.54000	3986693.49000	0.00848	170.26	470.00	0.00	ANNUAL	ALL	00000004	
324355.81000	3986530.91000	0.00816	173.39	470.00	0.00	ANNUAL	ALL	00000004	
324337.02000	3986659.43000	0.00676	171.00	470.00	0.00	ANNUAL	ALL	00000004	
324422.57000	3986605.36000	0.00557	172.54	470.00	0.00	ANNUAL	ALL	00000004	
324398.25000	3986736.01000	0.00504	171.00	470.00	0.00	ANNUAL	ALL	00000004	
324298.71000	3986774.33000	0.00650	171.92	470.00	0.00	ANNUAL	ALL	00000004	
324489.33000	3986679.82000	0.00421	171.23	470.00	0.00	ANNUAL	ALL	00000004	
324470.54000	3986808.34000	0.00395	172.05	470.00	0.00	ANNUAL	ALL	00000004	
324382.06000	3986842.40000	0.00480	173.00	470.00	0.00	ANNUAL	ALL	00000004	
324556.08000	3986754.27000	0.00341	171.00	470.00	0.00	ANNUAL	ALL	00000004	
324534.14000	3986884.01000	0.00334	174.57	470.00	0.00	ANNUAL	ALL	00000004	
324439.33000	3986920.50000	0.00396	174.79	470.00	0.00	ANNUAL	ALL	00000004	
324622.84000	3986828.73000	0.00293	173.85	470.00	0.00	ANNUAL	ALL	00000004	
324429.79000	3986430.06000	0.00790	177.12	470.00	0.00	ANNUAL	ALL	00000004	
324447.55000	3986264.17000	0.01120	195.02	363.00	0.00	ANNUAL	ALL	00000004	
324465.30000	3986098.28000	0.00836	206.75	368.00	0.00	ANNUAL	ALL	00000004	
324496.55000	3986504.52000	0.00528	174.08	470.00	0.00	ANNUAL	ALL	00000004	
324538.10000	3986357.76000	0.00634	177.75	470.00	0.00	ANNUAL	ALL	00000004	
324555.86000	3986191.87000	0.00821	187.32	368.00	0.00	ANNUAL	ALL	00000004	
324595.98000	3986515.16000	0.00404	173.34	470.00	0.00	ANNUAL	ALL	00000004	
324637.53000	3986368.40000	0.00468	176.00	470.00	0.00	ANNUAL	ALL	00000004	
324655.29000	3986202.51000	0.00577	177.07	368.00	0.00	ANNUAL	ALL	00000004	
324695.41000	3986525.80000	0.00324	172.06	470.00	0.00	ANNUAL	ALL	00000004	
324630.06000	3986653.43000	0.00320	171.00	470.00	0.00	ANNUAL	ALL	00000004	
324736.97000	3986379.04000	0.00370	175.26	470.00	0.00	ANNUAL	ALL	00000004	
324754.72000	3986213.15000	0.00455	177.00	368.00	0.00	ANNUAL	ALL	00000004	
324794.85000	3986536.44000	0.00268	171.00	470.00	0.00	ANNUAL	ALL	00000004	
324729.50000	3986664.07000	0.00269	172.24	470.00	0.00	ANNUAL	ALL	00000004	
324836.40000	3986389.69000	0.00306	174.49	470.00	0.00	ANNUAL	ALL	00000004	
324854.15000	3986223.80000	0.00374	177.00	368.00	0.00	ANNUAL	ALL	00000004	
324422.80000	3986005.42000	0.00770	217.46	368.00	0.00	ANNUAL	ALL	00000004	
324275.07000	3985903.13000	0.00520	243.90	270.00	0.00	ANNUAL	ALL	00000004	
324513.72000	3985963.80000	0.00742	202.95	368.00	0.00	ANNUAL	ALL	00000004	
324556.23000	3986056.66000	0.00904	195.19	368.00	0.00	ANNUAL	ALL	00000004	
324405.86000	3985872.06000	0.00596	221.07	368.00	0.00	ANNUAL	ALL	00000004	
324587.65000	3985901.88000	0.00798	196.20	368.00	0.00	ANNUAL	ALL	00000004	
324651.41000	3986041.17000	0.00684	181.63	368.00	0.00	ANNUAL	ALL	00000004	
324462.79000	3985789.85000	0.00542	213.72	368.00	0.00	ANNUAL	ALL	00000004	
324638.91000	3985812.90000	0.00686	194.25	368.00	0.00	ANNUAL	ALL	00000004	
324740.92000	3985990.84000	0.00552	177.00	368.00	0.00	ANNUAL	ALL	00000004	
324519.71000	3985707.63000	0.00496	208.04	368.00	0.00	ANNUAL	ALL	00000004	
324707.17000	3985744.22000	0.00581	186.38	368.00	0.00	ANNUAL	ALL	00000004	
324834.68000	3985966.64000	0.00466	177.49	368.00	0.00	ANNUAL	ALL	00000004	
324576.64000	3985625.42000	0.00459	203.35	368.00	0.00	ANNUAL	ALL	00000004	
324130.26000	3985885.60000	0.00511	249.34	262.00	0.00	ANNUAL	ALL	00000004	
324274.78000	3985803.14000	0.00428	242.16	359.00	0.00	ANNUAL	ALL	00000004	
324129.98000	3985785.60000	0.00430	251.26	264.00	0.00	ANNUAL	ALL	00000004	
324274.50000	3985703.14000	0.00358	241.30	368.00	0.00	ANNUAL	ALL	00000004	
324129.69000	3985685.60000	0.00306	261.94	261.94	0.00	ANNUAL	ALL	00000004	
324293.28000	3985609.06000	0.00305	238.80	368.00	0.00	ANNUAL	ALL	00000004	
324129.41000	3985585.60000	0.00274	244.07	368.00	0.00	ANNUAL	ALL	00000004	
324288.23000	3985507.58000	0.00241	240.42	368.00	0.00	ANNUAL	ALL	00000004	
324431.26000	3985552.04000	0.00338	220.88	368.00	0.00	ANNUAL	ALL	00000004	

324129.12000	3985485.60000	0.00283	220.91	368.00	0.00	ANNUAL	ALL	00000004
324043.81000	3985645.73000	0.00311	245.27	368.00	0.00	ANNUAL	ALL	00000004
323892.68000	3985645.43000	0.00301	216.70	368.00	0.00	ANNUAL	ALL	00000004
323741.55000	3985645.13000	0.00247	187.57	429.00	0.00	ANNUAL	ALL	00000004
324044.01000	3985545.73000	0.00238	234.94	368.00	0.00	ANNUAL	ALL	00000004
323892.88000	3985545.43000	0.00205	213.33	429.00	0.00	ANNUAL	ALL	00000004
323741.75000	3985545.13000	0.00188	182.39	429.00	0.00	ANNUAL	ALL	00000004
324044.21000	3985445.73000	0.00235	215.06	429.00	0.00	ANNUAL	ALL	00000004
323893.08000	3985445.43000	0.00184	203.91	429.00	0.00	ANNUAL	ALL	00000004
323741.95000	3985445.13000	0.00160	184.55	429.00	0.00	ANNUAL	ALL	00000004
324100.95000	3985369.29000	0.00182	223.98	429.00	0.00	ANNUAL	ALL	00000004
324214.03000	3985416.42000	0.00191	239.36	368.00	0.00	ANNUAL	ALL	00000004
324420.31000	3985690.16000	0.00439	219.45	368.00	0.00	ANNUAL	ALL	00000004
323968.84000	3985345.58000	0.00165	208.62	429.00	0.00	ANNUAL	ALL	00000004
323817.71000	3985345.28000	0.00172	190.89	429.00	0.00	ANNUAL	ALL	00000004
324103.50000	3985270.28000	0.00121	233.68	429.00	0.00	ANNUAL	ALL	00000004
324221.30000	3985319.37000	0.00131	249.82	368.00	0.00	ANNUAL	ALL	00000004
324339.09000	3985368.46000	0.00181	240.90	368.00	0.00	ANNUAL	ALL	00000004
324422.26000	3985452.02000	0.00261	227.10	368.00	0.00	ANNUAL	ALL	00000004
323969.04000	3985245.58000	0.00135	207.68	429.00	0.00	ANNUAL	ALL	00000004
323817.91000	3985245.28000	0.00147	196.29	429.00	0.00	ANNUAL	ALL	00000004
323641.35000	3985745.06000	0.00291	176.89	429.00	0.00	ANNUAL	ALL	00000004
323641.23000	3985915.26000	0.00985	178.64	463.00	0.00	ANNUAL	ALL	00000004
323641.11000	3986085.47000	0.01542	170.70	470.00	0.00	ANNUAL	ALL	00000004
323570.73000	3985674.25000	0.00173	175.84	429.00	0.00	ANNUAL	ALL	00000004
323541.29000	3985830.09000	0.00474	179.89	429.00	0.00	ANNUAL	ALL	00000004
323541.17000	3986000.29000	0.00908	170.25	470.00	0.00	ANNUAL	ALL	00000004
323541.05000	3986170.50000	0.01412	168.37	470.00	0.00	ANNUAL	ALL	00000004
323470.73000	3985674.18000	0.00159	174.53	429.00	0.00	ANNUAL	ALL	00000004
323600.32000	3985503.52000	0.00129	188.91	429.00	0.00	ANNUAL	ALL	00000004
323441.29000	3985830.02000	0.00355	170.02	470.00	0.00	ANNUAL	ALL	00000004
323441.17000	3986000.22000	0.00726	168.00	470.00	0.00	ANNUAL	ALL	00000004
323441.05000	3986170.43000	0.01161	168.00	470.00	0.00	ANNUAL	ALL	00000004
323370.73000	3985674.11000	0.00145	169.51	429.00	0.00	ANNUAL	ALL	00000004
323429.50000	3985532.64000	0.00110	183.42	429.00	0.00	ANNUAL	ALL	00000004
323529.70000	3985432.71000	0.00105	191.60	429.00	0.00	ANNUAL	ALL	00000004
323671.33000	3985374.32000	0.00125	191.26	429.00	0.00	ANNUAL	ALL	00000004
323341.29000	3985829.95000	0.00306	168.71	470.00	0.00	ANNUAL	ALL	00000004
323341.17000	3986000.15000	0.00618	167.89	470.00	0.00	ANNUAL	ALL	00000004
323341.05000	3986170.36000	0.00983	167.00	470.00	0.00	ANNUAL	ALL	00000004
323270.73000	3985674.04000	0.00139	167.85	429.00	0.00	ANNUAL	ALL	00000004
323329.50000	3985532.57000	0.00097	174.42	429.00	0.00	ANNUAL	ALL	00000004
323459.09000	3985361.91000	0.00087	186.90	429.00	0.00	ANNUAL	ALL	00000004
323600.71000	3985303.52000	0.00101	196.35	429.00	0.00	ANNUAL	ALL	00000004
323241.29000	3985829.88000	0.00274	167.00	470.00	0.00	ANNUAL	ALL	00000004
323241.17000	3986000.08000	0.00534	166.37	470.00	0.00	ANNUAL	ALL	00000004
323241.05000	3986170.29000	0.00850	166.00	470.00	0.00	ANNUAL	ALL	00000004
323470.70000	3986330.48000	0.01881	167.00	470.00	0.00	ANNUAL	ALL	00000004
323370.70000	3986330.57000	0.01521	167.00	470.00	0.00	ANNUAL	ALL	00000004
323270.70000	3986330.67000	0.01277	167.00	470.00	0.00	ANNUAL	ALL	00000004
323170.63000	3986250.75000	0.00940	166.45	470.00	0.00	ANNUAL	ALL	00000004
323170.78000	3986410.78000	0.01215	167.78	470.00	0.00	ANNUAL	ALL	00000004
323099.87000	3986100.00000	0.00596	165.00	470.00	0.00	ANNUAL	ALL	00000004
323158.50000	3985958.33000	0.00420	165.61	470.00	0.00	ANNUAL	ALL	00000004
323070.63000	3986250.85000	0.00833	167.00	470.00	0.00	ANNUAL	ALL	00000004
323070.78000	3986410.88000	0.01083	170.00	470.00	0.00	ANNUAL	ALL	00000004
323570.50000	3986510.40000	0.02280	168.00	470.00	0.00	ANNUAL	ALL	00000004
323741.02000	3986510.88000	0.02744	168.00	470.00	0.00	ANNUAL	ALL	00000004
323499.72000	3986581.04000	0.01876	169.01	470.00	0.00	ANNUAL	ALL	00000004
323400.00000	3986481.14000	0.01768	168.14	470.00	0.00	ANNUAL	ALL	00000004
323655.48000	3986610.64000	0.02035	168.46	470.00	0.00	ANNUAL	ALL	00000004
323499.44000	3986681.04000	0.01609	170.00	470.00	0.00	ANNUAL	ALL	00000004
323329.23000	3986551.79000	0.01551	170.00	470.00	0.00	ANNUAL	ALL	00000004
323655.20000	3986710.64000	0.01674	170.00	470.00	0.00	ANNUAL	ALL	00000004
323499.16000	3986781.04000	0.01414	173.42	470.00	0.00	ANNUAL	ALL	00000004
323358.17000	3986722.33000	0.01358	171.00	470.00	0.00	ANNUAL	ALL	00000004
323258.45000	3986622.43000	0.01392	173.81	470.00	0.00	ANNUAL	ALL	00000004
323654.91000	3986810.64000	0.01435	173.23	470.00	0.00	ANNUAL	ALL	00000004
323498.88000	3986881.04000	0.01267	177.45	470.00	0.00	ANNUAL	ALL	00000004
323357.89000	3986822.33000	0.01212	172.13	470.00	0.00	ANNUAL	ALL	00000004
323187.67000	3986693.08000	0.01264	178.00	470.00	0.00	ANNUAL	ALL	00000004
323129.23000	3986551.98000	0.01290	176.87	470.00	0.00	ANNUAL	ALL	00000004
323654.63000	3986910.64000	0.01266	177.31	470.00	0.00	ANNUAL	ALL	00000004
323641.30000	3986410.97000	0.03037	168.00	470.00	0.00	ANNUAL	ALL	00000004
323541.30000	3986411.07000	0.02452	167.00	470.00	0.00	ANNUAL	ALL	00000004
323241.37000	3986480.45000	0.01385	168.12	470.00	0.00	ANNUAL	ALL	00000004
323741.46000	3986649.07000	0.01933	168.74	470.00	0.00	ANNUAL	ALL	00000004
323900.02000	3986649.02000	0.01881	170.26	470.00	0.00	ANNUAL	ALL	00000004

323741.50000	3986749.07000	0.01589	171.03	470.00	0.00	ANNUAL	ALL	00000004
323900.05000	3986749.02000	0.01473	170.00	470.00	0.00	ANNUAL	ALL	00000004
323741.53000	3986849.07000	0.01362	174.41	470.00	0.00	ANNUAL	ALL	00000004
323900.08000	3986849.02000	0.01234	172.81	470.00	0.00	ANNUAL	ALL	00000004
323741.56000	3986949.07000	0.01198	178.48	470.00	0.00	ANNUAL	ALL	00000004
323900.12000	3986949.02000	0.01080	177.48	470.00	0.00	ANNUAL	ALL	00000004
323670.90000	3987019.83000	0.01111	181.10	470.00	0.00	ANNUAL	ALL	00000004
323820.87000	3987049.04000	0.01046	185.84	470.00	0.00	ANNUAL	ALL	00000004
323741.43000	3986549.07000	0.02478	168.00	470.00	0.00	ANNUAL	ALL	00000004
323979.26000	3986548.99000	0.02449	171.00	470.00	0.00	ANNUAL	ALL	00000004
324021.13000	3986522.16000	0.02662	172.35	470.00	0.00	ANNUAL	ALL	00000004
324059.06000	3986510.61000	0.02693	173.67	470.00	0.00	ANNUAL	ALL	00000004
324117.63000	3986498.27000	0.02559	173.97	470.00	0.00	ANNUAL	ALL	00000004
324177.05000	3986493.77000	0.02227	173.49	470.00	0.00	ANNUAL	ALL	00000004
324247.75000	3986493.49000	0.01687	174.84	470.00	0.00	ANNUAL	ALL	00000004
324330.36000	3986419.42000	0.01510	180.95	470.00	0.00	ANNUAL	ALL	00000004
324365.87000	3986087.64000	0.00889	229.21	270.00	0.00	ANNUAL	ALL	00000004
324218.14000	3985985.35000	0.00575	258.93	270.00	0.00	ANNUAL	ALL	00000004
324042.96000	3985985.85000	0.00875	236.48	270.00	0.00	ANNUAL	ALL	00000004
324043.61000	3985745.73000	0.00527	243.12	358.00	0.00	ANNUAL	ALL	00000004
323741.35000	3985745.13000	0.00422	190.45	429.00	0.00	ANNUAL	ALL	00000004
323741.05000	3986170.64000	0.03248	180.54	470.00	0.00	ANNUAL	ALL	00000004
323570.55000	3986170.35000	0.01523	169.00	470.00	0.00	ANNUAL	ALL	00000004
323570.78000	3986410.40000	0.02693	167.28	470.00	0.00	ANNUAL	ALL	00000004
323741.30000	3986410.88000	0.03287	169.01	470.00	0.00	ANNUAL	ALL	00000004

** CONCUNIT ug/m^3
** DEPUNIT g/m^2

APPENDIX D

AERMOD Model TOG Printouts

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**
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**
** AERMOD Input Produced by:
** AERMOD View Ver. 8.8.5
** Lakes Environmental Software Inc.
** Date: 11/19/2014
** File: C:\Vista Env\2014\14052 Deer Creek Rock\AERMOD\Deer Creek TOG\Deer Creek TOG\Deer Creek TOG.ADI
**
*****
**
**
*****
** AERMOD Control Pathway
*****
**
**
CO STARTING
  TITLEONE Deer Creek Rock Co - Hard Rock Mine Expansion
  TITLETWO Diesel TOG Emissions
  MODELOPT DFAULT CONC
  AVERTIME 1
  POLLUTID TOG
  RUNORNOT RUN
  ERRORFIL "Deer Creek TOG.err"
CO FINISHED
**
*****
** AERMOD Source Pathway
*****
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** -----
** Line Source Represented by Separated Volume Sources
** LINE VOLUME Source ID = RDHAUL
** DESCRSRC Onsite Haul Trucks
** PREFIX
** Length of Side = 3.66
** Configuration = Separated
** Emission Rate = 4.215E-06
** Vertical Dimension = 1.83
** SZINIT = 0.85
** Nodes = 9
** 324078.330, 3986505.217, 174.10, 1.83, 3.39
** 324071.575, 3986479.428, 177.02, 1.83, 3.39
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** 323983.155, 3986438.902, 181.60, 1.83, 3.39
** 324078.410, 3986459.998, 179.13, 1.83, 3.39
** 324104.756, 3986313.819, 208.68, 1.83, 3.39
** 324126.003, 3986318.068, 207.40, 1.83, 3.39
** 324079.260, 3986478.696, 177.27, 1.83, 3.39
** 324084.774, 3986503.468, 173.94, 1.83, 3.39
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LOCATION L0005811    VOLUME    324077.866 3986503.448 174.11
LOCATION L0005812    VOLUME    324076.018 3986496.392 174.91
LOCATION L0005813    VOLUME    324074.170 3986489.336 175.69
LOCATION L0005814    VOLUME    324072.322 3986482.279 176.44
LOCATION L0005815    VOLUME    324067.341 3986478.446 176.84
LOCATION L0005816    VOLUME    324060.235 3986476.799 177.00
LOCATION L0005817    VOLUME    324053.129 3986475.152 177.22
LOCATION L0005818    VOLUME    324046.024 3986473.505 177.44
LOCATION L0005819    VOLUME    324038.918 3986471.858 177.66
LOCATION L0005820    VOLUME    324031.812 3986470.211 177.88
LOCATION L0005821    VOLUME    324024.706 3986468.564 178.10
LOCATION L0005822    VOLUME    324017.600 3986466.917 178.32
LOCATION L0005823    VOLUME    324010.494 3986465.270 178.54
LOCATION L0005824    VOLUME    324003.388 3986463.623 178.63
LOCATION L0005825    VOLUME    323996.283 3986461.976 178.75
LOCATION L0005826    VOLUME    323989.177 3986460.329 178.89
LOCATION L0005827    VOLUME    323982.071 3986458.682 179.05
LOCATION L0005828    VOLUME    323979.736 3986454.040 179.79
LOCATION L0005829    VOLUME    323981.343 3986446.925 180.98
LOCATION L0005830    VOLUME    323982.949 3986439.810 181.96
LOCATION L0005831    VOLUME    323989.367 3986440.278 181.94
LOCATION L0005832    VOLUME    323996.489 3986441.855 181.75
LOCATION L0005833    VOLUME    324003.610 3986443.432 181.54

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LOCATION	L0005834	VOLUME	324010.732	3986445.009	181.30
LOCATION	L0005835	VOLUME	324017.854	3986446.587	181.04
LOCATION	L0005836	VOLUME	324024.975	3986448.164	180.82
LOCATION	L0005837	VOLUME	324032.097	3986449.741	180.61
LOCATION	L0005838	VOLUME	324039.219	3986451.318	180.40
LOCATION	L0005839	VOLUME	324046.340	3986452.896	180.19
LOCATION	L0005840	VOLUME	324053.462	3986454.473	179.98
LOCATION	L0005841	VOLUME	324060.584	3986456.050	179.77
LOCATION	L0005842	VOLUME	324067.705	3986457.628	179.56
LOCATION	L0005843	VOLUME	324074.827	3986459.205	179.26
LOCATION	L0005844	VOLUME	324079.053	3986456.431	179.52
LOCATION	L0005845	VOLUME	324080.347	3986449.253	180.36
LOCATION	L0005846	VOLUME	324081.640	3986442.074	181.47
LOCATION	L0005847	VOLUME	324082.934	3986434.896	182.73
LOCATION	L0005848	VOLUME	324084.228	3986427.717	184.01
LOCATION	L0005849	VOLUME	324085.522	3986420.538	185.32
LOCATION	L0005850	VOLUME	324086.816	3986413.360	186.69
LOCATION	L0005851	VOLUME	324088.109	3986406.181	188.13
LOCATION	L0005852	VOLUME	324089.403	3986399.003	189.56
LOCATION	L0005853	VOLUME	324090.697	3986391.824	191.00
LOCATION	L0005854	VOLUME	324091.991	3986384.646	192.49
LOCATION	L0005855	VOLUME	324093.285	3986377.467	194.11
LOCATION	L0005856	VOLUME	324094.579	3986370.288	195.76
LOCATION	L0005857	VOLUME	324095.872	3986363.110	197.42
LOCATION	L0005858	VOLUME	324097.166	3986355.931	199.11
LOCATION	L0005859	VOLUME	324098.460	3986348.753	200.83
LOCATION	L0005860	VOLUME	324099.754	3986341.574	202.55
LOCATION	L0005861	VOLUME	324101.048	3986334.396	204.23
LOCATION	L0005862	VOLUME	324102.341	3986327.217	205.91
LOCATION	L0005863	VOLUME	324103.635	3986320.038	207.58
LOCATION	L0005864	VOLUME	324105.712	3986314.010	208.99
LOCATION	L0005865	VOLUME	324112.864	3986315.441	208.65
LOCATION	L0005866	VOLUME	324120.017	3986316.871	208.32
LOCATION	L0005867	VOLUME	324125.671	3986319.211	207.77
LOCATION	L0005868	VOLUME	324123.633	3986326.214	206.14
LOCATION	L0005869	VOLUME	324121.595	3986333.218	204.51
LOCATION	L0005870	VOLUME	324119.556	3986340.222	202.87
LOCATION	L0005871	VOLUME	324117.518	3986347.226	201.24
LOCATION	L0005872	VOLUME	324115.480	3986354.229	199.60
LOCATION	L0005873	VOLUME	324113.442	3986361.233	197.97
LOCATION	L0005874	VOLUME	324111.404	3986368.237	196.33
LOCATION	L0005875	VOLUME	324109.366	3986375.240	194.70
LOCATION	L0005876	VOLUME	324107.328	3986382.244	193.07
LOCATION	L0005877	VOLUME	324105.290	3986389.248	191.50
LOCATION	L0005878	VOLUME	324103.251	3986396.252	190.08
LOCATION	L0005879	VOLUME	324101.213	3986403.255	188.69
LOCATION	L0005880	VOLUME	324099.175	3986410.259	187.31
LOCATION	L0005881	VOLUME	324097.137	3986417.263	185.91
LOCATION	L0005882	VOLUME	324095.099	3986424.266	184.55
LOCATION	L0005883	VOLUME	324093.061	3986431.270	183.22
LOCATION	L0005884	VOLUME	324091.023	3986438.274	181.92
LOCATION	L0005885	VOLUME	324088.985	3986445.277	180.66
LOCATION	L0005886	VOLUME	324086.947	3986452.281	179.81
LOCATION	L0005887	VOLUME	324084.908	3986459.285	179.05
LOCATION	L0005888	VOLUME	324082.870	3986466.289	178.25
LOCATION	L0005889	VOLUME	324080.832	3986473.292	177.43
LOCATION	L0005890	VOLUME	324079.622	3986480.323	176.61
LOCATION	L0005891	VOLUME	324081.207	3986487.443	175.81
LOCATION	L0005892	VOLUME	324082.792	3986494.563	174.97
LOCATION	L0005893	VOLUME	324084.377	3986501.683	174.12

** End of LINE VOLUME Source ID = RDHAUL

** -----

** Line Source Represented by Separated Volume Sources

** LINE VOLUME Source ID = RDONSITE

** DESCRSRC Onsite Maintenance Trucks

** PREFIX

** Length of Side = 3.66

** Configuration = Separated

** Emission Rate = 8.236E-07

** Vertical Dimension = 1.83

** SZINIT = 0.85

** Nodes = 17

** 323946.521, 3986461.935, 177.89, 1.83, 3.40

** 323847.044, 3986436.759, 174.62, 1.83, 3.40

** 323755.550, 3986362.458, 170.44, 1.83, 3.40

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** 323781.001, 3986104.642, 189.08, 1.83, 3.40

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** 323789.780, 3986037.865, 193.02, 1.83, 3.40
** 323806.381, 3985852.080, 197.42, 1.83, 3.40
** 323955.846, 3985874.223, 209.41, 1.83, 3.40
** 324004.284, 3986049.983, 228.70, 1.83, 3.40
** 324292.656, 3986109.117, 249.33, 1.83, 3.40
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** 324059.642, 3986301.860, 211.75, 1.83, 3.40
** 323964.150, 3986397.352, 189.65, 1.83, 3.40
** 323955.846, 3986443.022, 180.39, 1.83, 3.40
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LOCATION L0005894 VOLUME 323944.749 3986461.487 177.87
LOCATION L0005895 VOLUME 323937.672 3986459.695 177.87
LOCATION L0005896 VOLUME 323930.594 3986457.904 177.87
LOCATION L0005897 VOLUME 323923.517 3986456.113 177.88
LOCATION L0005898 VOLUME 323916.440 3986454.322 177.88
LOCATION L0005899 VOLUME 323909.363 3986452.531 177.88
LOCATION L0005900 VOLUME 323902.286 3986450.740 177.88
LOCATION L0005901 VOLUME 323895.209 3986448.949 177.89
LOCATION L0005902 VOLUME 323888.132 3986447.158 177.83
LOCATION L0005903 VOLUME 323881.055 3986445.367 177.53
LOCATION L0005904 VOLUME 323873.978 3986443.576 177.19
LOCATION L0005905 VOLUME 323866.901 3986441.784 176.83
LOCATION L0005906 VOLUME 323859.824 3986439.993 176.43
LOCATION L0005907 VOLUME 323852.747 3986438.202 175.84
LOCATION L0005908 VOLUME 323845.944 3986435.865 175.32
LOCATION L0005909 VOLUME 323840.277 3986431.263 175.06
LOCATION L0005910 VOLUME 323834.610 3986426.661 174.80
LOCATION L0005911 VOLUME 323828.943 3986422.059 174.54
LOCATION L0005912 VOLUME 323823.276 3986417.457 174.28
LOCATION L0005913 VOLUME 323817.609 3986412.855 173.96
LOCATION L0005914 VOLUME 323811.942 3986408.253 173.59
LOCATION L0005915 VOLUME 323806.275 3986403.651 173.15
LOCATION L0005916 VOLUME 323800.608 3986399.049 172.66
LOCATION L0005917 VOLUME 323794.941 3986394.447 172.23
LOCATION L0005918 VOLUME 323789.274 3986389.845 171.82
LOCATION L0005919 VOLUME 323783.607 3986385.243 171.43
LOCATION L0005920 VOLUME 323777.941 3986380.641 171.05
LOCATION L0005921 VOLUME 323772.274 3986376.039 170.61
LOCATION L0005922 VOLUME 323766.607 3986371.437 170.40
LOCATION L0005923 VOLUME 323760.940 3986366.835 170.36
LOCATION L0005924 VOLUME 323755.194 3986362.430 170.32
LOCATION L0005925 VOLUME 323747.916 3986361.855 170.09
LOCATION L0005926 VOLUME 323740.639 3986361.281 169.87
LOCATION L0005927 VOLUME 323733.361 3986360.706 169.68
LOCATION L0005928 VOLUME 323726.084 3986360.131 169.47
LOCATION L0005929 VOLUME 323718.806 3986359.556 169.26
LOCATION L0005930 VOLUME 323711.529 3986358.982 169.04
LOCATION L0005931 VOLUME 323704.251 3986358.407 168.99
LOCATION L0005932 VOLUME 323696.974 3986357.832 168.99
LOCATION L0005933 VOLUME 323689.696 3986357.257 168.99
LOCATION L0005934 VOLUME 323682.419 3986356.682 169.00
LOCATION L0005935 VOLUME 323675.371 3986355.899 168.85
LOCATION L0005936 VOLUME 323675.512 3986348.600 168.89
LOCATION L0005937 VOLUME 323675.653 3986341.301 168.93
LOCATION L0005938 VOLUME 323675.794 3986334.003 168.97
LOCATION L0005939 VOLUME 323675.934 3986326.704 169.00
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LOCATION L0005943 VOLUME 323676.497 3986297.508 169.86
LOCATION L0005944 VOLUME 323676.638 3986290.210 169.91
LOCATION L0005945 VOLUME 323676.779 3986282.911 169.94
LOCATION L0005946 VOLUME 323676.919 3986275.612 169.97
LOCATION L0005947 VOLUME 323677.060 3986268.313 170.00
LOCATION L0005948 VOLUME 323677.201 3986261.014 170.18
LOCATION L0005949 VOLUME 323677.342 3986253.716 170.40
LOCATION L0005950 VOLUME 323677.482 3986246.417 170.62
LOCATION L0005951 VOLUME 323677.623 3986239.118 170.85
LOCATION L0005952 VOLUME 323677.764 3986231.819 170.92
LOCATION L0005953 VOLUME 323677.905 3986224.520 170.93
LOCATION L0005954 VOLUME 323684.915 3986223.125 171.40
LOCATION L0005955 VOLUME 323692.109 3986221.889 172.00
LOCATION L0005956 VOLUME 323699.304 3986220.653 172.63
LOCATION L0005957 VOLUME 323706.499 3986219.416 173.27
LOCATION L0005958 VOLUME 323713.694 3986218.180 174.06
LOCATION L0005959 VOLUME 323720.888 3986216.944 174.98
LOCATION L0005960 VOLUME 323728.083 3986215.707 175.93
LOCATION L0005961 VOLUME 323735.278 3986214.471 176.89

LOCATION	L0005962	VOLUME	323740.936	3986211.376	177.81
LOCATION	L0005963	VOLUME	323743.501	3986204.542	178.61
LOCATION	L0005964	VOLUME	323746.067	3986197.707	179.41
LOCATION	L0005965	VOLUME	323748.632	3986190.873	180.20
LOCATION	L0005966	VOLUME	323751.198	3986184.038	181.00
LOCATION	L0005967	VOLUME	323753.763	3986177.204	181.80
LOCATION	L0005968	VOLUME	323756.329	3986170.369	182.60
LOCATION	L0005969	VOLUME	323758.894	3986163.535	183.39
LOCATION	L0005970	VOLUME	323761.460	3986156.700	184.19
LOCATION	L0005971	VOLUME	323764.025	3986149.865	184.99
LOCATION	L0005972	VOLUME	323766.591	3986143.031	185.76
LOCATION	L0005973	VOLUME	323769.156	3986136.196	186.56
LOCATION	L0005974	VOLUME	323771.722	3986129.362	187.46
LOCATION	L0005975	VOLUME	323774.287	3986122.527	188.35
LOCATION	L0005976	VOLUME	323776.853	3986115.693	189.17
LOCATION	L0005977	VOLUME	323779.418	3986108.858	189.82
LOCATION	L0005978	VOLUME	323783.720	3986103.988	190.70
LOCATION	L0005979	VOLUME	323790.817	3986102.279	191.94
LOCATION	L0005980	VOLUME	323797.915	3986100.571	193.18
LOCATION	L0005981	VOLUME	323805.012	3986098.863	194.32
LOCATION	L0005982	VOLUME	323812.110	3986097.154	195.40
LOCATION	L0005983	VOLUME	323819.207	3986095.446	196.45
LOCATION	L0005984	VOLUME	323826.305	3986093.738	197.47
LOCATION	L0005985	VOLUME	323833.402	3986092.029	198.53
LOCATION	L0005986	VOLUME	323840.500	3986090.321	199.70
LOCATION	L0005987	VOLUME	323847.597	3986088.613	200.89
LOCATION	L0005988	VOLUME	323854.695	3986086.904	202.10
LOCATION	L0005989	VOLUME	323861.792	3986085.196	203.34
LOCATION	L0005990	VOLUME	323868.890	3986083.487	204.55
LOCATION	L0005991	VOLUME	323875.987	3986081.779	205.73
LOCATION	L0005992	VOLUME	323872.560	3986078.888	205.23
LOCATION	L0005993	VOLUME	323866.019	3986075.646	204.29
LOCATION	L0005994	VOLUME	323859.478	3986072.405	203.38
LOCATION	L0005995	VOLUME	323852.937	3986069.163	202.40
LOCATION	L0005996	VOLUME	323846.396	3986065.922	201.42
LOCATION	L0005997	VOLUME	323839.855	3986062.680	200.43
LOCATION	L0005998	VOLUME	323833.314	3986059.439	199.45
LOCATION	L0005999	VOLUME	323826.773	3986056.197	198.58
LOCATION	L0006000	VOLUME	323820.232	3986052.956	197.77
LOCATION	L0006001	VOLUME	323813.691	3986049.714	196.92
LOCATION	L0006002	VOLUME	323807.150	3986046.473	196.02
LOCATION	L0006003	VOLUME	323800.608	3986043.231	195.08
LOCATION	L0006004	VOLUME	323794.067	3986039.990	194.00
LOCATION	L0006005	VOLUME	323790.004	3986035.360	193.32
LOCATION	L0006006	VOLUME	323790.654	3986028.088	193.43
LOCATION	L0006007	VOLUME	323791.303	3986020.817	193.68
LOCATION	L0006008	VOLUME	323791.953	3986013.546	193.97
LOCATION	L0006009	VOLUME	323792.603	3986006.275	194.27
LOCATION	L0006010	VOLUME	323793.253	3985999.003	194.58
LOCATION	L0006011	VOLUME	323793.902	3985991.732	194.63
LOCATION	L0006012	VOLUME	323794.552	3985984.461	194.56
LOCATION	L0006013	VOLUME	323795.202	3985977.190	194.48
LOCATION	L0006014	VOLUME	323795.851	3985969.919	194.38
LOCATION	L0006015	VOLUME	323796.501	3985962.647	194.28
LOCATION	L0006016	VOLUME	323797.151	3985955.376	194.17
LOCATION	L0006017	VOLUME	323797.801	3985948.105	194.04
LOCATION	L0006018	VOLUME	323798.450	3985940.834	193.91
LOCATION	L0006019	VOLUME	323799.100	3985933.563	193.76
LOCATION	L0006020	VOLUME	323799.750	3985926.291	193.61
LOCATION	L0006021	VOLUME	323800.399	3985919.020	193.44
LOCATION	L0006022	VOLUME	323801.049	3985911.749	193.25
LOCATION	L0006023	VOLUME	323801.699	3985904.478	193.11
LOCATION	L0006024	VOLUME	323802.349	3985897.206	193.18
LOCATION	L0006025	VOLUME	323802.998	3985889.935	193.25
LOCATION	L0006026	VOLUME	323803.648	3985882.664	193.33
LOCATION	L0006027	VOLUME	323804.298	3985875.393	193.63
LOCATION	L0006028	VOLUME	323804.947	3985868.122	194.74
LOCATION	L0006029	VOLUME	323805.597	3985860.850	195.88
LOCATION	L0006030	VOLUME	323806.247	3985853.579	197.03
LOCATION	L0006031	VOLUME	323812.113	3985852.929	198.03
LOCATION	L0006032	VOLUME	323819.334	3985853.999	198.94
LOCATION	L0006033	VOLUME	323826.556	3985855.069	199.83
LOCATION	L0006034	VOLUME	323833.777	3985856.138	200.42
LOCATION	L0006035	VOLUME	323840.998	3985857.208	200.78
LOCATION	L0006036	VOLUME	323848.220	3985858.278	201.15
LOCATION	L0006037	VOLUME	323855.441	3985859.348	201.54
LOCATION	L0006038	VOLUME	323862.663	3985860.418	201.95
LOCATION	L0006039	VOLUME	323869.884	3985861.488	202.38
LOCATION	L0006040	VOLUME	323877.105	3985862.557	202.78

LOCATION	L0006041	VOLUME	323884.327	3985863.627	203.17
LOCATION	L0006042	VOLUME	323891.548	3985864.697	203.56
LOCATION	L0006043	VOLUME	323898.769	3985865.767	204.05
LOCATION	L0006044	VOLUME	323905.991	3985866.837	204.59
LOCATION	L0006045	VOLUME	323913.212	3985867.907	205.18
LOCATION	L0006046	VOLUME	323920.433	3985868.976	205.82
LOCATION	L0006047	VOLUME	323927.655	3985870.046	206.52
LOCATION	L0006048	VOLUME	323934.876	3985871.116	207.26
LOCATION	L0006049	VOLUME	323942.098	3985872.186	208.06
LOCATION	L0006050	VOLUME	323949.319	3985873.256	208.91
LOCATION	L0006051	VOLUME	323956.033	3985874.899	210.35
LOCATION	L0006052	VOLUME	323957.972	3985881.937	211.48
LOCATION	L0006053	VOLUME	323959.912	3985888.975	212.78
LOCATION	L0006054	VOLUME	323961.851	3985896.013	214.06
LOCATION	L0006055	VOLUME	323963.791	3985903.050	215.30
LOCATION	L0006056	VOLUME	323965.731	3985910.088	216.35
LOCATION	L0006057	VOLUME	323967.670	3985917.126	217.21
LOCATION	L0006058	VOLUME	323969.610	3985924.164	218.06
LOCATION	L0006059	VOLUME	323971.549	3985931.202	218.92
LOCATION	L0006060	VOLUME	323973.489	3985938.239	219.78
LOCATION	L0006061	VOLUME	323975.428	3985945.277	220.63
LOCATION	L0006062	VOLUME	323977.368	3985952.315	221.49
LOCATION	L0006063	VOLUME	323979.307	3985959.353	222.35
LOCATION	L0006064	VOLUME	323981.247	3985966.391	223.21
LOCATION	L0006065	VOLUME	323983.187	3985973.428	223.62
LOCATION	L0006066	VOLUME	323985.126	3985980.466	224.01
LOCATION	L0006067	VOLUME	323987.066	3985987.504	224.40
LOCATION	L0006068	VOLUME	323989.005	3985994.542	224.79
LOCATION	L0006069	VOLUME	323990.945	3986001.580	225.17
LOCATION	L0006070	VOLUME	323992.884	3986008.618	225.56
LOCATION	L0006071	VOLUME	323994.824	3986015.655	225.95
LOCATION	L0006072	VOLUME	323996.763	3986022.693	226.34
LOCATION	L0006073	VOLUME	323998.703	3986029.731	226.72
LOCATION	L0006074	VOLUME	324000.643	3986036.769	227.11
LOCATION	L0006075	VOLUME	324002.582	3986043.807	227.50
LOCATION	L0006076	VOLUME	324005.159	3986050.163	228.02
LOCATION	L0006077	VOLUME	324012.311	3986051.629	229.45
LOCATION	L0006078	VOLUME	324019.462	3986053.096	230.88
LOCATION	L0006079	VOLUME	324026.613	3986054.562	232.31
LOCATION	L0006080	VOLUME	324033.765	3986056.029	233.74
LOCATION	L0006081	VOLUME	324040.916	3986057.495	235.12
LOCATION	L0006082	VOLUME	324048.068	3986058.961	236.28
LOCATION	L0006083	VOLUME	324055.219	3986060.428	237.46
LOCATION	L0006084	VOLUME	324062.370	3986061.894	238.67
LOCATION	L0006085	VOLUME	324069.522	3986063.361	239.90
LOCATION	L0006086	VOLUME	324076.673	3986064.827	241.38
LOCATION	L0006087	VOLUME	324083.824	3986066.294	242.89
LOCATION	L0006088	VOLUME	324090.976	3986067.760	244.43
LOCATION	L0006089	VOLUME	324098.127	3986069.227	246.00
LOCATION	L0006090	VOLUME	324105.279	3986070.693	247.76
LOCATION	L0006091	VOLUME	324112.430	3986072.160	249.60
LOCATION	L0006092	VOLUME	324119.581	3986073.626	251.47
LOCATION	L0006093	VOLUME	324126.733	3986075.092	253.37
LOCATION	L0006094	VOLUME	324133.884	3986076.559	255.08
LOCATION	L0006095	VOLUME	324141.035	3986078.025	256.60
LOCATION	L0006096	VOLUME	324148.187	3986079.492	258.13
LOCATION	L0006097	VOLUME	324155.338	3986080.958	259.66
LOCATION	L0006098	VOLUME	324162.490	3986082.425	261.26
LOCATION	L0006099	VOLUME	324169.641	3986083.891	263.00
LOCATION	L0006100	VOLUME	324176.792	3986085.358	264.77
LOCATION	L0006101	VOLUME	324183.944	3986086.824	266.57
LOCATION	L0006102	VOLUME	324191.095	3986088.291	267.86
LOCATION	L0006103	VOLUME	324198.246	3986089.757	268.04
LOCATION	L0006104	VOLUME	324205.398	3986091.224	268.13
LOCATION	L0006105	VOLUME	324212.549	3986092.690	268.13
LOCATION	L0006106	VOLUME	324219.701	3986094.156	268.03
LOCATION	L0006107	VOLUME	324226.852	3986095.623	266.49
LOCATION	L0006108	VOLUME	324234.003	3986097.089	264.95
LOCATION	L0006109	VOLUME	324241.155	3986098.556	263.48
LOCATION	L0006110	VOLUME	324248.306	3986100.022	262.08
LOCATION	L0006111	VOLUME	324255.457	3986101.489	259.94
LOCATION	L0006112	VOLUME	324262.609	3986102.955	257.58
LOCATION	L0006113	VOLUME	324269.760	3986104.422	255.28
LOCATION	L0006114	VOLUME	324276.912	3986105.888	253.02
LOCATION	L0006115	VOLUME	324284.063	3986107.355	250.79
LOCATION	L0006116	VOLUME	324291.214	3986108.821	248.56
LOCATION	L0006117	VOLUME	324292.278	3986114.933	247.56
LOCATION	L0006118	VOLUME	324291.805	3986122.218	246.25
LOCATION	L0006119	VOLUME	324291.332	3986129.503	244.72

LOCATION	L0006120	VOLUME	324290.859	3986136.788	243.16
LOCATION	L0006121	VOLUME	324290.386	3986144.073	241.58
LOCATION	L0006122	VOLUME	324289.913	3986151.357	239.87
LOCATION	L0006123	VOLUME	324289.440	3986158.642	238.10
LOCATION	L0006124	VOLUME	324288.967	3986165.927	236.31
LOCATION	L0006125	VOLUME	324288.494	3986173.212	234.52
LOCATION	L0006126	VOLUME	324288.021	3986180.497	232.73
LOCATION	L0006127	VOLUME	324287.548	3986187.782	230.92
LOCATION	L0006128	VOLUME	324287.075	3986195.067	229.11
LOCATION	L0006129	VOLUME	324286.602	3986202.351	227.29
LOCATION	L0006130	VOLUME	324286.129	3986209.636	225.55
LOCATION	L0006131	VOLUME	324285.656	3986216.921	223.96
LOCATION	L0006132	VOLUME	324285.183	3986224.206	222.36
LOCATION	L0006133	VOLUME	324284.710	3986231.491	220.75
LOCATION	L0006134	VOLUME	324284.237	3986238.776	219.14
LOCATION	L0006135	VOLUME	324283.764	3986246.060	217.51
LOCATION	L0006136	VOLUME	324283.291	3986253.345	215.88
LOCATION	L0006137	VOLUME	324282.818	3986260.630	214.24
LOCATION	L0006138	VOLUME	324282.345	3986267.915	212.63
LOCATION	L0006139	VOLUME	324281.872	3986275.200	211.19
LOCATION	L0006140	VOLUME	324281.399	3986282.485	209.75
LOCATION	L0006141	VOLUME	324280.926	3986289.769	208.33
LOCATION	L0006142	VOLUME	324273.912	3986290.437	208.73
LOCATION	L0006143	VOLUME	324266.622	3986290.826	209.18
LOCATION	L0006144	VOLUME	324259.332	3986291.214	209.63
LOCATION	L0006145	VOLUME	324252.042	3986291.603	210.07
LOCATION	L0006146	VOLUME	324244.752	3986291.992	210.48
LOCATION	L0006147	VOLUME	324237.462	3986292.380	210.88
LOCATION	L0006148	VOLUME	324230.173	3986292.769	211.27
LOCATION	L0006149	VOLUME	324222.883	3986293.158	211.67
LOCATION	L0006150	VOLUME	324215.593	3986293.546	211.93
LOCATION	L0006151	VOLUME	324208.303	3986293.935	212.10
LOCATION	L0006152	VOLUME	324201.013	3986294.323	212.27
LOCATION	L0006153	VOLUME	324193.723	3986294.712	212.43
LOCATION	L0006154	VOLUME	324186.434	3986295.101	212.58
LOCATION	L0006155	VOLUME	324179.144	3986295.489	212.73
LOCATION	L0006156	VOLUME	324171.854	3986295.878	212.88
LOCATION	L0006157	VOLUME	324164.564	3986296.267	213.01
LOCATION	L0006158	VOLUME	324157.274	3986296.655	213.05
LOCATION	L0006159	VOLUME	324149.984	3986297.044	212.95
LOCATION	L0006160	VOLUME	324142.695	3986297.433	212.86
LOCATION	L0006161	VOLUME	324135.405	3986297.821	212.76
LOCATION	L0006162	VOLUME	324128.115	3986298.210	212.67
LOCATION	L0006163	VOLUME	324120.825	3986298.599	212.58
LOCATION	L0006164	VOLUME	324113.535	3986298.987	212.49
LOCATION	L0006165	VOLUME	324106.245	3986299.376	212.40
LOCATION	L0006166	VOLUME	324098.956	3986299.764	212.27
LOCATION	L0006167	VOLUME	324091.666	3986300.153	211.94
LOCATION	L0006168	VOLUME	324084.376	3986300.542	211.61
LOCATION	L0006169	VOLUME	324077.086	3986300.930	211.27
LOCATION	L0006170	VOLUME	324069.796	3986301.319	210.93
LOCATION	L0006171	VOLUME	324062.506	3986301.708	210.39
LOCATION	L0006172	VOLUME	324056.508	3986304.994	209.31
LOCATION	L0006173	VOLUME	324051.346	3986310.156	207.92
LOCATION	L0006174	VOLUME	324046.184	3986315.318	206.58
LOCATION	L0006175	VOLUME	324041.022	3986320.480	205.31
LOCATION	L0006176	VOLUME	324035.860	3986325.642	203.95
LOCATION	L0006177	VOLUME	324030.698	3986330.804	202.58
LOCATION	L0006178	VOLUME	324025.536	3986335.966	201.20
LOCATION	L0006179	VOLUME	324020.374	3986341.128	199.82
LOCATION	L0006180	VOLUME	324015.212	3986346.290	198.45
LOCATION	L0006181	VOLUME	324010.050	3986351.452	197.07
LOCATION	L0006182	VOLUME	324004.888	3986356.614	195.87
LOCATION	L0006183	VOLUME	323999.726	3986361.776	194.83
LOCATION	L0006184	VOLUME	323994.564	3986366.938	193.80
LOCATION	L0006185	VOLUME	323989.402	3986372.100	192.76
LOCATION	L0006186	VOLUME	323984.240	3986377.262	191.73
LOCATION	L0006187	VOLUME	323979.078	3986382.424	190.69
LOCATION	L0006188	VOLUME	323973.916	3986387.586	189.67
LOCATION	L0006189	VOLUME	323968.754	3986392.748	188.63
LOCATION	L0006190	VOLUME	323964.009	3986398.128	187.58
LOCATION	L0006191	VOLUME	323962.703	3986405.311	186.34
LOCATION	L0006192	VOLUME	323961.397	3986412.493	185.10
LOCATION	L0006193	VOLUME	323960.091	3986419.676	183.95
LOCATION	L0006194	VOLUME	323958.785	3986426.858	182.95
LOCATION	L0006195	VOLUME	323957.479	3986434.041	181.95
LOCATION	L0006196	VOLUME	323956.174	3986441.223	180.95

** End of LINE VOLUME Source ID = RDONSITE

LOCATION	IDLESCALE	POINT	323996.790	3986454.370	179.880
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** DESCRSRC Haul Trucks Idling at Scale
LOCATION IDLEAGG POINT 324087.440 3986355.830 198.810
** DESCRSRC Haul Trucks Idling at Aggregate Loading
LOCATION IDLEMAIN POINT 323886.590 3986077.540 207.450
** DESCRSRC Maintenance Trucks Idling
LOCATION OFFROAD AREAPOLY 323748.680 3985751.233 192.120
** DESCRSRC Off-Road Diesel Equipment
** Source Parameters **
** LINE VOLUME Source ID = RDHAUL
SRCPARAM L0005811 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005812 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005813 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005814 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005815 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005816 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005817 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005818 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005819 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005820 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005821 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005822 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005823 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005824 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005825 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005826 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005827 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005828 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005829 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005830 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005831 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005832 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005833 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005834 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005835 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005836 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005837 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005838 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005839 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005840 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005841 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005842 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005843 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005844 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005845 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005846 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005847 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005848 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005849 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005850 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005851 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005852 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005853 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005854 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005855 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005856 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005857 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005858 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005859 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005860 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005861 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005862 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005863 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005864 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005865 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005866 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005867 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005868 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005869 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005870 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005871 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005872 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005873 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005874 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005875 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005876 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005877 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005878 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005879 0.00000005078 1.83 3.39 0.85
SRCPARAM L0005880 0.00000005078 1.83 3.39 0.85

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[illegible]

[illegible]

[illegible]

```
SRCPARAM L0006195      0.000000002718      1.83      3.40      0.85
SRCPARAM L0006196      0.000000002718      1.83      3.40      0.85
** -----
SRCPARAM IDLESCALE      0.0007065      3.840      366.000      51.71000      0.100
SRCPARAM IDLEAGG        0.0007065      3.840      366.000      51.71000      0.100
SRCPARAM IDLEMAIN       0.0001381      3.840      366.000      51.71000      0.100
SRCPARAM OFFROAD        2.249E-08      3.658      14      30.480
AREAVERT OFFROAD        323748.680      3985751.233      323745.701      3986175.992
AREAVERT OFFROAD        323580.374      3986177.540      323576.213      3986401.170
AREAVERT OFFROAD        323750.957      3986404.291      323754.078      3986464.618
AREAVERT OFFROAD        323990.954      3986515.229      324161.314      3986488.269
AREAVERT OFFROAD        324246.206      3986487.691      324325.072      3986416.720
AREAVERT OFFROAD        324362.408      3986090.198      324217.649      3985993.179
AREAVERT OFFROAD        324037.598      3985990.916      324036.586      3985752.631
SRCGROUP ALL
```

SO FINISHED

**

** AERMOD Receptor Pathway

**

**

RE STARTING

INCLUDED "Deer Creek TOG.rou"

RE FINISHED

**

** AERMOD Meteorology Pathway

**

**

ME STARTING

SURFFILE ..\23149_06-09.SFC

PROFFILE ..\23149_06-09.PFL

SURFDATA 23149 2006 Porterville_Airport

UAIRDATA 23230 2006 OAKLAND/WSO_AP

PROFBASE 135.0 METERS

ME FINISHED

**

** AERMOD Output Pathway

**

**

OU STARTING

RECTABLE ALLAVE 1ST

RECTABLE 1 1ST

** Auto-Generated Plotfiles

PLOTFILE 1 ALL 1ST "DEER CREEK TOG.AD\01H1GALL.PLT" 31

SUMMFILE "Deer Creek TOG.sum"

OU FINISHED

*** Message Summary For AERMOD Model Setup ***

----- Summary of Total Messages -----

```
A Total of      0 Fatal Error Message(s)
A Total of      3 Warning Message(s)
A Total of      0 Informational Message(s)
```

***** FATAL ERROR MESSAGES *****

*** NONE ***

***** WARNING MESSAGES *****

```
SO W320      873      PPARM: Input Parameter May Be Out-of-Range for Parameter      VS
SO W320      874      PPARM: Input Parameter May Be Out-of-Range for Parameter      VS
SO W320      875      PPARM: Input Parameter May Be Out-of-Range for Parameter      VS
```

*** SETUP Finishes Successfully ***

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
11/19/14
*** AERMET - VERSION 14134 *** *** Diesel TOG Emissions ***
20:25:27

PAGE 1
**MODELOPTs: RegDEFAULT CONC ELEV

*** MODEL SETUP OPTIONS SUMMARY ***

**Model Is Setup For Calculation of Average CONCentration Values.

-- DEPOSITION LOGIC --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION. DRYDPLT = F
**Model Uses NO WET DEPLETION. WETDPLT = F

**Model Uses RURAL Dispersion Only.

**Model Uses Regulatory DEFAULT Options:
1. Stack-tip Downwash.
2. Model Accounts for ELEVated Terrain Effects.
3. Use Calms Processing Routine.
4. Use Missing Data Processing Routine.
5. No Exponential Decay.

**Other Options Specified:
CCVR_Sub - Meteorological data includes CCVR substitutions
TEMP_Sub - Meteorological data includes TEMP substitutions

**Model Assumes No FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of: TOG

**Model Calculates 1 Short Term Average(s) of: 1-HR

**This Run Includes: 390 Source(s); 1 Source Group(s); and 173 Receptor(s)

**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 14134

**Output Options Selected:
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 135.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0

Emission Units = GRAMS/SEC ; Emission Rate Unit Factor =
0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.8 MB of RAM.

**Detailed Error/Message File: Deer Creek TOG.err
**File for Summary of Results: Deer Creek TOG.sum

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
11/19/14
*** AERMET - VERSION 14134 *** *** Diesel TOG Emissions ***
20:25:27

PAGE 2
**MODELOPTs: RegDFAULT CONC ELEV

*** POINT SOURCE DATA ***

EMIS RATE	NUMBER	EMISSION RATE			BASE	STACK	STACK	STACK	STACK	BLDG	URBAN	CAP/
SOURCE	PART.	(GRAMS/SEC)	X	Y	ELEV.	HEIGHT	TEMP.	EXIT VEL.	DIAMETER	EXISTS	SOURCE	HOR
SCALAR												
ID	CATS.		(METERS)	(METERS)	(METERS)	(METERS)	(DEG.K)	(M/SEC)	(METERS)			
VARY BY												
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
IDLESCALE	0	0.70650E-03	323996.8	3986454.4	179.9	3.84	366.00	51.71	0.10	NO	NO	NO
IDLEAGG	0	0.70650E-03	324087.4	3986355.8	198.8	3.84	366.00	51.71	0.10	NO	NO	NO
IDLEMAIN	0	0.13810E-03	323886.6	3986077.5	207.5	3.84	366.00	51.71	0.10	NO	NO	NO

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***

11/19/14

*** AERMET - VERSION 14134 *** *** Diesel TOG Emissions ***

20:25:27

PAGE 3

**MODELOPTs: RegDFAULT CONC ELEV

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0005811	0	0.50780E-07	324077.9	3986503.4	174.1	1.83	3.39	0.85	NO	
L0005812	0	0.50780E-07	324076.0	3986496.4	174.9	1.83	3.39	0.85	NO	
L0005813	0	0.50780E-07	324074.2	3986489.3	175.7	1.83	3.39	0.85	NO	
L0005814	0	0.50780E-07	324072.3	3986482.3	176.4	1.83	3.39	0.85	NO	
L0005815	0	0.50780E-07	324067.3	3986478.4	176.8	1.83	3.39	0.85	NO	
L0005816	0	0.50780E-07	324060.2	3986476.8	177.0	1.83	3.39	0.85	NO	
L0005817	0	0.50780E-07	324053.1	3986475.2	177.2	1.83	3.39	0.85	NO	
L0005818	0	0.50780E-07	324046.0	3986473.5	177.4	1.83	3.39	0.85	NO	
L0005819	0	0.50780E-07	324038.9	3986471.9	177.7	1.83	3.39	0.85	NO	
L0005820	0	0.50780E-07	324031.8	3986470.2	177.9	1.83	3.39	0.85	NO	
L0005821	0	0.50780E-07	324024.7	3986468.6	178.1	1.83	3.39	0.85	NO	
L0005822	0	0.50780E-07	324017.6	3986466.9	178.3	1.83	3.39	0.85	NO	
L0005823	0	0.50780E-07	324010.5	3986465.3	178.5	1.83	3.39	0.85	NO	
L0005824	0	0.50780E-07	324003.4	3986463.6	178.6	1.83	3.39	0.85	NO	
L0005825	0	0.50780E-07	323996.3	3986462.0	178.8	1.83	3.39	0.85	NO	
L0005826	0	0.50780E-07	323989.2	3986460.3	178.9	1.83	3.39	0.85	NO	
L0005827	0	0.50780E-07	323982.1	3986458.7	179.1	1.83	3.39	0.85	NO	
L0005828	0	0.50780E-07	323979.7	3986454.0	179.8	1.83	3.39	0.85	NO	
L0005829	0	0.50780E-07	323981.3	3986446.9	181.0	1.83	3.39	0.85	NO	
L0005830	0	0.50780E-07	323982.9	3986439.8	182.0	1.83	3.39	0.85	NO	
L0005831	0	0.50780E-07	323989.4	3986440.3	181.9	1.83	3.39	0.85	NO	
L0005832	0	0.50780E-07	323996.5	3986441.9	181.8	1.83	3.39	0.85	NO	
L0005833	0	0.50780E-07	324003.6	3986443.4	181.5	1.83	3.39	0.85	NO	
L0005834	0	0.50780E-07	324010.7	3986445.0	181.3	1.83	3.39	0.85	NO	
L0005835	0	0.50780E-07	324017.9	3986446.6	181.0	1.83	3.39	0.85	NO	
L0005836	0	0.50780E-07	324025.0	3986448.2	180.8	1.83	3.39	0.85	NO	
L0005837	0	0.50780E-07	324032.1	3986449.7	180.6	1.83	3.39	0.85	NO	
L0005838	0	0.50780E-07	324039.2	3986451.3	180.4	1.83	3.39	0.85	NO	
L0005839	0	0.50780E-07	324046.3	3986452.9	180.2	1.83	3.39	0.85	NO	
L0005840	0	0.50780E-07	324053.5	3986454.5	180.0	1.83	3.39	0.85	NO	
L0005841	0	0.50780E-07	324060.6	3986456.0	179.8	1.83	3.39	0.85	NO	
L0005842	0	0.50780E-07	324067.7	3986457.6	179.6	1.83	3.39	0.85	NO	
L0005843	0	0.50780E-07	324074.8	3986459.2	179.3	1.83	3.39	0.85	NO	
L0005844	0	0.50780E-07	324079.1	3986456.4	179.5	1.83	3.39	0.85	NO	
L0005845	0	0.50780E-07	324080.3	3986449.3	180.4	1.83	3.39	0.85	NO	
L0005846	0	0.50780E-07	324081.6	3986442.1	181.5	1.83	3.39	0.85	NO	
L0005847	0	0.50780E-07	324082.9	3986434.9	182.7	1.83	3.39	0.85	NO	
L0005848	0	0.50780E-07	324084.2	3986427.7	184.0	1.83	3.39	0.85	NO	
L0005849	0	0.50780E-07	324085.5	3986420.5	185.3	1.83	3.39	0.85	NO	
L0005850	0	0.50780E-07	324086.8	3986413.4	186.7	1.83	3.39	0.85	NO	

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**MODELOPTs: RegDFAULT CONC ELEV

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0005851	0	0.50780E-07	324088.1	3986406.2	188.1	1.83	3.39	0.85	NO	
L0005852	0	0.50780E-07	324089.4	3986399.0	189.6	1.83	3.39	0.85	NO	
L0005853	0	0.50780E-07	324090.7	3986391.8	191.0	1.83	3.39	0.85	NO	
L0005854	0	0.50780E-07	324092.0	3986384.6	192.5	1.83	3.39	0.85	NO	
L0005855	0	0.50780E-07	324093.3	3986377.5	194.1	1.83	3.39	0.85	NO	
L0005856	0	0.50780E-07	324094.6	3986370.3	195.8	1.83	3.39	0.85	NO	
L0005857	0	0.50780E-07	324095.9	3986363.1	197.4	1.83	3.39	0.85	NO	
L0005858	0	0.50780E-07	324097.2	3986355.9	199.1	1.83	3.39	0.85	NO	
L0005859	0	0.50780E-07	324098.5	3986348.8	200.8	1.83	3.39	0.85	NO	
L0005860	0	0.50780E-07	324099.8	3986341.6	202.6	1.83	3.39	0.85	NO	
L0005861	0	0.50780E-07	324101.0	3986334.4	204.2	1.83	3.39	0.85	NO	
L0005862	0	0.50780E-07	324102.3	3986327.2	205.9	1.83	3.39	0.85	NO	
L0005863	0	0.50780E-07	324103.6	3986320.0	207.6	1.83	3.39	0.85	NO	
L0005864	0	0.50780E-07	324105.7	3986314.0	209.0	1.83	3.39	0.85	NO	
L0005865	0	0.50780E-07	324112.9	3986315.4	208.7	1.83	3.39	0.85	NO	
L0005866	0	0.50780E-07	324120.0	3986316.9	208.3	1.83	3.39	0.85	NO	
L0005867	0	0.50780E-07	324125.7	3986319.2	207.8	1.83	3.39	0.85	NO	
L0005868	0	0.50780E-07	324123.6	3986326.2	206.1	1.83	3.39	0.85	NO	
L0005869	0	0.50780E-07	324121.6	3986333.2	204.5	1.83	3.39	0.85	NO	
L0005870	0	0.50780E-07	324119.6	3986340.2	202.9	1.83	3.39	0.85	NO	
L0005871	0	0.50780E-07	324117.5	3986347.2	201.2	1.83	3.39	0.85	NO	
L0005872	0	0.50780E-07	324115.5	3986354.2	199.6	1.83	3.39	0.85	NO	
L0005873	0	0.50780E-07	324113.4	3986361.2	198.0	1.83	3.39	0.85	NO	
L0005874	0	0.50780E-07	324111.4	3986368.2	196.3	1.83	3.39	0.85	NO	
L0005875	0	0.50780E-07	324109.4	3986375.2	194.7	1.83	3.39	0.85	NO	
L0005876	0	0.50780E-07	324107.3	3986382.2	193.1	1.83	3.39	0.85	NO	
L0005877	0	0.50780E-07	324105.3	3986389.2	191.5	1.83	3.39	0.85	NO	
L0005878	0	0.50780E-07	324103.3	3986396.3	190.1	1.83	3.39	0.85	NO	
L0005879	0	0.50780E-07	324101.2	3986403.3	188.7	1.83	3.39	0.85	NO	
L0005880	0	0.50780E-07	324099.2	3986410.3	187.3	1.83	3.39	0.85	NO	
L0005881	0	0.50780E-07	324097.1	3986417.3	185.9	1.83	3.39	0.85	NO	
L0005882	0	0.50780E-07	324095.1	3986424.3	184.6	1.83	3.39	0.85	NO	
L0005883	0	0.50780E-07	324093.1	3986431.3	183.2	1.83	3.39	0.85	NO	
L0005884	0	0.50780E-07	324091.0	3986438.3	181.9	1.83	3.39	0.85	NO	
L0005885	0	0.50780E-07	324089.0	3986445.3	180.7	1.83	3.39	0.85	NO	
L0005886	0	0.50780E-07	324086.9	3986452.3	179.8	1.83	3.39	0.85	NO	
L0005887	0	0.50780E-07	324084.9	3986459.3	179.1	1.83	3.39	0.85	NO	
L0005888	0	0.50780E-07	324082.9	3986466.3	178.2	1.83	3.39	0.85	NO	
L0005889	0	0.50780E-07	324080.8	3986473.3	177.4	1.83	3.39	0.85	NO	
L0005890	0	0.50780E-07	324079.6	3986480.3	176.6	1.83	3.39	0.85	NO	

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*** AERMET - VERSION 14134 *** *** Diesel TOG Emissions ***

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**MODELOPTs: RegDFAULT CONC ELEV

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0005891	0	0.50780E-07	324081.2	3986487.4	175.8	1.83	3.39	0.85	NO	
L0005892	0	0.50780E-07	324082.8	3986494.6	175.0	1.83	3.39	0.85	NO	
L0005893	0	0.50780E-07	324084.4	3986501.7	174.1	1.83	3.39	0.85	NO	
L0005894	0	0.27180E-08	323944.7	3986461.5	177.9	1.83	3.40	0.85	NO	
L0005895	0	0.27180E-08	323937.7	3986459.7	177.9	1.83	3.40	0.85	NO	
L0005896	0	0.27180E-08	323930.6	3986457.9	177.9	1.83	3.40	0.85	NO	
L0005897	0	0.27180E-08	323923.5	3986456.1	177.9	1.83	3.40	0.85	NO	
L0005898	0	0.27180E-08	323916.4	3986454.3	177.9	1.83	3.40	0.85	NO	
L0005899	0	0.27180E-08	323909.4	3986452.5	177.9	1.83	3.40	0.85	NO	
L0005900	0	0.27180E-08	323902.3	3986450.7	177.9	1.83	3.40	0.85	NO	
L0005901	0	0.27180E-08	323895.2	3986448.9	177.9	1.83	3.40	0.85	NO	
L0005902	0	0.27180E-08	323888.1	3986447.2	177.8	1.83	3.40	0.85	NO	
L0005903	0	0.27180E-08	323881.1	3986445.4	177.5	1.83	3.40	0.85	NO	
L0005904	0	0.27180E-08	323874.0	3986443.6	177.2	1.83	3.40	0.85	NO	
L0005905	0	0.27180E-08	323866.9	3986441.8	176.8	1.83	3.40	0.85	NO	
L0005906	0	0.27180E-08	323859.8	3986440.0	176.4	1.83	3.40	0.85	NO	
L0005907	0	0.27180E-08	323852.7	3986438.2	175.8	1.83	3.40	0.85	NO	
L0005908	0	0.27180E-08	323845.9	3986435.9	175.3	1.83	3.40	0.85	NO	
L0005909	0	0.27180E-08	323840.3	3986431.3	175.1	1.83	3.40	0.85	NO	
L0005910	0	0.27180E-08	323834.6	3986426.7	174.8	1.83	3.40	0.85	NO	
L0005911	0	0.27180E-08	323828.9	3986422.1	174.5	1.83	3.40	0.85	NO	
L0005912	0	0.27180E-08	323823.3	3986417.5	174.3	1.83	3.40	0.85	NO	
L0005913	0	0.27180E-08	323817.6	3986412.9	174.0	1.83	3.40	0.85	NO	
L0005914	0	0.27180E-08	323811.9	3986408.3	173.6	1.83	3.40	0.85	NO	
L0005915	0	0.27180E-08	323806.3	3986403.7	173.2	1.83	3.40	0.85	NO	
L0005916	0	0.27180E-08	323800.6	3986399.0	172.7	1.83	3.40	0.85	NO	
L0005917	0	0.27180E-08	323794.9	3986394.4	172.2	1.83	3.40	0.85	NO	
L0005918	0	0.27180E-08	323789.3	3986389.8	171.8	1.83	3.40	0.85	NO	
L0005919	0	0.27180E-08	323783.6	3986385.2	171.4	1.83	3.40	0.85	NO	
L0005920	0	0.27180E-08	323777.9	3986380.6	171.1	1.83	3.40	0.85	NO	
L0005921	0	0.27180E-08	323772.3	3986376.0	170.6	1.83	3.40	0.85	NO	
L0005922	0	0.27180E-08	323766.6	3986371.4	170.4	1.83	3.40	0.85	NO	
L0005923	0	0.27180E-08	323760.9	3986366.8	170.4	1.83	3.40	0.85	NO	
L0005924	0	0.27180E-08	323755.2	3986362.4	170.3	1.83	3.40	0.85	NO	
L0005925	0	0.27180E-08	323747.9	3986361.9	170.1	1.83	3.40	0.85	NO	
L0005926	0	0.27180E-08	323740.6	3986361.3	169.9	1.83	3.40	0.85	NO	
L0005927	0	0.27180E-08	323733.4	3986360.7	169.7	1.83	3.40	0.85	NO	
L0005928	0	0.27180E-08	323726.1	3986360.1	169.5	1.83	3.40	0.85	NO	
L0005929	0	0.27180E-08	323718.8	3986359.6	169.3	1.83	3.40	0.85	NO	
L0005930	0	0.27180E-08	323711.5	3986359.0	169.0	1.83	3.40	0.85	NO	

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*** AERMET - VERSION 14134 *** *** Diesel TOG Emissions ***

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**MODELOPTs: RegDFault CONC ELEV

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0005931	0	0.27180E-08	323704.3	3986358.4	169.0	1.83	3.40	0.85	NO	
L0005932	0	0.27180E-08	323697.0	3986357.8	169.0	1.83	3.40	0.85	NO	
L0005933	0	0.27180E-08	323689.7	3986357.3	169.0	1.83	3.40	0.85	NO	
L0005934	0	0.27180E-08	323682.4	3986356.7	169.0	1.83	3.40	0.85	NO	
L0005935	0	0.27180E-08	323675.4	3986355.9	168.9	1.83	3.40	0.85	NO	
L0005936	0	0.27180E-08	323675.5	3986348.6	168.9	1.83	3.40	0.85	NO	
L0005937	0	0.27180E-08	323675.7	3986341.3	168.9	1.83	3.40	0.85	NO	
L0005938	0	0.27180E-08	323675.8	3986334.0	169.0	1.83	3.40	0.85	NO	
L0005939	0	0.27180E-08	323675.9	3986326.7	169.0	1.83	3.40	0.85	NO	
L0005940	0	0.27180E-08	323676.1	3986319.4	169.2	1.83	3.40	0.85	NO	
L0005941	0	0.27180E-08	323676.2	3986312.1	169.4	1.83	3.40	0.85	NO	
L0005942	0	0.27180E-08	323676.4	3986304.8	169.6	1.83	3.40	0.85	NO	
L0005943	0	0.27180E-08	323676.5	3986297.5	169.9	1.83	3.40	0.85	NO	
L0005944	0	0.27180E-08	323676.6	3986290.2	169.9	1.83	3.40	0.85	NO	
L0005945	0	0.27180E-08	323676.8	3986282.9	169.9	1.83	3.40	0.85	NO	
L0005946	0	0.27180E-08	323676.9	3986275.6	170.0	1.83	3.40	0.85	NO	
L0005947	0	0.27180E-08	323677.1	3986268.3	170.0	1.83	3.40	0.85	NO	
L0005948	0	0.27180E-08	323677.2	3986261.0	170.2	1.83	3.40	0.85	NO	
L0005949	0	0.27180E-08	323677.3	3986253.7	170.4	1.83	3.40	0.85	NO	
L0005950	0	0.27180E-08	323677.5	3986246.4	170.6	1.83	3.40	0.85	NO	
L0005951	0	0.27180E-08	323677.6	3986239.1	170.9	1.83	3.40	0.85	NO	
L0005952	0	0.27180E-08	323677.8	3986231.8	170.9	1.83	3.40	0.85	NO	
L0005953	0	0.27180E-08	323677.9	3986224.5	170.9	1.83	3.40	0.85	NO	
L0005954	0	0.27180E-08	323684.9	3986223.1	171.4	1.83	3.40	0.85	NO	
L0005955	0	0.27180E-08	323692.1	3986221.9	172.0	1.83	3.40	0.85	NO	
L0005956	0	0.27180E-08	323699.3	3986220.7	172.6	1.83	3.40	0.85	NO	
L0005957	0	0.27180E-08	323706.5	3986219.4	173.3	1.83	3.40	0.85	NO	
L0005958	0	0.27180E-08	323713.7	3986218.2	174.1	1.83	3.40	0.85	NO	
L0005959	0	0.27180E-08	323720.9	3986216.9	175.0	1.83	3.40	0.85	NO	
L0005960	0	0.27180E-08	323728.1	3986215.7	175.9	1.83	3.40	0.85	NO	
L0005961	0	0.27180E-08	323735.3	3986214.5	176.9	1.83	3.40	0.85	NO	
L0005962	0	0.27180E-08	323740.9	3986211.4	177.8	1.83	3.40	0.85	NO	
L0005963	0	0.27180E-08	323743.5	3986204.5	178.6	1.83	3.40	0.85	NO	
L0005964	0	0.27180E-08	323746.1	3986197.7	179.4	1.83	3.40	0.85	NO	
L0005965	0	0.27180E-08	323748.6	3986190.9	180.2	1.83	3.40	0.85	NO	
L0005966	0	0.27180E-08	323751.2	3986184.0	181.0	1.83	3.40	0.85	NO	
L0005967	0	0.27180E-08	323753.8	3986177.2	181.8	1.83	3.40	0.85	NO	
L0005968	0	0.27180E-08	323756.3	3986170.4	182.6	1.83	3.40	0.85	NO	
L0005969	0	0.27180E-08	323758.9	3986163.5	183.4	1.83	3.40	0.85	NO	
L0005970	0	0.27180E-08	323761.5	3986156.7	184.2	1.83	3.40	0.85	NO	

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***

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*** AERMET - VERSION 14134 *** *** Diesel TOG Emissions ***

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**MODELOPTs: RegDFAULT CONC ELEV

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0005971	0	0.27180E-08	323764.0	3986149.9	185.0	1.83	3.40	0.85	NO	
L0005972	0	0.27180E-08	323766.6	3986143.0	185.8	1.83	3.40	0.85	NO	
L0005973	0	0.27180E-08	323769.2	3986136.2	186.6	1.83	3.40	0.85	NO	
L0005974	0	0.27180E-08	323771.7	3986129.4	187.5	1.83	3.40	0.85	NO	
L0005975	0	0.27180E-08	323774.3	3986122.5	188.4	1.83	3.40	0.85	NO	
L0005976	0	0.27180E-08	323776.9	3986115.7	189.2	1.83	3.40	0.85	NO	
L0005977	0	0.27180E-08	323779.4	3986108.9	189.8	1.83	3.40	0.85	NO	
L0005978	0	0.27180E-08	323783.7	3986104.0	190.7	1.83	3.40	0.85	NO	
L0005979	0	0.27180E-08	323790.8	3986102.3	191.9	1.83	3.40	0.85	NO	
L0005980	0	0.27180E-08	323797.9	3986100.6	193.2	1.83	3.40	0.85	NO	
L0005981	0	0.27180E-08	323805.0	3986098.9	194.3	1.83	3.40	0.85	NO	
L0005982	0	0.27180E-08	323812.1	3986097.2	195.4	1.83	3.40	0.85	NO	
L0005983	0	0.27180E-08	323819.2	3986095.4	196.5	1.83	3.40	0.85	NO	
L0005984	0	0.27180E-08	323826.3	3986093.7	197.5	1.83	3.40	0.85	NO	
L0005985	0	0.27180E-08	323833.4	3986092.0	198.5	1.83	3.40	0.85	NO	
L0005986	0	0.27180E-08	323840.5	3986090.3	199.7	1.83	3.40	0.85	NO	
L0005987	0	0.27180E-08	323847.6	3986088.6	200.9	1.83	3.40	0.85	NO	
L0005988	0	0.27180E-08	323854.7	3986086.9	202.1	1.83	3.40	0.85	NO	
L0005989	0	0.27180E-08	323861.8	3986085.2	203.3	1.83	3.40	0.85	NO	
L0005990	0	0.27180E-08	323868.9	3986083.5	204.6	1.83	3.40	0.85	NO	
L0005991	0	0.27180E-08	323876.0	3986081.8	205.7	1.83	3.40	0.85	NO	
L0005992	0	0.27180E-08	323872.6	3986078.9	205.2	1.83	3.40	0.85	NO	
L0005993	0	0.27180E-08	323866.0	3986075.6	204.3	1.83	3.40	0.85	NO	
L0005994	0	0.27180E-08	323859.5	3986072.4	203.4	1.83	3.40	0.85	NO	
L0005995	0	0.27180E-08	323852.9	3986069.2	202.4	1.83	3.40	0.85	NO	
L0005996	0	0.27180E-08	323846.4	3986065.9	201.4	1.83	3.40	0.85	NO	
L0005997	0	0.27180E-08	323839.9	3986062.7	200.4	1.83	3.40	0.85	NO	
L0005998	0	0.27180E-08	323833.3	3986059.4	199.5	1.83	3.40	0.85	NO	
L0005999	0	0.27180E-08	323826.8	3986056.2	198.6	1.83	3.40	0.85	NO	
L0006000	0	0.27180E-08	323820.2	3986053.0	197.8	1.83	3.40	0.85	NO	
L0006001	0	0.27180E-08	323813.7	3986049.7	196.9	1.83	3.40	0.85	NO	
L0006002	0	0.27180E-08	323807.1	3986046.5	196.0	1.83	3.40	0.85	NO	
L0006003	0	0.27180E-08	323800.6	3986043.2	195.1	1.83	3.40	0.85	NO	
L0006004	0	0.27180E-08	323794.1	3986040.0	194.0	1.83	3.40	0.85	NO	
L0006005	0	0.27180E-08	323790.0	3986035.4	193.3	1.83	3.40	0.85	NO	
L0006006	0	0.27180E-08	323790.7	3986028.1	193.4	1.83	3.40	0.85	NO	
L0006007	0	0.27180E-08	323791.3	3986020.8	193.7	1.83	3.40	0.85	NO	
L0006008	0	0.27180E-08	323792.0	3986013.5	194.0	1.83	3.40	0.85	NO	
L0006009	0	0.27180E-08	323792.6	3986006.3	194.3	1.83	3.40	0.85	NO	
L0006010	0	0.27180E-08	323793.3	3985999.0	194.6	1.83	3.40	0.85	NO	

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**MODELOPTs: RegDFAULT CONC ELEV

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0006011	0	0.27180E-08	323793.9	3985991.7	194.6	1.83	3.40	0.85	NO	
L0006012	0	0.27180E-08	323794.6	3985984.5	194.6	1.83	3.40	0.85	NO	
L0006013	0	0.27180E-08	323795.2	3985977.2	194.5	1.83	3.40	0.85	NO	
L0006014	0	0.27180E-08	323795.9	3985969.9	194.4	1.83	3.40	0.85	NO	
L0006015	0	0.27180E-08	323796.5	3985962.6	194.3	1.83	3.40	0.85	NO	
L0006016	0	0.27180E-08	323797.2	3985955.4	194.2	1.83	3.40	0.85	NO	
L0006017	0	0.27180E-08	323797.8	3985948.1	194.0	1.83	3.40	0.85	NO	
L0006018	0	0.27180E-08	323798.5	3985940.8	193.9	1.83	3.40	0.85	NO	
L0006019	0	0.27180E-08	323799.1	3985933.6	193.8	1.83	3.40	0.85	NO	
L0006020	0	0.27180E-08	323799.8	3985926.3	193.6	1.83	3.40	0.85	NO	
L0006021	0	0.27180E-08	323800.4	3985919.0	193.4	1.83	3.40	0.85	NO	
L0006022	0	0.27180E-08	323801.0	3985911.7	193.2	1.83	3.40	0.85	NO	
L0006023	0	0.27180E-08	323801.7	3985904.5	193.1	1.83	3.40	0.85	NO	
L0006024	0	0.27180E-08	323802.3	3985897.2	193.2	1.83	3.40	0.85	NO	
L0006025	0	0.27180E-08	323803.0	3985889.9	193.2	1.83	3.40	0.85	NO	
L0006026	0	0.27180E-08	323803.6	3985882.7	193.3	1.83	3.40	0.85	NO	
L0006027	0	0.27180E-08	323804.3	3985875.4	193.6	1.83	3.40	0.85	NO	
L0006028	0	0.27180E-08	323804.9	3985868.1	194.7	1.83	3.40	0.85	NO	
L0006029	0	0.27180E-08	323805.6	3985860.8	195.9	1.83	3.40	0.85	NO	
L0006030	0	0.27180E-08	323806.2	3985853.6	197.0	1.83	3.40	0.85	NO	
L0006031	0	0.27180E-08	323812.1	3985852.9	198.0	1.83	3.40	0.85	NO	
L0006032	0	0.27180E-08	323819.3	3985854.0	198.9	1.83	3.40	0.85	NO	
L0006033	0	0.27180E-08	323826.6	3985855.1	199.8	1.83	3.40	0.85	NO	
L0006034	0	0.27180E-08	323833.8	3985856.1	200.4	1.83	3.40	0.85	NO	
L0006035	0	0.27180E-08	323841.0	3985857.2	200.8	1.83	3.40	0.85	NO	
L0006036	0	0.27180E-08	323848.2	3985858.3	201.2	1.83	3.40	0.85	NO	
L0006037	0	0.27180E-08	323855.4	3985859.3	201.5	1.83	3.40	0.85	NO	
L0006038	0	0.27180E-08	323862.7	3985860.4	202.0	1.83	3.40	0.85	NO	
L0006039	0	0.27180E-08	323869.9	3985861.5	202.4	1.83	3.40	0.85	NO	
L0006040	0	0.27180E-08	323877.1	3985862.6	202.8	1.83	3.40	0.85	NO	
L0006041	0	0.27180E-08	323884.3	3985863.6	203.2	1.83	3.40	0.85	NO	
L0006042	0	0.27180E-08	323891.5	3985864.7	203.6	1.83	3.40	0.85	NO	
L0006043	0	0.27180E-08	323898.8	3985865.8	204.1	1.83	3.40	0.85	NO	
L0006044	0	0.27180E-08	323906.0	3985866.8	204.6	1.83	3.40	0.85	NO	
L0006045	0	0.27180E-08	323913.2	3985867.9	205.2	1.83	3.40	0.85	NO	
L0006046	0	0.27180E-08	323920.4	3985869.0	205.8	1.83	3.40	0.85	NO	
L0006047	0	0.27180E-08	323927.7	3985870.0	206.5	1.83	3.40	0.85	NO	
L0006048	0	0.27180E-08	323934.9	3985871.1	207.3	1.83	3.40	0.85	NO	
L0006049	0	0.27180E-08	323942.1	3985872.2	208.1	1.83	3.40	0.85	NO	
L0006050	0	0.27180E-08	323949.3	3985873.3	208.9	1.83	3.40	0.85	NO	

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**MODELOPTs: RegDFAULT CONC ELEV

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0006051	0	0.27180E-08	323956.0	3985874.9	210.4	1.83	3.40	0.85	NO	
L0006052	0	0.27180E-08	323958.0	3985881.9	211.5	1.83	3.40	0.85	NO	
L0006053	0	0.27180E-08	323959.9	3985889.0	212.8	1.83	3.40	0.85	NO	
L0006054	0	0.27180E-08	323961.9	3985896.0	214.1	1.83	3.40	0.85	NO	
L0006055	0	0.27180E-08	323963.8	3985903.0	215.3	1.83	3.40	0.85	NO	
L0006056	0	0.27180E-08	323965.7	3985910.1	216.4	1.83	3.40	0.85	NO	
L0006057	0	0.27180E-08	323967.7	3985917.1	217.2	1.83	3.40	0.85	NO	
L0006058	0	0.27180E-08	323969.6	3985924.2	218.1	1.83	3.40	0.85	NO	
L0006059	0	0.27180E-08	323971.5	3985931.2	218.9	1.83	3.40	0.85	NO	
L0006060	0	0.27180E-08	323973.5	3985938.2	219.8	1.83	3.40	0.85	NO	
L0006061	0	0.27180E-08	323975.4	3985945.3	220.6	1.83	3.40	0.85	NO	
L0006062	0	0.27180E-08	323977.4	3985952.3	221.5	1.83	3.40	0.85	NO	
L0006063	0	0.27180E-08	323979.3	3985959.4	222.4	1.83	3.40	0.85	NO	
L0006064	0	0.27180E-08	323981.2	3985966.4	223.2	1.83	3.40	0.85	NO	
L0006065	0	0.27180E-08	323983.2	3985973.4	223.6	1.83	3.40	0.85	NO	
L0006066	0	0.27180E-08	323985.1	3985980.5	224.0	1.83	3.40	0.85	NO	
L0006067	0	0.27180E-08	323987.1	3985987.5	224.4	1.83	3.40	0.85	NO	
L0006068	0	0.27180E-08	323989.0	3985994.5	224.8	1.83	3.40	0.85	NO	
L0006069	0	0.27180E-08	323990.9	3986001.6	225.2	1.83	3.40	0.85	NO	
L0006070	0	0.27180E-08	323992.9	3986008.6	225.6	1.83	3.40	0.85	NO	
L0006071	0	0.27180E-08	323994.8	3986015.7	226.0	1.83	3.40	0.85	NO	
L0006072	0	0.27180E-08	323996.8	3986022.7	226.3	1.83	3.40	0.85	NO	
L0006073	0	0.27180E-08	323998.7	3986029.7	226.7	1.83	3.40	0.85	NO	
L0006074	0	0.27180E-08	324000.6	3986036.8	227.1	1.83	3.40	0.85	NO	
L0006075	0	0.27180E-08	324002.6	3986043.8	227.5	1.83	3.40	0.85	NO	
L0006076	0	0.27180E-08	324005.2	3986050.2	228.0	1.83	3.40	0.85	NO	
L0006077	0	0.27180E-08	324012.3	3986051.6	229.5	1.83	3.40	0.85	NO	
L0006078	0	0.27180E-08	324019.5	3986053.1	230.9	1.83	3.40	0.85	NO	
L0006079	0	0.27180E-08	324026.6	3986054.6	232.3	1.83	3.40	0.85	NO	
L0006080	0	0.27180E-08	324033.8	3986056.0	233.7	1.83	3.40	0.85	NO	
L0006081	0	0.27180E-08	324040.9	3986057.5	235.1	1.83	3.40	0.85	NO	
L0006082	0	0.27180E-08	324048.1	3986059.0	236.3	1.83	3.40	0.85	NO	
L0006083	0	0.27180E-08	324055.2	3986060.4	237.5	1.83	3.40	0.85	NO	
L0006084	0	0.27180E-08	324062.4	3986061.9	238.7	1.83	3.40	0.85	NO	
L0006085	0	0.27180E-08	324069.5	3986063.4	239.9	1.83	3.40	0.85	NO	
L0006086	0	0.27180E-08	324076.7	3986064.8	241.4	1.83	3.40	0.85	NO	
L0006087	0	0.27180E-08	324083.8	3986066.3	242.9	1.83	3.40	0.85	NO	
L0006088	0	0.27180E-08	324091.0	3986067.8	244.4	1.83	3.40	0.85	NO	
L0006089	0	0.27180E-08	324098.1	3986069.2	246.0	1.83	3.40	0.85	NO	
L0006090	0	0.27180E-08	324105.3	3986070.7	247.8	1.83	3.40	0.85	NO	

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**MODELOPTs: RegDFault CONC ELEV

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0006091	0	0.27180E-08	324112.4	3986072.2	249.6	1.83	3.40	0.85	NO	
L0006092	0	0.27180E-08	324119.6	3986073.6	251.5	1.83	3.40	0.85	NO	
L0006093	0	0.27180E-08	324126.7	3986075.1	253.4	1.83	3.40	0.85	NO	
L0006094	0	0.27180E-08	324133.9	3986076.6	255.1	1.83	3.40	0.85	NO	
L0006095	0	0.27180E-08	324141.0	3986078.0	256.6	1.83	3.40	0.85	NO	
L0006096	0	0.27180E-08	324148.2	3986079.5	258.1	1.83	3.40	0.85	NO	
L0006097	0	0.27180E-08	324155.3	3986081.0	259.7	1.83	3.40	0.85	NO	
L0006098	0	0.27180E-08	324162.5	3986082.4	261.3	1.83	3.40	0.85	NO	
L0006099	0	0.27180E-08	324169.6	3986083.9	263.0	1.83	3.40	0.85	NO	
L0006100	0	0.27180E-08	324176.8	3986085.4	264.8	1.83	3.40	0.85	NO	
L0006101	0	0.27180E-08	324183.9	3986086.8	266.6	1.83	3.40	0.85	NO	
L0006102	0	0.27180E-08	324191.1	3986088.3	267.9	1.83	3.40	0.85	NO	
L0006103	0	0.27180E-08	324198.2	3986089.8	268.0	1.83	3.40	0.85	NO	
L0006104	0	0.27180E-08	324205.4	3986091.2	268.1	1.83	3.40	0.85	NO	
L0006105	0	0.27180E-08	324212.5	3986092.7	268.1	1.83	3.40	0.85	NO	
L0006106	0	0.27180E-08	324219.7	3986094.2	268.0	1.83	3.40	0.85	NO	
L0006107	0	0.27180E-08	324226.9	3986095.6	266.5	1.83	3.40	0.85	NO	
L0006108	0	0.27180E-08	324234.0	3986097.1	264.9	1.83	3.40	0.85	NO	
L0006109	0	0.27180E-08	324241.2	3986098.6	263.5	1.83	3.40	0.85	NO	
L0006110	0	0.27180E-08	324248.3	3986100.0	262.1	1.83	3.40	0.85	NO	
L0006111	0	0.27180E-08	324255.5	3986101.5	259.9	1.83	3.40	0.85	NO	
L0006112	0	0.27180E-08	324262.6	3986103.0	257.6	1.83	3.40	0.85	NO	
L0006113	0	0.27180E-08	324269.8	3986104.4	255.3	1.83	3.40	0.85	NO	
L0006114	0	0.27180E-08	324276.9	3986105.9	253.0	1.83	3.40	0.85	NO	
L0006115	0	0.27180E-08	324284.1	3986107.4	250.8	1.83	3.40	0.85	NO	
L0006116	0	0.27180E-08	324291.2	3986108.8	248.6	1.83	3.40	0.85	NO	
L0006117	0	0.27180E-08	324292.3	3986114.9	247.6	1.83	3.40	0.85	NO	
L0006118	0	0.27180E-08	324291.8	3986122.2	246.2	1.83	3.40	0.85	NO	
L0006119	0	0.27180E-08	324291.3	3986129.5	244.7	1.83	3.40	0.85	NO	
L0006120	0	0.27180E-08	324290.9	3986136.8	243.2	1.83	3.40	0.85	NO	
L0006121	0	0.27180E-08	324290.4	3986144.1	241.6	1.83	3.40	0.85	NO	
L0006122	0	0.27180E-08	324289.9	3986151.4	239.9	1.83	3.40	0.85	NO	
L0006123	0	0.27180E-08	324289.4	3986158.6	238.1	1.83	3.40	0.85	NO	
L0006124	0	0.27180E-08	324289.0	3986165.9	236.3	1.83	3.40	0.85	NO	
L0006125	0	0.27180E-08	324288.5	3986173.2	234.5	1.83	3.40	0.85	NO	
L0006126	0	0.27180E-08	324288.0	3986180.5	232.7	1.83	3.40	0.85	NO	
L0006127	0	0.27180E-08	324287.5	3986187.8	230.9	1.83	3.40	0.85	NO	
L0006128	0	0.27180E-08	324287.1	3986195.1	229.1	1.83	3.40	0.85	NO	
L0006129	0	0.27180E-08	324286.6	3986202.4	227.3	1.83	3.40	0.85	NO	
L0006130	0	0.27180E-08	324286.1	3986209.6	225.6	1.83	3.40	0.85	NO	

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***

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*** AERMET - VERSION 14134 *** *** Diesel TOG Emissions ***

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**MODELOPTs: RegDFault CONC ELEV

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0006131	0	0.27180E-08	324285.7	3986216.9	224.0	1.83	3.40	0.85	NO	
L0006132	0	0.27180E-08	324285.2	3986224.2	222.4	1.83	3.40	0.85	NO	
L0006133	0	0.27180E-08	324284.7	3986231.5	220.8	1.83	3.40	0.85	NO	
L0006134	0	0.27180E-08	324284.2	3986238.8	219.1	1.83	3.40	0.85	NO	
L0006135	0	0.27180E-08	324283.8	3986246.1	217.5	1.83	3.40	0.85	NO	
L0006136	0	0.27180E-08	324283.3	3986253.3	215.9	1.83	3.40	0.85	NO	
L0006137	0	0.27180E-08	324282.8	3986260.6	214.2	1.83	3.40	0.85	NO	
L0006138	0	0.27180E-08	324282.3	3986267.9	212.6	1.83	3.40	0.85	NO	
L0006139	0	0.27180E-08	324281.9	3986275.2	211.2	1.83	3.40	0.85	NO	
L0006140	0	0.27180E-08	324281.4	3986282.5	209.8	1.83	3.40	0.85	NO	
L0006141	0	0.27180E-08	324280.9	3986289.8	208.3	1.83	3.40	0.85	NO	
L0006142	0	0.27180E-08	324273.9	3986290.4	208.7	1.83	3.40	0.85	NO	
L0006143	0	0.27180E-08	324266.6	3986290.8	209.2	1.83	3.40	0.85	NO	
L0006144	0	0.27180E-08	324259.3	3986291.2	209.6	1.83	3.40	0.85	NO	
L0006145	0	0.27180E-08	324252.0	3986291.6	210.1	1.83	3.40	0.85	NO	
L0006146	0	0.27180E-08	324244.8	3986292.0	210.5	1.83	3.40	0.85	NO	
L0006147	0	0.27180E-08	324237.5	3986292.4	210.9	1.83	3.40	0.85	NO	
L0006148	0	0.27180E-08	324230.2	3986292.8	211.3	1.83	3.40	0.85	NO	
L0006149	0	0.27180E-08	324222.9	3986293.2	211.7	1.83	3.40	0.85	NO	
L0006150	0	0.27180E-08	324215.6	3986293.5	211.9	1.83	3.40	0.85	NO	
L0006151	0	0.27180E-08	324208.3	3986293.9	212.1	1.83	3.40	0.85	NO	
L0006152	0	0.27180E-08	324201.0	3986294.3	212.3	1.83	3.40	0.85	NO	
L0006153	0	0.27180E-08	324193.7	3986294.7	212.4	1.83	3.40	0.85	NO	
L0006154	0	0.27180E-08	324186.4	3986295.1	212.6	1.83	3.40	0.85	NO	
L0006155	0	0.27180E-08	324179.1	3986295.5	212.7	1.83	3.40	0.85	NO	
L0006156	0	0.27180E-08	324171.9	3986295.9	212.9	1.83	3.40	0.85	NO	
L0006157	0	0.27180E-08	324164.6	3986296.3	213.0	1.83	3.40	0.85	NO	
L0006158	0	0.27180E-08	324157.3	3986296.7	213.1	1.83	3.40	0.85	NO	
L0006159	0	0.27180E-08	324150.0	3986297.0	213.0	1.83	3.40	0.85	NO	
L0006160	0	0.27180E-08	324142.7	3986297.4	212.9	1.83	3.40	0.85	NO	
L0006161	0	0.27180E-08	324135.4	3986297.8	212.8	1.83	3.40	0.85	NO	
L0006162	0	0.27180E-08	324128.1	3986298.2	212.7	1.83	3.40	0.85	NO	
L0006163	0	0.27180E-08	324120.8	3986298.6	212.6	1.83	3.40	0.85	NO	
L0006164	0	0.27180E-08	324113.5	3986299.0	212.5	1.83	3.40	0.85	NO	
L0006165	0	0.27180E-08	324106.2	3986299.4	212.4	1.83	3.40	0.85	NO	
L0006166	0	0.27180E-08	324099.0	3986299.8	212.3	1.83	3.40	0.85	NO	
L0006167	0	0.27180E-08	324091.7	3986300.2	211.9	1.83	3.40	0.85	NO	
L0006168	0	0.27180E-08	324084.4	3986300.5	211.6	1.83	3.40	0.85	NO	
L0006169	0	0.27180E-08	324077.1	3986300.9	211.3	1.83	3.40	0.85	NO	
L0006170	0	0.27180E-08	324069.8	3986301.3	210.9	1.83	3.40	0.85	NO	

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*** AERMOD - VERSION 14134 ***    *** Deer Creek Rock Co - Hard Rock Mine Expansion    ***
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**MODELOPTs:   RegDFault CONC      ELEV

*** VOLUME SOURCE DATA ***

SOURCE      NUMBER EMISSION RATE      BASE   RELEASE   INIT.   INIT.   URBAN   EMISSION RATE
ID          PART.  (GRAMS/SEC)      X       Y       ELEV.   HEIGHT   SY      SZ      SOURCE   SCALAR VARY
          CATS.      (METERS) (METERS) (METERS) (METERS) (METERS) (METERS)
-----
L0006171    0    0.27180E-08  324062.5 3986301.7  210.4    1.83    3.40    0.85    NO
L0006172    0    0.27180E-08  324056.5 3986305.0  209.3    1.83    3.40    0.85    NO
L0006173    0    0.27180E-08  324051.3 3986310.2  207.9    1.83    3.40    0.85    NO
L0006174    0    0.27180E-08  324046.2 3986315.3  206.6    1.83    3.40    0.85    NO
L0006175    0    0.27180E-08  324041.0 3986320.5  205.3    1.83    3.40    0.85    NO
L0006176    0    0.27180E-08  324035.9 3986325.6  204.0    1.83    3.40    0.85    NO
L0006177    0    0.27180E-08  324030.7 3986330.8  202.6    1.83    3.40    0.85    NO
L0006178    0    0.27180E-08  324025.5 3986336.0  201.2    1.83    3.40    0.85    NO
L0006179    0    0.27180E-08  324020.4 3986341.1  199.8    1.83    3.40    0.85    NO
L0006180    0    0.27180E-08  324015.2 3986346.3  198.5    1.83    3.40    0.85    NO
L0006181    0    0.27180E-08  324010.0 3986351.5  197.1    1.83    3.40    0.85    NO
L0006182    0    0.27180E-08  324004.9 3986356.6  195.9    1.83    3.40    0.85    NO
L0006183    0    0.27180E-08  323999.7 3986361.8  194.8    1.83    3.40    0.85    NO
L0006184    0    0.27180E-08  323994.6 3986366.9  193.8    1.83    3.40    0.85    NO
L0006185    0    0.27180E-08  323989.4 3986372.1  192.8    1.83    3.40    0.85    NO
L0006186    0    0.27180E-08  323984.2 3986377.3  191.7    1.83    3.40    0.85    NO
L0006187    0    0.27180E-08  323979.1 3986382.4  190.7    1.83    3.40    0.85    NO
L0006188    0    0.27180E-08  323973.9 3986387.6  189.7    1.83    3.40    0.85    NO
L0006189    0    0.27180E-08  323968.8 3986392.7  188.6    1.83    3.40    0.85    NO
L0006190    0    0.27180E-08  323964.0 3986398.1  187.6    1.83    3.40    0.85    NO
L0006191    0    0.27180E-08  323962.7 3986405.3  186.3    1.83    3.40    0.85    NO
L0006192    0    0.27180E-08  323961.4 3986412.5  185.1    1.83    3.40    0.85    NO
L0006193    0    0.27180E-08  323960.1 3986419.7  184.0    1.83    3.40    0.85    NO
L0006194    0    0.27180E-08  323958.8 3986426.9  183.0    1.83    3.40    0.85    NO
L0006195    0    0.27180E-08  323957.5 3986434.0  182.0    1.83    3.40    0.85    NO
L0006196    0    0.27180E-08  323956.2 3986441.2  181.0    1.83    3.40    0.85    NO

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**MODELOPTs: RegDFAULT CONC ELEV

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X Y (METERS) (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
OFFROAD	0	0.22490E-07	323748.7 3985751.2	192.1	3.66	14	30.48	NO	

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
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 **MODELOPTs: RegDFault CONC ELEV

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs							
-----	-----							
ALL	L0005811	, L0005812	, L0005813	, L0005814	, L0005815	, L0005816	, L0005817	,
L0005818	,							
	L0005819	, L0005820	, L0005821	, L0005822	, L0005823	, L0005824	, L0005825	,
L0005826	,							
	L0005827	, L0005828	, L0005829	, L0005830	, L0005831	, L0005832	, L0005833	,
L0005834	,							
	L0005835	, L0005836	, L0005837	, L0005838	, L0005839	, L0005840	, L0005841	,
L0005842	,							
	L0005843	, L0005844	, L0005845	, L0005846	, L0005847	, L0005848	, L0005849	,
L0005850	,							
	L0005851	, L0005852	, L0005853	, L0005854	, L0005855	, L0005856	, L0005857	,
L0005858	,							
	L0005859	, L0005860	, L0005861	, L0005862	, L0005863	, L0005864	, L0005865	,
L0005866	,							
	L0005867	, L0005868	, L0005869	, L0005870	, L0005871	, L0005872	, L0005873	,
L0005874	,							
	L0005875	, L0005876	, L0005877	, L0005878	, L0005879	, L0005880	, L0005881	,
L0005882	,							
	L0005883	, L0005884	, L0005885	, L0005886	, L0005887	, L0005888	, L0005889	,
L0005890	,							
	L0005891	, L0005892	, L0005893	, L0005894	, L0005895	, L0005896	, L0005897	,
L0005898	,							
	L0005899	, L0005900	, L0005901	, L0005902	, L0005903	, L0005904	, L0005905	,
L0005906	,							
	L0005907	, L0005908	, L0005909	, L0005910	, L0005911	, L0005912	, L0005913	,
L0005914	,							
	L0005915	, L0005916	, L0005917	, L0005918	, L0005919	, L0005920	, L0005921	,
L0005922	,							
	L0005923	, L0005924	, L0005925	, L0005926	, L0005927	, L0005928	, L0005929	,
L0005930	,							
	L0005931	, L0005932	, L0005933	, L0005934	, L0005935	, L0005936	, L0005937	,
L0005938	,							
	L0005939	, L0005940	, L0005941	, L0005942	, L0005943	, L0005944	, L0005945	,
L0005946	,							
	L0005947	, L0005948	, L0005949	, L0005950	, L0005951	, L0005952	, L0005953	,
L0005954	,							
	L0005955	, L0005956	, L0005957	, L0005958	, L0005959	, L0005960	, L0005961	,
L0005962	,							
	L0005963	, L0005964	, L0005965	, L0005966	, L0005967	, L0005968	, L0005969	,
L0005970	,							

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
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 **MODELOPTs: RegDFAULT CONC ELEV

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs							
-----	-----							
L0005978	L0005971	, L0005972	, L0005973	, L0005974	, L0005975	, L0005976	, L0005977	,
L0005986	L0005979	, L0005980	, L0005981	, L0005982	, L0005983	, L0005984	, L0005985	,
L0005994	L0005987	, L0005988	, L0005989	, L0005990	, L0005991	, L0005992	, L0005993	,
L0006002	L0005995	, L0005996	, L0005997	, L0005998	, L0005999	, L0006000	, L0006001	,
L0006010	L0006003	, L0006004	, L0006005	, L0006006	, L0006007	, L0006008	, L0006009	,
L0006018	L0006011	, L0006012	, L0006013	, L0006014	, L0006015	, L0006016	, L0006017	,
L0006026	L0006019	, L0006020	, L0006021	, L0006022	, L0006023	, L0006024	, L0006025	,
L0006034	L0006027	, L0006028	, L0006029	, L0006030	, L0006031	, L0006032	, L0006033	,
L0006042	L0006035	, L0006036	, L0006037	, L0006038	, L0006039	, L0006040	, L0006041	,
L0006050	L0006043	, L0006044	, L0006045	, L0006046	, L0006047	, L0006048	, L0006049	,
L0006058	L0006051	, L0006052	, L0006053	, L0006054	, L0006055	, L0006056	, L0006057	,
L0006066	L0006059	, L0006060	, L0006061	, L0006062	, L0006063	, L0006064	, L0006065	,
L0006074	L0006067	, L0006068	, L0006069	, L0006070	, L0006071	, L0006072	, L0006073	,
L0006082	L0006075	, L0006076	, L0006077	, L0006078	, L0006079	, L0006080	, L0006081	,
L0006090	L0006083	, L0006084	, L0006085	, L0006086	, L0006087	, L0006088	, L0006089	,
L0006098	L0006091	, L0006092	, L0006093	, L0006094	, L0006095	, L0006096	, L0006097	,
L0006106	L0006099	, L0006100	, L0006101	, L0006102	, L0006103	, L0006104	, L0006105	,
L0006114	L0006107	, L0006108	, L0006109	, L0006110	, L0006111	, L0006112	, L0006113	,
L0006122	L0006115	, L0006116	, L0006117	, L0006118	, L0006119	, L0006120	, L0006121	,
L0006130	L0006123	, L0006124	, L0006125	, L0006126	, L0006127	, L0006128	, L0006129	,

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 **MODELOPTs: RegDFAULT CONC ELEV

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
-----	-----
L0006138	L0006131 , L0006132 , L0006133 , L0006134 , L0006135 , L0006136 , L0006137 ,
L0006146	L0006139 , L0006140 , L0006141 , L0006142 , L0006143 , L0006144 , L0006145 ,
L0006154	L0006147 , L0006148 , L0006149 , L0006150 , L0006151 , L0006152 , L0006153 ,
L0006162	L0006155 , L0006156 , L0006157 , L0006158 , L0006159 , L0006160 , L0006161 ,
L0006170	L0006163 , L0006164 , L0006165 , L0006166 , L0006167 , L0006168 , L0006169 ,
L0006178	L0006171 , L0006172 , L0006173 , L0006174 , L0006175 , L0006176 , L0006177 ,
L0006186	L0006179 , L0006180 , L0006181 , L0006182 , L0006183 , L0006184 , L0006185 ,
L0006194	L0006187 , L0006188 , L0006189 , L0006190 , L0006191 , L0006192 , L0006193 ,
	L0006195 , L0006196 , IDLESCALE , IDLEAGG , IDLEMAIN , OFFROAD ,

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*** AERMET - VERSION 14134 *** *** Diesel TOG Emissions ***
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**MODELOPTs: RegDFAULT CONC ELEV

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(324181.0, 3985748.0, 259.9, 264.0, 0.0);	(323227.0, 3985676.0, 167.0, 429.0, 0.0);
(323703.0, 3986794.0, 172.6, 470.0, 0.0);	(323052.0, 3986547.0, 178.0, 470.0, 0.0);
(324006.2, 3986641.1, 170.0, 470.0, 0.0);	(324051.2, 3986727.9, 170.0, 470.0, 0.0);
(324100.7, 3986813.4, 171.0, 470.0, 0.0);	(324183.0, 3986774.8, 171.0, 470.0, 0.0);
(324151.9, 3986898.4, 174.1, 470.0, 0.0);	(324022.5, 3986936.3, 174.7, 470.0, 0.0);
(324236.9, 3986858.9, 172.6, 470.0, 0.0);	(324204.1, 3986983.1, 176.5, 470.0, 0.0);
(324114.2, 3987009.5, 176.9, 470.0, 0.0);	(324024.4, 3987035.8, 176.6, 470.0, 0.0);
(324290.9, 3986943.1, 175.4, 470.0, 0.0);	(324138.2, 3986596.1, 170.0, 470.0, 0.0);
(324248.1, 3986593.5, 170.1, 470.0, 0.0);	(324248.5, 3986693.5, 170.3, 470.0, 0.0);
(324355.8, 3986530.9, 173.4, 470.0, 0.0);	(324337.0, 3986659.4, 171.0, 470.0, 0.0);
(324422.6, 3986605.4, 172.5, 470.0, 0.0);	(324398.2, 3986736.0, 171.0, 470.0, 0.0);
(324298.7, 3986774.3, 171.9, 470.0, 0.0);	(324489.3, 3986679.8, 171.2, 470.0, 0.0);
(324470.5, 3986808.3, 172.1, 470.0, 0.0);	(324382.1, 3986842.4, 173.0, 470.0, 0.0);
(324556.1, 3986754.3, 171.0, 470.0, 0.0);	(324534.1, 3986884.0, 174.6, 470.0, 0.0);
(324439.3, 3986920.5, 174.8, 470.0, 0.0);	(324622.8, 3986828.7, 173.9, 470.0, 0.0);
(324429.8, 3986430.1, 177.1, 470.0, 0.0);	(324447.5, 3986264.2, 195.0, 363.0, 0.0);
(324465.3, 3986098.3, 206.8, 368.0, 0.0);	(324496.5, 3986504.5, 174.1, 470.0, 0.0);
(324538.1, 3986357.8, 177.8, 470.0, 0.0);	(324555.9, 3986191.9, 187.3, 368.0, 0.0);
(324596.0, 3986515.2, 173.3, 470.0, 0.0);	(324637.5, 3986368.4, 176.0, 470.0, 0.0);
(324655.3, 3986202.5, 177.1, 368.0, 0.0);	(324695.4, 3986525.8, 172.1, 470.0, 0.0);
(324630.1, 3986653.4, 171.0, 470.0, 0.0);	(324737.0, 3986379.0, 175.3, 470.0, 0.0);
(324754.7, 3986213.1, 177.0, 368.0, 0.0);	(324794.8, 3986536.4, 171.0, 470.0, 0.0);
(324729.5, 3986664.1, 172.2, 470.0, 0.0);	(324836.4, 3986389.7, 174.5, 470.0, 0.0);
(324854.1, 3986223.8, 177.0, 368.0, 0.0);	(324422.8, 3986005.4, 217.5, 368.0, 0.0);
(324275.1, 3985903.1, 243.9, 270.0, 0.0);	(324513.7, 3985963.8, 203.0, 368.0, 0.0);
(324556.2, 3986056.7, 195.2, 368.0, 0.0);	(324405.9, 3985872.1, 221.1, 368.0, 0.0);
(324587.6, 3985901.9, 196.2, 368.0, 0.0);	(324651.4, 3986041.2, 181.6, 368.0, 0.0);
(324462.8, 3985789.8, 213.7, 368.0, 0.0);	(324638.9, 3985812.9, 194.2, 368.0, 0.0);
(324740.9, 3985990.8, 177.0, 368.0, 0.0);	(324519.7, 3985707.6, 208.0, 368.0, 0.0);
(324707.2, 3985744.2, 186.4, 368.0, 0.0);	(324834.7, 3985966.6, 177.5, 368.0, 0.0);
(324576.6, 3985625.4, 203.4, 368.0, 0.0);	(324130.3, 3985885.6, 249.3, 262.0, 0.0);
(324274.8, 3985803.1, 242.2, 359.0, 0.0);	(324130.0, 3985785.6, 251.3, 264.0, 0.0);
(324274.5, 3985703.1, 241.3, 368.0, 0.0);	(324129.7, 3985685.6, 261.9, 261.9, 0.0);

(324293.3, 3985609.1, 238.8, 368.0, 0.0);	(324129.4, 3985585.6, 244.1, 368.0,
0.0);	
(324288.2, 3985507.6, 240.4, 368.0, 0.0);	(324431.3, 3985552.0, 220.9, 368.0,
0.0);	
(324129.1, 3985485.6, 220.9, 368.0, 0.0);	(324043.8, 3985645.7, 245.3, 368.0,
0.0);	
(323892.7, 3985645.4, 216.7, 368.0, 0.0);	(323741.5, 3985645.1, 187.6, 429.0,
0.0);	
(324044.0, 3985545.7, 234.9, 368.0, 0.0);	(323892.9, 3985545.4, 213.3, 429.0,
0.0);	
(323741.8, 3985545.1, 182.4, 429.0, 0.0);	(324044.2, 3985445.7, 215.1, 429.0,
0.0);	
(323893.1, 3985445.4, 203.9, 429.0, 0.0);	(323742.0, 3985445.1, 184.6, 429.0,
0.0);	
(324101.0, 3985369.3, 224.0, 429.0, 0.0);	(324214.0, 3985416.4, 239.4, 368.0,
0.0);	
(324420.3, 3985690.2, 219.5, 368.0, 0.0);	(323968.8, 3985345.6, 208.6, 429.0,
0.0);	
(323817.7, 3985345.3, 190.9, 429.0, 0.0);	(324103.5, 3985270.3, 233.7, 429.0,
0.0);	
(324221.3, 3985319.4, 249.8, 368.0, 0.0);	(324339.1, 3985368.5, 240.9, 368.0,
0.0);	
(324422.3, 3985452.0, 227.1, 368.0, 0.0);	(323969.0, 3985245.6, 207.7, 429.0,
0.0);	

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**MODELOPTs: RegDFAULT CONC ELEV

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(323817.9, 3985245.3, 196.3, 429.0, 0.0);	(323641.3, 3985745.1, 176.9, 429.0, 0.0);
(323641.2, 3985915.3, 178.6, 463.0, 0.0);	(323641.1, 3986085.5, 170.7, 470.0, 0.0);
(323570.7, 3985674.2, 175.8, 429.0, 0.0);	(323541.3, 3985830.1, 179.9, 429.0, 0.0);
(323541.2, 3986000.3, 170.2, 470.0, 0.0);	(323541.0, 3986170.5, 168.4, 470.0, 0.0);
(323470.7, 3985674.2, 174.5, 429.0, 0.0);	(323600.3, 3985503.5, 188.9, 429.0, 0.0);
(323441.3, 3985830.0, 170.0, 470.0, 0.0);	(323441.2, 3986000.2, 168.0, 470.0, 0.0);
(323441.0, 3986170.4, 168.0, 470.0, 0.0);	(323370.7, 3985674.1, 169.5, 429.0, 0.0);
(323429.5, 3985532.6, 183.4, 429.0, 0.0);	(323529.7, 3985432.7, 191.6, 429.0, 0.0);
(323671.3, 3985374.3, 191.3, 429.0, 0.0);	(323341.3, 3985829.9, 168.7, 470.0, 0.0);
(323341.2, 3986000.1, 167.9, 470.0, 0.0);	(323341.0, 3986170.4, 167.0, 470.0, 0.0);
(323270.7, 3985674.0, 167.9, 429.0, 0.0);	(323329.5, 3985532.6, 174.4, 429.0, 0.0);
(323459.1, 3985361.9, 186.9, 429.0, 0.0);	(323600.7, 3985303.5, 196.4, 429.0, 0.0);
(323241.3, 3985829.9, 167.0, 470.0, 0.0);	(323241.2, 3986000.1, 166.4, 470.0, 0.0);
(323241.0, 3986170.3, 166.0, 470.0, 0.0);	(323470.7, 3986330.5, 167.0, 470.0, 0.0);
(323370.7, 3986330.6, 167.0, 470.0, 0.0);	(323270.7, 3986330.7, 167.0, 470.0, 0.0);
(323170.6, 3986250.8, 166.5, 470.0, 0.0);	(323170.8, 3986410.8, 167.8, 470.0, 0.0);
(323099.9, 3986100.0, 165.0, 470.0, 0.0);	(323158.5, 3985958.3, 165.6, 470.0, 0.0);
(323070.6, 3986250.8, 167.0, 470.0, 0.0);	(323070.8, 3986410.9, 170.0, 470.0, 0.0);
(323570.5, 3986510.4, 168.0, 470.0, 0.0);	(323741.0, 3986510.9, 168.0, 470.0, 0.0);
(323499.7, 3986581.0, 169.0, 470.0, 0.0);	(323400.0, 3986481.1, 168.1, 470.0, 0.0);
(323655.5, 3986610.6, 168.5, 470.0, 0.0);	(323499.4, 3986681.0, 170.0, 470.0, 0.0);
(323329.2, 3986551.8, 170.0, 470.0, 0.0);	(323655.2, 3986710.6, 170.0, 470.0, 0.0);
(323499.2, 3986781.0, 173.4, 470.0, 0.0);	(323358.2, 3986722.3, 171.0, 470.0, 0.0);
(323258.5, 3986622.4, 173.8, 470.0, 0.0);	(323654.9, 3986810.6, 173.2, 470.0, 0.0);
(323498.9, 3986881.0, 177.5, 470.0, 0.0);	(323357.9, 3986822.3, 172.1, 470.0, 0.0);
(323187.7, 3986693.1, 178.0, 470.0, 0.0);	(323129.2, 3986552.0, 176.9, 470.0, 0.0);
(323654.6, 3986910.6, 177.3, 470.0, 0.0);	(323641.3, 3986411.0, 168.0, 470.0, 0.0);
(323541.3, 3986411.1, 167.0, 470.0, 0.0);	(323241.4, 3986480.4, 168.1, 470.0, 0.0);
(323741.5, 3986649.1, 168.7, 470.0, 0.0);	(323900.0, 3986649.0, 170.3, 470.0, 0.0);
(323741.5, 3986749.1, 171.0, 470.0, 0.0);	(323900.0, 3986749.0, 170.0, 470.0, 0.0);
(323741.5, 3986849.1, 174.4, 470.0, 0.0);	(323900.1, 3986849.0, 172.8, 470.0, 0.0);
(323741.6, 3986949.1, 178.5, 470.0, 0.0);	(323900.1, 3986949.0, 177.5, 470.0, 0.0);
(323670.9, 3987019.8, 181.1, 470.0, 0.0);	(323820.9, 3987049.0, 185.8, 470.0, 0.0);

(323741.4, 3986549.1, 168.0, 470.0, 0.0);	(323979.3, 3986549.0, 171.0, 470.0, 0.0);
(324021.1, 3986522.2, 172.4, 470.0, 0.0);	(324059.1, 3986510.6, 173.7, 470.0, 0.0);
(324117.6, 3986498.3, 174.0, 470.0, 0.0);	(324177.0, 3986493.8, 173.5, 470.0, 0.0);
(324247.8, 3986493.5, 174.8, 470.0, 0.0);	(324330.4, 3986419.4, 181.0, 470.0, 0.0);
(324365.9, 3986087.6, 229.2, 270.0, 0.0);	(324218.1, 3985985.3, 258.9, 270.0, 0.0);
(324043.0, 3985985.8, 236.5, 270.0, 0.0);	(324043.6, 3985745.7, 243.1, 358.0, 0.0);
(323741.3, 3985745.1, 190.5, 429.0, 0.0);	(323741.0, 3986170.6, 180.5, 470.0, 0.0);
(323570.5, 3986170.3, 169.0, 470.0, 0.0);	(323570.8, 3986410.4, 167.3, 470.0, 0.0);
(323741.3, 3986410.9, 169.0, 470.0, 0.0);	

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
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 **MODELOPTs: RegDFAULT CONC ELEV

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
 (1=YES; 0=NO)

1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1			

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
 (METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

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**MODELOPTs: RegDFAULT CONC ELEV

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: ..\23149_06-09.SFC Met Version:
14134
Profile file: ..\23149_06-09.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 23149 Upper air station no.: 23230
Name: PORTERVILLE_AIRPORT Name: OAKLAND/WSO_AP
Year: 2006 Year: 2006

First 24 hours of scalar data
YR MO DY JDY HR H0 U* W* DT/DZ ZICNV ZIMCH M-O LEN Z0 BOWEN ALBEDO REF WS WD HT REF TA
HT
- - - - -
- -
06 01 01 1 01 -23.8 0.212 -9.000 -9.000 -999. 234. 35.6 0.03 0.76 1.00 3.86 101. 10.0 280.1
2.0
06 01 01 1 02 -23.7 0.212 -9.000 -9.000 -999. 234. 35.8 0.03 0.76 1.00 3.86 108. 10.0 281.1
2.0
06 01 01 1 03 -18.2 0.162 -9.000 -9.000 -999. 158. 20.9 0.03 0.76 1.00 3.36 104. 10.0 280.1
2.0
06 01 01 1 04 -23.7 0.212 -9.000 -9.000 -999. 234. 35.8 0.03 0.76 1.00 3.86 113. 10.0 281.1
2.0
06 01 01 1 05 -23.7 0.212 -9.000 -9.000 -999. 234. 35.8 0.03 0.76 1.00 3.86 113. 10.0 281.1
2.0
06 01 01 1 06 -24.0 0.215 -9.000 -9.000 -999. 240. 37.0 0.03 0.76 1.00 3.86 132. 10.0 281.1
2.0
06 01 01 1 07 -28.8 0.258 -9.000 -9.000 -999. 315. 53.1 0.03 0.76 1.00 4.36 145. 10.0 281.1
2.0
06 01 01 1 08 -16.3 0.159 -9.000 -9.000 -999. 156. 21.8 0.02 0.76 0.61 3.36 163. 10.0 280.1
2.0
06 01 01 1 09 11.0 -9.000 -9.000 -9.000 95. -999. -99999.0 0.03 0.76 0.34 0.00 0. 10.0 282.1
2.0
06 01 01 1 10 48.2 -9.000 -9.000 -9.000 186. -999. -99999.0 0.03 0.76 0.25 0.00 0. 10.0 284.1
2.0
06 01 01 1 11 81.6 0.277 0.863 0.005 280. 350. -23.1 0.04 0.76 0.22 3.36 4. 10.0 284.1
2.0
06 01 01 1 12 96.6 0.230 0.994 0.005 360. 265. -11.1 0.02 0.76 0.21 2.86 306. 10.0 284.1
2.0
06 01 01 1 13 101.2 -9.000 -9.000 -9.000 608. -999. -99999.0 0.03 0.76 0.21 0.00 0. 10.0 284.1
2.0
06 01 01 1 14 17.7 0.212 0.685 0.005 644. 234. -47.5 0.03 0.76 0.22 2.86 119. 10.0 284.1
2.0
06 01 01 1 15 10.3 0.274 0.579 0.005 666. 344. -176.6 0.03 0.76 0.25 3.86 142. 10.0 284.1
2.0
06 01 01 1 16 0.1 0.263 0.123 0.005 668. 323. -8888.0 0.03 0.76 0.35 3.86 104. 10.0 284.1
2.0
06 01 01 1 17 -5.9 0.113 -9.000 -9.000 -999. 110. 21.6 0.02 0.76 0.62 2.36 41. 10.0 283.1
2.0
06 01 01 1 18 -2.7 0.060 -9.000 -9.000 -999. 37. 7.0 0.03 0.76 1.00 1.76 97. 10.0 284.1
2.0
06 01 01 1 19 -2.6 0.058 -9.000 -9.000 -999. 34. 6.7 0.02 0.76 1.00 1.76 44. 10.0 284.1
2.0
06 01 01 1 20 -8.6 0.157 -9.000 -9.000 -999. 149. 39.5 0.02 0.76 1.00 2.86 317. 10.0 284.1
2.0
06 01 01 1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0 0.03 0.76 1.00 0.00 0. 10.0 284.1
2.0
06 01 01 1 22 -6.0 0.109 -9.000 -9.000 -999. 86. 19.2 0.02 0.76 1.00 2.36 32. 10.0 284.1
2.0
06 01 01 1 23 -10.8 0.165 -9.000 -9.000 -999. 161. 36.8 0.04 0.76 1.00 2.86 20. 10.0 284.1
2.0
06 01 01 1 24 -8.6 0.157 -9.000 -9.000 -999. 149. 39.7 0.02 0.76 1.00 2.86 50. 10.0 285.1
2.0

First hour of profile data
YR MO DY HR HEIGHT F WDIR WSPD AMB_TMP sigmaA sigmaW sigmaV
06 01 01 01 10.0 1 101. 3.86 280.2 99.0 -99.00 -99.00

F indicates top of profile (=1) or below (=0)

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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

324587.65	3985901.88	0.61443	(07091519)	324651.41	3986041.17	0.57338
(07071221)						
324462.79	3985789.85	0.37079	(07021118)	324638.91	3985812.90	0.61500
(07052222)						
324740.92	3985990.84	0.54176	(07071221)	324519.71	3985707.63	0.31997
(07021118)						
324707.17	3985744.22	0.56550	(07052222)	324834.68	3985966.64	0.53527
(07071221)						
324576.64	3985625.42	0.36427	(07051721)	324130.26	3985885.60	0.15399
(09010316)						
324274.78	3985803.14	0.18209	(07020917)	324129.98	3985785.60	0.13570
(09010316)						
324274.50	3985703.14	0.18945	(07020917)	324129.69	3985685.60	0.11088
(09010316)						
324293.28	3985609.06	0.18775	(07020917)	324129.41	3985585.60	0.12062
(08061419)						
324288.23	3985507.58	0.16172	(07020917)	324431.26	3985552.04	0.19404
(07020404)						
324129.12	3985485.60	0.22789	(07021419)	324043.81	3985645.73	0.14465
(07020917)						
323892.68	3985645.43	0.33722	(07022019)	323741.55	3985645.13	0.73294
(07102303)						
324044.01	3985545.73	0.16896	(07020917)	323892.88	3985545.43	0.40010
(07022019)						
323741.75	3985545.13	0.70233	(07102303)	324044.21	3985445.73	0.26229
(07071223)						
323893.08	3985445.43	0.40082	(07100704)	323741.95	3985445.13	0.69773
(07102303)						

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
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**MODELOPTs: RegDFAULT CONC ELEV

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL

INCLUDING SOURCE(S): L0005811 , L0005812 , L0005813 , L0005814 ,
L0005815 , L0005816 , L0005817 , L0005818 , L0005819 , L0005820 , L0005821 , L0005822 ,
L0005823 , L0005824 , L0005825 , L0005826 , L0005827 , L0005828 , L0005829 , L0005830 ,
L0005831 , L0005832 , L0005833 , L0005834 , L0005835 , L0005836 , L0005837 , L0005838 , .
. . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***
** CONC OF TOG IN MICROGRAMS/M**3 **
X-COORD (M) Y-COORD (M) CONC (YYMMDDHH) X-COORD (M) Y-COORD (M) CONC
(YYMMDDHH)

324100.95 3985369.29 0.19820 (07020917) 324214.03 3985416.42 0.12721
(09010316)
324420.31 3985690.16 0.22095 (08072319) 323968.84 3985345.58 0.33635
(07070520)
323817.71 3985345.28 0.67533 (07100704) 324103.50 3985270.28 0.15796
(07020917)
324221.30 3985319.37 0.11011 (07020917) 324339.09 3985368.46 0.15857
(07020917)
324422.26 3985452.02 0.18467 (07020917) 323969.04 3985245.58 0.34550
(07070520)
323817.91 3985245.28 0.67656 (07100704) 323641.35 3985745.06 0.60300
(07092520)
323641.23 3985915.26 0.78823 (07111904) 323641.11 3986085.47 0.69007
(07111904)
323570.73 3985674.25 0.59349 (07092520) 323541.29 3985830.09 0.76723
(07111904)
323541.17 3986000.29 0.69186 (07111904) 323541.05 3986170.50 0.74139
(07111904)
323470.73 3985674.18 0.55038 (07111904) 323600.32 3985503.52 0.66599
(08101419)
323441.29 3985830.02 0.69471 (07111904) 323441.17 3986000.22 0.66587
(07111904)
323441.05 3986170.43 0.65809 (07111904) 323370.73 3985674.11 0.58578
(07111904)
323429.50 3985532.64 0.60932 (07092520) 323529.70 3985432.71 0.60705
(07021304)
323671.33 3985374.32 0.71762 (07102303) 323341.29 3985829.95 0.67729
(07111904)
323341.17 3986000.15 0.67450 (07111904) 323341.05 3986170.36 0.55176
(07111223)
323270.73 3985674.04 0.61368 (07111904) 323329.50 3985532.57 0.53712
(07102219)
323459.09 3985361.91 0.59193 (07121102) 323600.71 3985303.52 0.70113
(08101419)
323241.29 3985829.88 0.65674 (07111904) 323241.17 3986000.08 0.66887
(07111904)
323241.05 3986170.29 0.54683 (07080221) 323470.70 3986330.48 0.56707
(07070321)
323370.70 3986330.57 0.56128 (07070321) 323270.70 3986330.67 0.55319
(07102805)
323170.63 3986250.75 0.54635 (07070321) 323170.78 3986410.78 0.53574
(07100306)
323099.87 3986100.00 0.51516 (07112505) 323158.50 3985958.33 0.65577
(07111904)
323070.63 3986250.85 0.53898 (07070321) 323070.78 3986410.88 0.53563
(07100306)
323570.50 3986510.40 0.46956 (07111807) 323741.02 3986510.88 0.49730
(07111404)
323499.72 3986581.04 0.48137 (07091022) 323400.00 3986481.14 0.51471
(07110202)
323655.48 3986610.64 0.45966 (07080202) 323499.44 3986681.04 0.47881
(07070521)

323329.23 (07080202)	3986551.79	0.49871 (07073002)	323655.20	3986710.64	0.47302
323499.16 (07060823)	3986781.04	0.48265 (07070222)	323358.17	3986722.33	0.48498
323258.45 (07081319)	3986622.43	0.50694 (07092722)	323654.91	3986810.64	0.48537
323498.88 (07061722)	3986881.04	0.50501 (07101322)	323357.89	3986822.33	0.48278
323187.67 (07050803)	3986693.08	0.52006 (07091022)	323129.23	3986551.98	0.54019
323654.63 (07110204)	3986910.64	0.50028 (07072323)	323641.30	3986410.97	0.50743
323541.30 (07103121)	3986411.07	0.54591 (07110602)	323241.37	3986480.45	0.51808
323741.46 (07101103)	3986649.07	0.49441 (07090504)	323900.02	3986649.02	0.51698
323741.50 (07101103)	3986749.07	0.49520 (07091703)	323900.05	3986749.02	0.50611
323741.53 (07101103)	3986849.07	0.50041 (07083022)	323900.08	3986849.02	0.50982
323741.56 (07090602)	3986949.07	0.51415 (07070106)	323900.12	3986949.02	0.52639
323670.90 (07082122)	3987019.83	0.53194 (07070106)	323820.87	3987049.04	0.55634
323741.43 (07081705)	3986549.07	0.49837 (07082122)	323979.26	3986548.99	0.53600
324021.13 (07080803)	3986522.16	0.55243 (07081201)	324059.06	3986510.61	0.56239

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
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**MODELOPTs: RegDFAULT CONC ELEV

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF TOG IN MICROGRAMS/M**3 **

DATE

NETWORK GROUP ID OF TYPE	GRID-ID	AVERAGE CONC (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)
--------------------------------	---------	----------------------------	--

ALL HIGH 1ST HIGH VALUE IS 0.78823 ON 07111904: AT (323641.23, 3985915.26, 178.64, 463.00,
0.00) DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** AERMOD - VERSION 14134 *** *** Deer Creek Rock Co - Hard Rock Mine Expansion ***
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**MODELOPTs: RegDFAULT CONC ELEV

*** Message Summary : AERMOD Model Execution ***

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)
A Total of 3 Warning Message(s)
A Total of 7447 Informational Message(s)

A Total of 35064 Hours Were Processed

A Total of 6519 Calm Hours Identified

A Total of 928 Missing Hours Identified (2.65 Percent)

***** FATAL ERROR MESSAGES *****
*** NONE ***

***** WARNING MESSAGES *****
SO W320 873 PPARM: Input Parameter May Be Out-of-Range for Parameter VS
SO W320 874 PPARM: Input Parameter May Be Out-of-Range for Parameter VS
SO W320 875 PPARM: Input Parameter May Be Out-of-Range for Parameter VS

*** AERMOD Finishes Successfully ***

* AERMOD (14134): Deer Creek Rock Co - Hard Rock Mine Expansion

11/19/14

* AERMET (14134):

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* MODELING OPTIONS USED: RegDFAULT CONC

ELEV

* PLOT FILE OF HIGH 1ST HIGH 1-HR VALUES FOR SOURCE GROUP: ALL

* FOR A TOTAL OF 173 RECEPTORS.

* FORMAT: (3(1X,F13.5),3(1X,F8.2),3X,A5,2X,A8,2X,A5,5X,A8,2X,I8)

* X Y AVERAGE CONC ZELEV ZHILL ZFLAG AVE GRP RANK NET ID
DATE(CONC)

* 324181.00000	3985748.00000	0.12973	259.87	264.00	0.00	1-HR	ALL	1ST	9010316
323227.00000	3985676.00000	0.62047	167.00	429.00	0.00	1-HR	ALL	1ST	7111904
323703.00000	3986794.00000	0.49104	172.57	470.00	0.00	1-HR	ALL	1ST	7082105
323052.00000	3986547.00000	0.54363	177.96	470.00	0.00	1-HR	ALL	1ST	7103121
324006.25000	3986641.09000	0.52683	170.00	470.00	0.00	1-HR	ALL	1ST	7111620
324051.22000	3986727.92000	0.52945	170.00	470.00	0.00	1-HR	ALL	1ST	7062006
324100.68000	3986813.43000	0.53450	171.00	470.00	0.00	1-HR	ALL	1ST	7071502
324182.99000	3986774.75000	0.53822	171.00	470.00	0.00	1-HR	ALL	1ST	7070522
324151.94000	3986898.42000	0.56161	174.05	470.00	0.00	1-HR	ALL	1ST	7070522
324022.53000	3986936.35000	0.54045	174.72	470.00	0.00	1-HR	ALL	1ST	7081302
324236.94000	3986858.95000	0.55225	172.62	470.00	0.00	1-HR	ALL	1ST	7081905
324204.09000	3986983.14000	0.58719	176.47	470.00	0.00	1-HR	ALL	1ST	7070522
324114.23000	3987009.48000	0.57481	176.87	470.00	0.00	1-HR	ALL	1ST	7071206
324024.36000	3987035.82000	0.55331	176.63	470.00	0.00	1-HR	ALL	1ST	7072603
324290.89000	3986943.14000	0.57441	175.35	470.00	0.00	1-HR	ALL	1ST	7071705
324138.25000	3986596.12000	0.54022	170.00	470.00	0.00	1-HR	ALL	1ST	7062004
324248.15000	3986593.49000	0.55574	170.10	470.00	0.00	1-HR	ALL	1ST	7072202
324248.54000	3986693.49000	0.55264	170.26	470.00	0.00	1-HR	ALL	1ST	7070122
324355.81000	3986530.91000	0.57122	173.39	470.00	0.00	1-HR	ALL	1ST	7051702
324337.02000	3986659.43000	0.55430	171.00	470.00	0.00	1-HR	ALL	1ST	7070202
324422.57000	3986605.36000	0.55700	172.54	470.00	0.00	1-HR	ALL	1ST	7051702
324398.25000	3986736.01000	0.55113	171.00	470.00	0.00	1-HR	ALL	1ST	7060102
324298.71000	3986774.33000	0.56288	171.92	470.00	0.00	1-HR	ALL	1ST	7070122
324489.33000	3986679.82000	0.53963	171.23	470.00	0.00	1-HR	ALL	1ST	7051702
324470.54000	3986808.34000	0.55560	172.05	470.00	0.00	1-HR	ALL	1ST	7060102
324382.06000	3986842.40000	0.57218	173.00	470.00	0.00	1-HR	ALL	1ST	7072202
324556.08000	3986754.27000	0.53183	171.00	470.00	0.00	1-HR	ALL	1ST	7091502
324534.14000	3986884.01000	0.56380	174.57	470.00	0.00	1-HR	ALL	1ST	7060102
324439.33000	3986920.50000	0.57781	174.79	470.00	0.00	1-HR	ALL	1ST	7072202
324622.84000	3986828.73000	0.54473	173.85	470.00	0.00	1-HR	ALL	1ST	7083121
324429.79000	3986430.06000	0.55051	177.12	470.00	0.00	1-HR	ALL	1ST	7081220
324447.55000	3986264.17000	0.61977	195.02	363.00	0.00	1-HR	ALL	1ST	7072022
324465.30000	3986098.28000	0.34943	206.75	368.00	0.00	1-HR	ALL	1ST	8102317
324496.55000	3986504.52000	0.53026	174.08	470.00	0.00	1-HR	ALL	1ST	7081220
324538.10000	3986357.76000	0.57489	177.75	470.00	0.00	1-HR	ALL	1ST	7061820
324555.86000	3986191.87000	0.59530	187.32	368.00	0.00	1-HR	ALL	1ST	7101504
324595.98000	3986515.16000	0.52655	173.34	470.00	0.00	1-HR	ALL	1ST	7090120
324637.53000	3986368.40000	0.57053	176.00	470.00	0.00	1-HR	ALL	1ST	7061820
324655.29000	3986202.51000	0.55154	177.07	368.00	0.00	1-HR	ALL	1ST	7062823
324695.41000	3986525.80000	0.52684	172.06	470.00	0.00	1-HR	ALL	1ST	7090120
324630.06000	3986653.43000	0.50555	171.00	470.00	0.00	1-HR	ALL	1ST	7081220
324736.97000	3986379.04000	0.55825	175.26	470.00	0.00	1-HR	ALL	1ST	7061820
324754.72000	3986213.15000	0.54809	177.00	368.00	0.00	1-HR	ALL	1ST	7100219
324794.85000	3986536.44000	0.52033	171.00	470.00	0.00	1-HR	ALL	1ST	7090120
324729.50000	3986664.07000	0.49852	172.24	470.00	0.00	1-HR	ALL	1ST	7060920
324836.40000	3986389.69000	0.54684	174.49	470.00	0.00	1-HR	ALL	1ST	7090124
324854.15000	3986223.80000	0.54926	177.00	368.00	0.00	1-HR	ALL	1ST	7100219
324422.80000	3986005.42000	0.29938	217.46	368.00	0.00	1-HR	ALL	1ST	8101917
324275.07000	3985903.13000	0.16021	243.90	270.00	0.00	1-HR	ALL	1ST	9010809
324513.72000	3985963.80000	0.40556	202.95	368.00	0.00	1-HR	ALL	1ST	8101917
324556.23000	3986056.66000	0.62234	195.19	368.00	0.00	1-HR	ALL	1ST	7071221
324405.86000	3985872.06000	0.26118	221.07	368.00	0.00	1-HR	ALL	1ST	9040118
324587.65000	3985901.88000	0.61443	196.20	368.00	0.00	1-HR	ALL	1ST	7091519
324651.41000	3986041.17000	0.57338	181.63	368.00	0.00	1-HR	ALL	1ST	7071221
324462.79000	3985789.85000	0.37079	213.72	368.00	0.00	1-HR	ALL	1ST	7021118
324638.91000	3985812.90000	0.61500	194.25	368.00	0.00	1-HR	ALL	1ST	7052222
324740.92000	3985990.84000	0.54176	177.00	368.00	0.00	1-HR	ALL	1ST	7071221
324519.71000	3985707.63000	0.31997	208.04	368.00	0.00	1-HR	ALL	1ST	7021118
324707.17000	3985744.22000	0.56550	186.38	368.00	0.00	1-HR	ALL	1ST	7052222
324834.68000	3985966.64000	0.53527	177.49	368.00	0.00	1-HR	ALL	1ST	7071221
324576.64000	3985625.42000	0.36427	203.35	368.00	0.00	1-HR	ALL	1ST	7051721
324130.26000	3985885.60000	0.15399	249.34	262.00	0.00	1-HR	ALL	1ST	9010316
324274.78000	3985803.14000	0.18209	242.16	359.00	0.00	1-HR	ALL	1ST	7020917
324129.98000	3985785.60000	0.13570	251.26	264.00	0.00	1-HR	ALL	1ST	9010316
324274.50000	3985703.14000	0.18945	241.30	368.00	0.00	1-HR	ALL	1ST	7020917

324129.69000	3985685.60000	0.11088	261.94	261.94	0.00	1-HR	ALL	1ST	9010316
324293.28000	3985609.06000	0.18775	238.80	368.00	0.00	1-HR	ALL	1ST	7020917
324129.41000	3985585.60000	0.12062	244.07	368.00	0.00	1-HR	ALL	1ST	8061419
324288.23000	3985507.58000	0.16172	240.42	368.00	0.00	1-HR	ALL	1ST	7020917
324431.26000	3985552.04000	0.19404	220.88	368.00	0.00	1-HR	ALL	1ST	7020404
324129.12000	3985485.60000	0.22789	220.91	368.00	0.00	1-HR	ALL	1ST	7021419
324043.81000	3985645.73000	0.14465	245.27	368.00	0.00	1-HR	ALL	1ST	7020917
323892.68000	3985645.43000	0.33722	216.70	368.00	0.00	1-HR	ALL	1ST	7022019
323741.55000	3985645.13000	0.73294	187.57	429.00	0.00	1-HR	ALL	1ST	7102303
324044.01000	3985545.73000	0.16896	234.94	368.00	0.00	1-HR	ALL	1ST	7020917
323892.88000	3985545.43000	0.40010	213.33	429.00	0.00	1-HR	ALL	1ST	7022019
323741.75000	3985545.13000	0.70233	182.39	429.00	0.00	1-HR	ALL	1ST	7102303
324044.21000	3985445.73000	0.26229	215.06	429.00	0.00	1-HR	ALL	1ST	7071223
323893.08000	3985445.43000	0.40082	203.91	429.00	0.00	1-HR	ALL	1ST	7100704
323741.95000	3985445.13000	0.69773	184.55	429.00	0.00	1-HR	ALL	1ST	7102303
324100.95000	3985369.29000	0.19820	223.98	429.00	0.00	1-HR	ALL	1ST	7020917
324214.03000	3985416.42000	0.12721	239.36	368.00	0.00	1-HR	ALL	1ST	9010316
324420.31000	3985690.16000	0.22095	219.45	368.00	0.00	1-HR	ALL	1ST	8072319
323968.84000	3985345.58000	0.33635	208.62	429.00	0.00	1-HR	ALL	1ST	7092520
323817.71000	3985345.28000	0.67533	190.89	429.00	0.00	1-HR	ALL	1ST	7100704
324103.50000	3985270.28000	0.15796	233.68	429.00	0.00	1-HR	ALL	1ST	7020917
324221.30000	3985319.37000	0.11011	249.82	368.00	0.00	1-HR	ALL	1ST	7020917
324339.09000	3985368.46000	0.15857	240.90	368.00	0.00	1-HR	ALL	1ST	7020917
324422.26000	3985452.02000	0.18467	227.10	368.00	0.00	1-HR	ALL	1ST	7020917
323969.04000	3985245.58000	0.34550	207.68	429.00	0.00	1-HR	ALL	1ST	7070520
323817.91000	3985245.28000	0.67656	196.29	429.00	0.00	1-HR	ALL	1ST	7100704
323641.35000	3985745.06000	0.60300	176.89	429.00	0.00	1-HR	ALL	1ST	7092520
323641.23000	3985915.26000	0.78823	178.64	463.00	0.00	1-HR	ALL	1ST	7111904
323641.11000	3986085.47000	0.69007	170.70	470.00	0.00	1-HR	ALL	1ST	7111904
323570.73000	3985674.25000	0.59349	175.84	429.00	0.00	1-HR	ALL	1ST	7092520
323541.29000	3985830.09000	0.76723	179.89	429.00	0.00	1-HR	ALL	1ST	7111904
323541.17000	3986000.29000	0.69186	170.25	470.00	0.00	1-HR	ALL	1ST	7111904
323541.05000	3986170.50000	0.74139	168.37	470.00	0.00	1-HR	ALL	1ST	7111904
323470.73000	3985674.18000	0.55038	174.53	429.00	0.00	1-HR	ALL	1ST	7111904
323600.32000	3985503.52000	0.66599	188.91	429.00	0.00	1-HR	ALL	1ST	8101419
323441.29000	3985830.02000	0.69471	170.02	470.00	0.00	1-HR	ALL	1ST	7111904
323441.17000	3986000.22000	0.66587	168.00	470.00	0.00	1-HR	ALL	1ST	7111904
323441.05000	3986170.43000	0.65809	168.00	470.00	0.00	1-HR	ALL	1ST	7111904
323370.73000	3985674.11000	0.58578	169.51	429.00	0.00	1-HR	ALL	1ST	7111904
323429.50000	3985532.64000	0.60932	183.42	429.00	0.00	1-HR	ALL	1ST	7092520
323529.70000	3985432.71000	0.60705	191.60	429.00	0.00	1-HR	ALL	1ST	7021304
323671.33000	3985374.32000	0.71762	191.26	429.00	0.00	1-HR	ALL	1ST	7102303
323341.29000	3985829.95000	0.67729	168.71	470.00	0.00	1-HR	ALL	1ST	7111904
323341.17000	3986000.15000	0.67450	167.89	470.00	0.00	1-HR	ALL	1ST	7111904
323341.05000	3986170.36000	0.55176	167.00	470.00	0.00	1-HR	ALL	1ST	7111223
323270.73000	3985674.04000	0.61368	167.85	429.00	0.00	1-HR	ALL	1ST	7111904
323329.50000	3985532.57000	0.53712	174.42	429.00	0.00	1-HR	ALL	1ST	7102219
323459.09000	3985361.91000	0.59193	186.90	429.00	0.00	1-HR	ALL	1ST	7121102
323600.71000	3985303.52000	0.70113	196.35	429.00	0.00	1-HR	ALL	1ST	8101419
323241.29000	3985829.88000	0.65674	167.00	470.00	0.00	1-HR	ALL	1ST	7111904
323241.17000	3986000.08000	0.66887	166.37	470.00	0.00	1-HR	ALL	1ST	7111904
323241.05000	3986170.29000	0.54683	166.00	470.00	0.00	1-HR	ALL	1ST	7080221
323470.70000	3986330.48000	0.56707	167.00	470.00	0.00	1-HR	ALL	1ST	7070321
323370.70000	3986330.57000	0.56128	167.00	470.00	0.00	1-HR	ALL	1ST	7070321
323270.70000	3986330.67000	0.55319	167.00	470.00	0.00	1-HR	ALL	1ST	7102805
323170.63000	3986250.75000	0.54635	166.45	470.00	0.00	1-HR	ALL	1ST	7070321
323170.78000	3986410.78000	0.53574	167.78	470.00	0.00	1-HR	ALL	1ST	7100306
323099.87000	3986100.00000	0.51516	165.00	470.00	0.00	1-HR	ALL	1ST	7112505
323158.50000	3985958.33000	0.65577	165.61	470.00	0.00	1-HR	ALL	1ST	7111904
323070.63000	3986250.85000	0.53898	167.00	470.00	0.00	1-HR	ALL	1ST	7070321
323070.78000	3986410.88000	0.53563	170.00	470.00	0.00	1-HR	ALL	1ST	7100306
323570.50000	3986510.40000	0.46956	168.00	470.00	0.00	1-HR	ALL	1ST	7111807
323741.02000	3986510.88000	0.49730	168.00	470.00	0.00	1-HR	ALL	1ST	7111404
323499.72000	3986581.04000	0.48137	169.01	470.00	0.00	1-HR	ALL	1ST	7091022
323400.00000	3986481.14000	0.51471	168.14	470.00	0.00	1-HR	ALL	1ST	7110202
323655.48000	3986610.64000	0.45966	168.46	470.00	0.00	1-HR	ALL	1ST	7080202
323499.44000	3986681.04000	0.47881	170.00	470.00	0.00	1-HR	ALL	1ST	7070521
323329.23000	3986551.79000	0.49871	170.00	470.00	0.00	1-HR	ALL	1ST	7073002
323655.20000	3986710.64000	0.47302	170.00	470.00	0.00	1-HR	ALL	1ST	7080202
323499.16000	3986781.04000	0.48265	173.42	470.00	0.00	1-HR	ALL	1ST	7070222
323358.17000	3986722.33000	0.48498	171.00	470.00	0.00	1-HR	ALL	1ST	7060823
323258.45000	3986622.43000	0.50694	173.81	470.00	0.00	1-HR	ALL	1ST	7092722
323654.91000	3986810.64000	0.48537	173.23	470.00	0.00	1-HR	ALL	1ST	7081319
323498.88000	3986881.04000	0.50501	177.45	470.00	0.00	1-HR	ALL	1ST	7101322

323357.89000	3986822.33000	0.48278	172.13	470.00	0.00	1-HR	ALL	1ST	7061722
323187.67000	3986693.08000	0.52006	178.00	470.00	0.00	1-HR	ALL	1ST	7091022
323129.23000	3986551.98000	0.54019	176.87	470.00	0.00	1-HR	ALL	1ST	7050803
323654.63000	3986910.64000	0.50028	177.31	470.00	0.00	1-HR	ALL	1ST	7072323
323641.30000	3986410.97000	0.50743	168.00	470.00	0.00	1-HR	ALL	1ST	7110204
323541.30000	3986411.07000	0.54591	167.00	470.00	0.00	1-HR	ALL	1ST	7110602
323241.37000	3986480.45000	0.51808	168.12	470.00	0.00	1-HR	ALL	1ST	7103121
323741.46000	3986649.07000	0.49441	168.74	470.00	0.00	1-HR	ALL	1ST	7090504
323900.02000	3986649.02000	0.51698	170.26	470.00	0.00	1-HR	ALL	1ST	7101103
323741.50000	3986749.07000	0.49520	171.03	470.00	0.00	1-HR	ALL	1ST	7091703
323900.05000	3986749.02000	0.50611	170.00	470.00	0.00	1-HR	ALL	1ST	7101103
323741.53000	3986849.07000	0.50041	174.41	470.00	0.00	1-HR	ALL	1ST	7083022
323900.08000	3986849.02000	0.50982	172.81	470.00	0.00	1-HR	ALL	1ST	7101103
323741.56000	3986949.07000	0.51415	178.48	470.00	0.00	1-HR	ALL	1ST	7070106
323900.12000	3986949.02000	0.52639	177.48	470.00	0.00	1-HR	ALL	1ST	7090602
323670.90000	3987019.83000	0.53194	181.10	470.00	0.00	1-HR	ALL	1ST	7070106
323820.87000	3987049.04000	0.55634	185.84	470.00	0.00	1-HR	ALL	1ST	7082122
323741.43000	3986549.07000	0.49837	168.00	470.00	0.00	1-HR	ALL	1ST	7082122
323979.26000	3986548.99000	0.53600	171.00	470.00	0.00	1-HR	ALL	1ST	7081705
324021.13000	3986522.16000	0.55243	172.35	470.00	0.00	1-HR	ALL	1ST	7081201
324059.06000	3986510.61000	0.56239	173.67	470.00	0.00	1-HR	ALL	1ST	7080803
324117.63000	3986498.27000	0.57174	173.97	470.00	0.00	1-HR	ALL	1ST	7112504
324177.05000	3986493.77000	0.57791	173.49	470.00	0.00	1-HR	ALL	1ST	7080901
324247.75000	3986493.49000	0.59592	174.84	470.00	0.00	1-HR	ALL	1ST	7070202
324330.36000	3986419.42000	0.62457	180.95	470.00	0.00	1-HR	ALL	1ST	7112324
324365.87000	3986087.64000	0.24553	229.21	270.00	0.00	1-HR	ALL	1ST	7061819
324218.14000	3985985.35000	0.18580	258.93	270.00	0.00	1-HR	ALL	1ST	9010809
324042.96000	3985985.85000	0.14994	236.48	270.00	0.00	1-HR	ALL	1ST	8090918
324043.61000	3985745.73000	0.14191	243.12	358.00	0.00	1-HR	ALL	1ST	7020917
323741.35000	3985745.13000	0.75604	190.45	429.00	0.00	1-HR	ALL	1ST	8101419
323741.05000	3986170.64000	0.75099	180.54	470.00	0.00	1-HR	ALL	1ST	7111904
323570.55000	3986170.35000	0.75667	169.00	470.00	0.00	1-HR	ALL	1ST	7111904
323570.78000	3986410.40000	0.54159	167.28	470.00	0.00	1-HR	ALL	1ST	7110202
323741.30000	3986410.88000	0.47877	169.01	470.00	0.00	1-HR	ALL	1ST	7080202

** CONCUNIT ug/m^3

** DEPUNIT g/m^2

APPENDIX D



LIVE OAK ASSOCIATES, INC.

an Ecological Consulting Firm

**BIOTIC EVALUATION
AMENDMENT TO EXISTING MINING PERMITS
PER APPLICATION PMR 14-002
DEER CREEK ROCK COMPANY
TULARE COUNTY, CALIFORNIA**

Prepared by

LIVE OAK ASSOCIATES, INC.

David J. Hartesveldt (Principal, Senior Biologist)

Prepared for:

Deer Creek Rock Co., Inc.
Attention: Leonard Bandell, Vice President
P.O. Box 994248
Redding, CA 96099-4248

August 6, 2014

File No. 1299-02

EXECUTIVE SUMMARY

Live Oak Associates, Inc. conducted a biological study of the Deer Creek Rock Mine in Tulare County in order to assess the possible impacts to biological resources from a proposed amendment to existing Tulare County permits. The Deer Creek Rock Company is seeking an amendment per Application PMR 14-002 to existing Tulare County permits PMR 01-001, PSP 01-055(ZA), and PMR 09-002 governing operation of the Deer Creek Rock Mine. This amendment seeks three results. First, it will allow for an increase in production from a 500,000 ton per year limit to 950,000 tons per year. Second, permit PSP 01-055 (ZA) amended permits PSP 77-70 and PMR 01-001 to allow operating hours to be from 7:00 a.m. Mondays to 6:00 PM Fridays with an allowance to work on weekends due to utility demands and state and local government paving requirements. This amendment will conform the operating hours of permit PMR 09-002 to the same operating hours. Third, it shall allow for an increase in truck trips from 100 to an average of 188 and a maximum of 250 per day. Approval of this amendment will have no effect on the current permitted footprint of the existing mine operation, which is 98 acres.

The Project Site consists of one parcel comprised of the original mine and asphalt plant acreage, the 28 acres obtained from the Shannon Trust Property as a result of lot line adjustment PLA 13-009 and approved for mining per Permit PMR 09-002, and 20 acres obtained from Garden Groves LLC as a result of lot line adjustment PLA 11-020. The portions of the Project Site will be referred to as “existing mine/mix plant site”, “Shannon Trust acreage” and “Garden Grove acreage”. The existing mine/mix plant site has been heavily disturbed from mining, and does not provide habitat for native plants or animals. The Shannon Trust acreage has been partially disturbed from mining. Garden Grove’s acreage was formerly an olive orchard, which was removed within the past year. Non-native grassland is present to the south and east of the active mine/mix plant site. This habitat supports populations of native plants and animals, although special status species have been determined to be absent. Ruderal (disturbed) habitat is present on the Garden Groves acreage. Riparian vegetation associated with Deer Creek is present along the northern boundary of the Project Site. Federally protected wetlands are absent. The Project Site does not function as a wildlife movement corridor, although the riparian corridor of Deer Creek, an area well outside of the active mine site, may facilitate regional wildlife movements.

Approval of proposed amendment to existing Tulare County permits will have no measureable effect on biological resources of the Project Site. This amendment does not increase the footprint of permitted site disturbance, but rather increase the tonnage of rock that can be mined in already permitted areas of the mine, conform all permits regarding the mine’s operating hours, and increase truck traffic in an area already experiencing heavy truck traffic. Given that years of significant disturbance from on-site mining have already eliminated native plant and animal species from most of the permitted mine site, on-going mining activities per the provisions of the proposed amendment will have no significant effect on such species.

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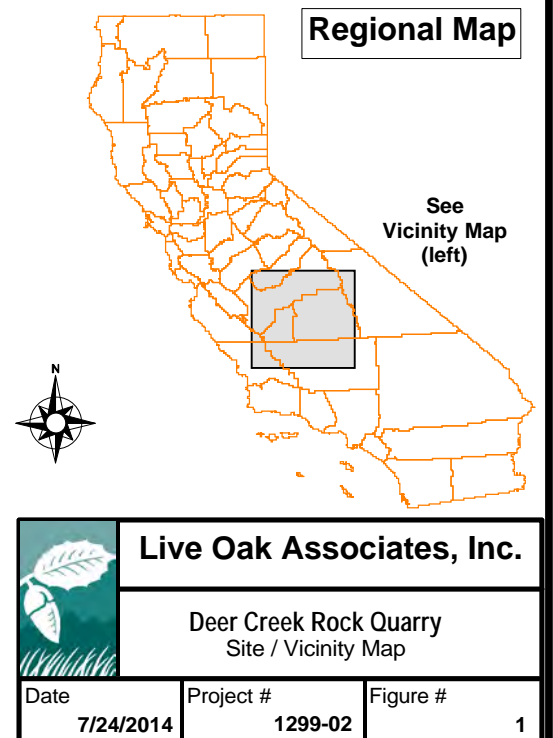
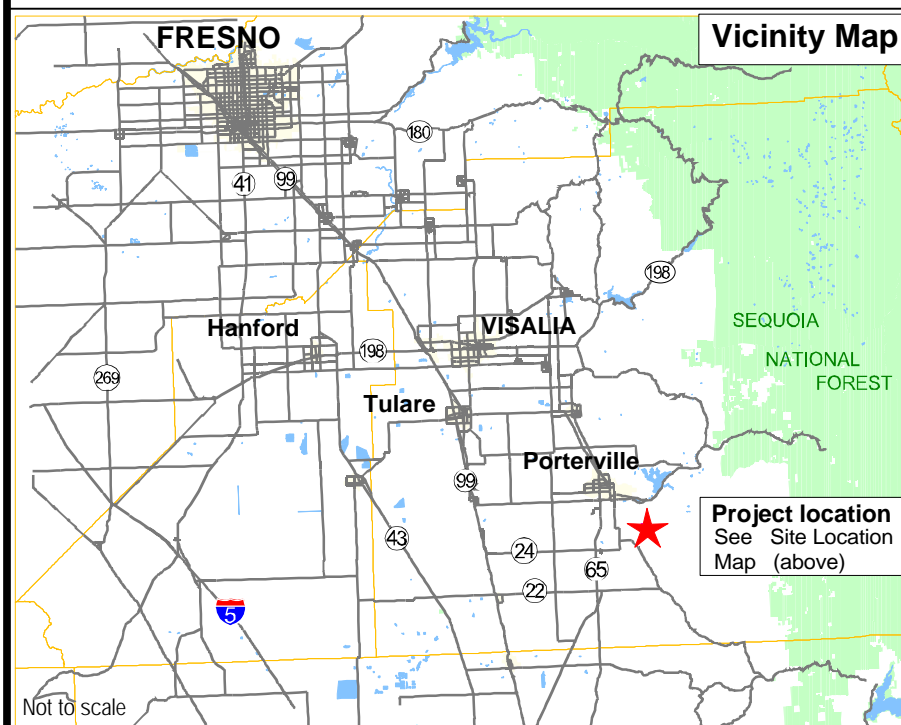
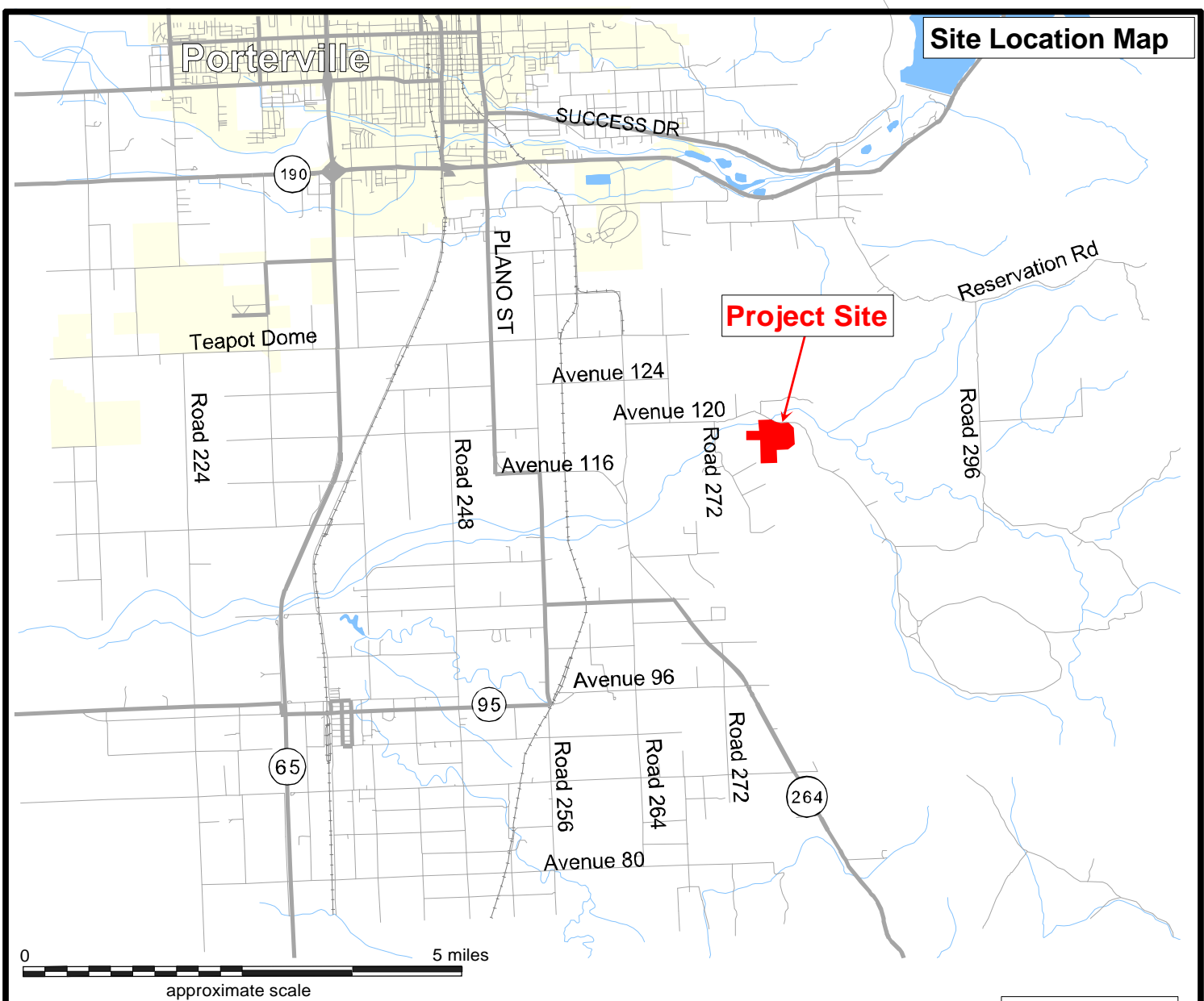
1.0 INTRODUCTION

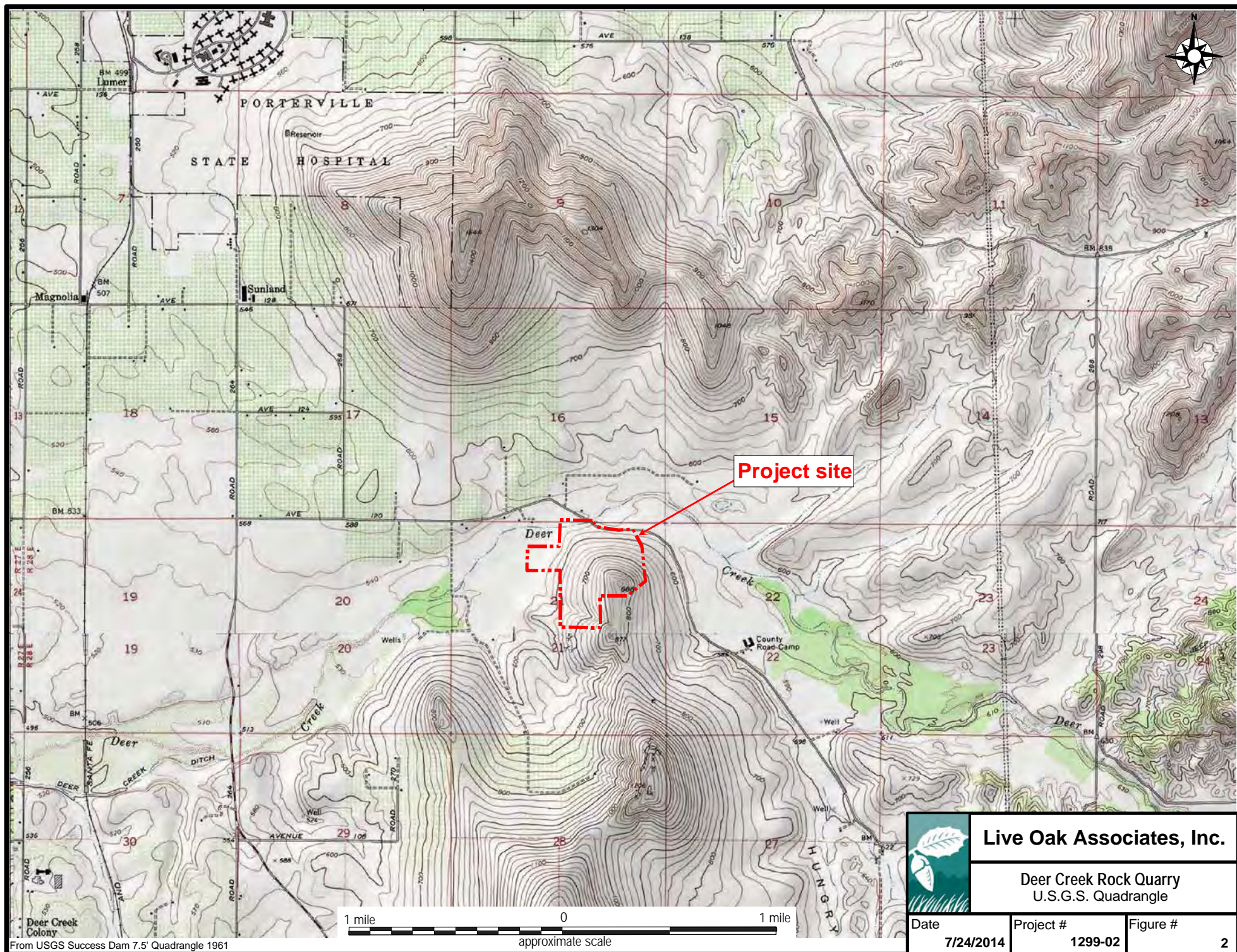
This report describes the biotic resources of the approximately 118-acre Deer Creek Mine owned by the Deer Creek Rock Company, Inc. of Redding, California, and assesses potential impact to those resources from a proposed amendment to existing mine permits per Application PMR 14-002 (Appendix A). Specifically, this report describes the biotic habitats of the Deer Creek Mine (hereafter referred to as the Project Site), evaluates the suitability of each habitat for special status plant and animal species, identifies potentially significant impacts to sensitive biotic resources from the proposed amendment to existing permits and, where appropriate, proposes measures that if implemented would mitigate those impacts to a less than significant level.

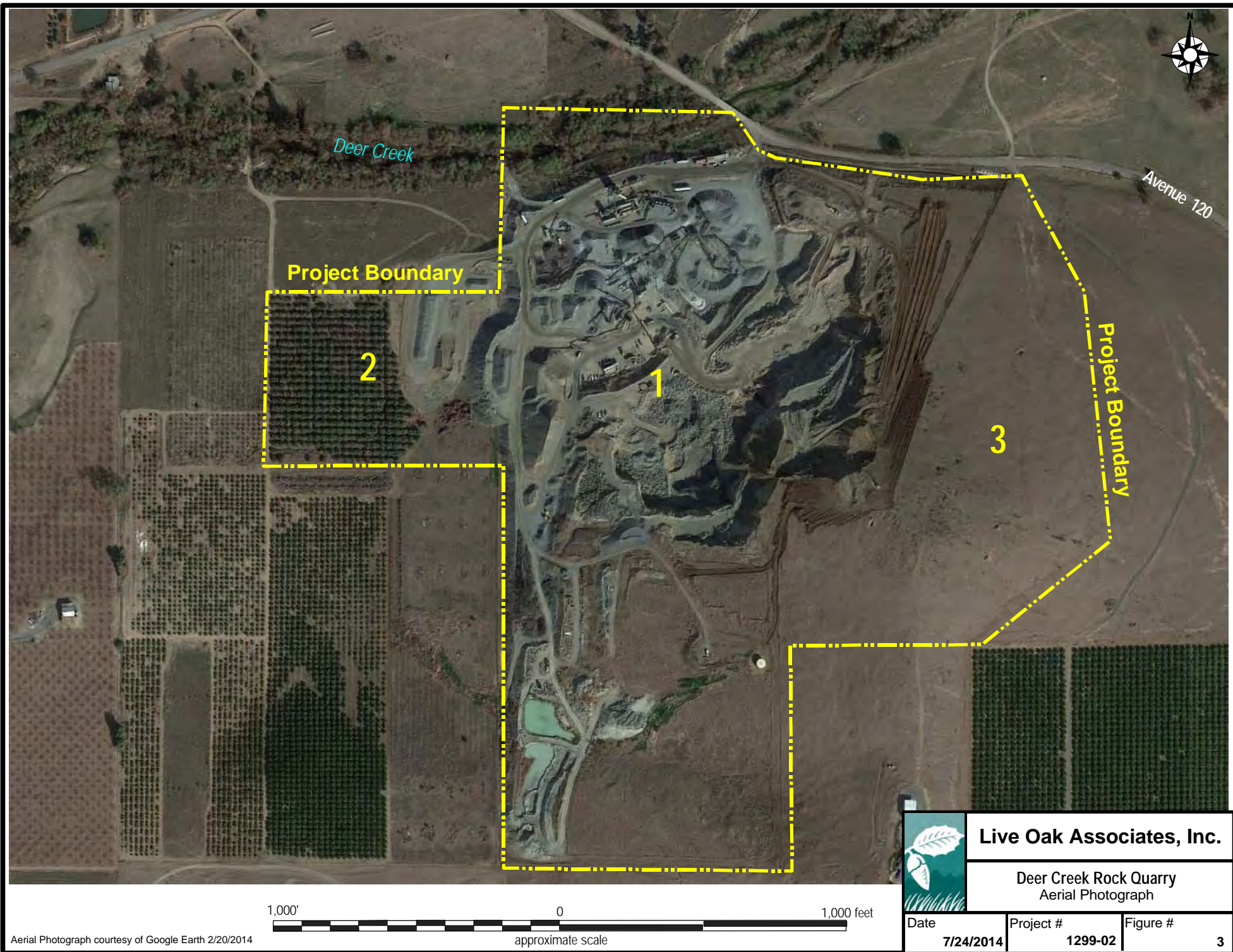
The Project Site, which is located in Tulare County approximately six miles southeast of the City of Porterville, can be found in the low foothills of the Sierra Nevada just south of Deer Creek (Figure 1). The site can be accessed via Avenue 120 (Deer Creek Road) immediately south of its crossing of Deer Creek. The site can be found on the U.S.G.S. 7.5-minute Fountain Springs Quadrangle, Section 21, Township 13 South, Range 25 East (Figure 2).

The Project Site is made up of: 1) the current mine and mix plant (70 acres); 2) the Garden Groves acreage (20 acres), and; 3) the Shannon Trust acreage (28 acres). Although these three areas are not legal or Assessor's parcels; for ease of reference, they have been labeled Parcels 1, 2, and 3 respectively (Figure 3).

The proposed action evaluated in this report is the approval of an amendment to existing Tulare County permits PMR 01-001, PSP 01-055(ZA), and PMR 09-002. This amendment seeks three results. First, it will allow for an increase in production from a 500,000 ton per year limit to 950,000 tons per year. Second, permit PSP 01-055 (ZA) amends permits PSP 77-70 and PMR 01-001 to allow operating hours to be from 7:00 a.m. Mondays to 6:00 PM Fridays with an allowance to work on weekends due to utility demands and state and local government paving requirements. This amendment will conform to the operating hours of permit PMR 09-002. Third, it shall allow for an increase in truck trips from 100 to an average of 188 and a maximum of 250 per day. Approval of this amendment will have no effect on the current permitted footprint of the existing mine operation, which is 98 acres.







Mining operations have the potential to damage or modify biological resources such as sensitive biotic habitats and the plant and wildlife species using them. In such cases, site development may be regulated by state or federal agencies, subject to provisions of the California Environmental Quality Act (CEQA) and/or the National Environmental Policy Act, and covered by policies of the County General Plan. This report addresses the issues often raised by the California Department of Fish and Wildlife (CDFW), the U.S. Army Corps of Engineers (USACE), and the United States Fish and Wildlife Service (USFWS) with respect to mining operations, as well as other issues related to sensitive biotic resources occurring or potentially occurring on the Project Site. Accordingly, this report describes the existing environmental conditions of the site, assesses likely project impacts to biological resources, and proposes mitigation measures for those impacts meeting the CEQA definition of “significant.”

Therefore, the objectives of this report are as follows:

- To summarize all site-specific information related to existing biological resources;
- To make reasonable inferences about the biological resources that could occur on site based on habitat suitability and the proximity of the site to a species’ known range;
- Summarize all state and federal natural resource protection laws that may be relevant to possible future site development;
- Identify and discuss project impacts to biological resources likely to occur on the site;
- Identify avoidance and other mitigation measures that would reduce any significant impact to biological resources of the study area to a less than significant level.

The impact analysis and mitigation proposals found in Section 3.0 of this report have been based on the known and potential biotic resources of the study area (discussed in Section 2.0). Sources of information used in the preparation of this analysis include: (1) the *California Natural Diversity Data Base* (CDFG 2014); (2) the *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2014); and (3) other available planning documents and biological studies from the general project vicinity, including *Biotic Evaluation, Deer Creek Quarry Expansion Site, Tulare County, California* (Live Oak Associates, Inc. 2009). David Hartesveldt, senior biologist and president of Live Oak Associates, Inc. (LOA) examined the Shannon

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acreage on April 2, 2009 and the larger Project Site for biological resources and jurisdictional waters (i.e., creeks and wetlands) on July 23, 2014.

2.0 EXISTING CONDITIONS

The 118-acre Project Site is located in the low foothills of the Central Sierra Nevada on the eastern edge of the Tulare Basin. The site includes the active quarry located on the north- and west-facing slopes of a small hill and an unmined area within a former orchard (Garden Groves acreage) on more level terrain just south of Deer Creek and west of the active mine/mix plant site. Elevations of the site range from a low of 565 feet National Geodetic Vertical Datum (NGVD) where Deer Creek Road crosses Deer Creek to a high of 885 feet NGVD at the top of the hill near the Project Site's southeast boundary. The slope of this hill is approximately 25%.

Three soil mapping units have been identified on the Project Site (NRCS 2014). The mapping unit found within the majority of the site is the Cibo Rock Outcrop Complex, 15-50 percent slopes. This moderately deep well-drained soil has formed from weathered basic igneous rock. Rock outcrops occurring throughout the site, but most extensively near the top of the site's highest point, consist of exposed hard gabbro. This soil mapping unit includes small areas of Centerville clay, Coarsegold loam, Las Posas loam, and Trabuco loam. During the two field visits to the Project Site, several small areas of Centerville clay were identifiable within the Cibo Rock Outcrop Complex, but all appeared to be less than 200 square feet in size, and some were less than 100 square feet in size. The eastern third of the Garden Groves acreage has been mapped as Porterville Clay. This mapping unit consists of deep well-drained soils that developed in fine textured alluvium derived from metabasic igneous rock. The western two-thirds of the Garden Groves acreage have been mapped as Yettem sandy loam, 0 to 2 percent slopes. Yettem soils are deep, well-drained soils that formed in alluvium from granitic sources. These soils are found on the alluvial fans and flood plains of creeks passing out of the southern Sierra foothills.

Like most of California, the Project Site is located in an area having a Mediterranean climate. Warm to hot dry summers are followed by cool moist winters. Annual precipitation within the study area is about 12 inches, almost all of which falls between the months of October and March. Virtually all precipitation falls in the form of rain. Stormwater runoff infiltrates this soil complex with some difficulty due to the amount of exposed rock and heavy clay present. Thus, heavy rains could result in considerable runoff, with relatively little water infiltrating the site's

soils. When field capacity has been reached, which most years would occur in January or February, surface water leaves the site via sheet flow. Stormwater runoff generated on the site would then enter Deer Creek to the north of the active mine site.

The site was historically used for livestock grazing.

2.1 LANDUSE TYPES/BIOTIC HABITATS

Landuse types/biotic habitats are limited to the highly disturbed mine/mix plant site, non-native grassland to the east and south of the mine site, and ruderal (highly disturbed area of the former orchard) immediately to the west of the mine site (as shown on an aerial photograph depicted in Figure 3). The northern boundary of the Project Site passes through the riparian habitat associated with Deer Creek. This riparian habitat has not been disturbed by mining activities, and a disturbance-free buffer of 50 or more feet has been maintained between this habitat and the active mine/mix plant site. A list of vascular plants identified on the site has been provided in Appendix B. A list of terrestrial vertebrates using, or potentially using the study area has been provided in Appendix C.

2.1.1 Mine/Mix Plant Site

This area of the Project Site has been substantially disturbed by mining activities, processing of crushed rock, the loading and transport of rock, and the temporary disposal of rock and sand that are byproducts of the processing process. This area also includes the on-site office of the Deer Creek Rock Co., Inc. at the north end of the mine site and settling ponds at the south end of the mine site.

The mining activities have removed most of the surface soils and associated vegetation from the mine site. Habitats native to the region are entirely absent, and any vegetation that has become established within the highly disturbed substrate of the mine site (there is no soil) are weedy annuals tolerant of extremely disturbed conditions. A few willows (*Salix* sp.) have become established along the perimeter of the two settling ponds, but any emergent vegetation that may take root in these ponds (such as *Typha*, sp., *Eleocharis* sp., or *Schoenoplectus*) is subject to continued disturbance or removal as the result of the active use of the ponds in the mining operation.

With the possible exception of the willows associated with the settling ponds, the mine site provides little or no habitat suitable for native terrestrial vertebrates, although several species of birds would fly over the site. The site does not, however, provide foraging habitat for any of the bird species native to the region.

2.1.2 Non-native Grassland

Non-native grassland occurred to the east of the active mine site on the Shannon Trust acreage (Parcel 3 on Figure 3) and to the south of the active mine site. The grasses and forbs present in the non-native grassland consisted primarily of weedy annuals of European origin. Annual grasses included ripgut brome (*Bromus diandrus*), soft-chess brome (*Bromus hordeaceus*), 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 many weedy annual forbs including broad-leaf filaree (*Erodium botrys*), rancher's fireweed (*Amsinckia intermedia*), bur clover (*Medicago polymorpha*), and smooth cat's ear (*Hypochaeris glabra*).

The site also supported a large number of native spring-flowering forbs that were blooming at the time of the site visit in 2009. Some of the common species observed included blow-wives (*Achyrachaena mollis*), bird's-eye gilia (*Gilia bicolor*), rusty popcornflower (*Plagiobothrys nothofulvus*), common lomatium (*Lomatium utriculatum*), and pretty-face (*Tritelia ixioides ssp. analina*). The small patchy areas of Centerville clay supported California plantain (*Plantago erecta*), hogwallow starfish (*Hesperervax caulescens*), and adobe navarretia (*Navarretia nigelliformes*). Rocky outcrops supported paper-flowered onion (*Allium hyalinum*), caterpillar phacelia (*Phacelia cicutaria*), common sandweed (*Athysanus pusillus*) and Congdon's stonecrop (*Parvisedum congdonii*).

As the spring-flowering annuals set seed and die, summer annuals bloom and set seed. Two such species include dove weed (*Croton setigerus*), Heerman's tarweed (*Holocarpha heermanii*), narrow-leaf milkweed (*Asclepias fascicularis*) and woolly milkweed (*Asclepias vestita*), all species that were observed during the site visit on July 23, 2014.

Annual grasslands of the site, like grasslands throughout the region, are productive biotic habitats supporting a large diversity of native terrestrial vertebrates. The burrows of rodents that breed and forage in grasslands also provide cover for various amphibian and reptile species, as well as food for several species of snakes. Grasslands of the region provide foraging habitat for a variety of resident and wintering raptors, as well as large numbers of granivorous (seed-eating) birds. Furthermore, the native and non-native grasses and forbs provide cover for fluctuating populations of small mammals that in turn attract a diversity of predatory species.

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 western fence lizards (*Sceloporus occidentalis*), western whiptails (*Cnemidophorus tigris*), gopher snakes (*Pituophis melanoleucus*), common kingsnakes (*Lampropeltis getulus*), and western rattlesnakes (*Crotalus viridis*).

Several species of birds would use the site for foraging and possibly nesting. Resident birds using the site include mourning doves (*Zenaida macroura*), western meadowlarks (*Sternella neglecta*), brewer's blackbirds (*Euphagus cyanocephalus*), rock wrens (*Salpinctes obsoletus*), 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 for foraging would include western kingbirds (*Tryannus verticalis*) and tree swallows (*Tachycineta bicolor*). Various raptors (birds of prey) would use the site for foraging. These would include red-tailed hawks (*Buteo jamaicensis*), red-shouldered hawks (*Buteo linneatus*), and American kestrels (*Falco sparverius*), all of which could occur on the site throughout the year, and ferruginous hawks (*Buteo regalis*) during the winter.

A number of small mammal species present on the site would provide a primary source of prey for various predators. California ground squirrels (*Spermophilus beecheyi*), deer mice (*Peromyscus maniculatus*), California voles (*Microtus californicus*), and Botta's pocket gophers (*Thomomys bottae*) would all attract various snakes, raptors, and mammalian predators that can also be found

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in the adjacent riparian vegetation associated with Deer Creek. Predators such as gray fox (*Urocyon cinereoargenteus*), coyote (*Canis latrans*), and bobcats (*Puma concolor*) would all forage on the site from time to time.

2.1.3 Ruderal

The Garden Groves acreage west of the mine/mix plant site was an olive orchard that was removed within the past year, leaving in its place highly disturbed soils supporting weedy annual plants. Widely scattered individuals of puncture vine (*Tribulus terrestris*), prostrate pigweed (*Amaranthus blitoides*), tumbleweed (*Amaranthus albus*), Russian thistle (*Salsola tragus*), and nettle-leaf goosefoot (*Chenopodium murale*) were observed throughout these highly disturbed soils. Native plant species were not observed.

This highly disturbed landscape provides habitat of marginal quality for most native terrestrial vertebrates. Vegetative cover has not yet become well-established. Therefore habitat providing cover for reptiles, birds, and small mammals is generally absent. This part of the Project Site would be seldom used by terrestrial vertebrates at this time, but the habitat values may improve if vegetation cover becomes established.

2.1.4 Riparian Habitat

Riparian habitat was associated with the channel and upper channel banks of Deer Creek. Deer Creek was dry at the time of the 2014 field survey, but healthy stands of red willow (*Salix laevigata*) and Goodding's black willow (*Salix gooddingii*) mixed with occasional Fremont's cottonwoods (*Populus fremontii*) were nonetheless present along the northern boundary of the Project Site. Shrubs associated with this riparian habitat included mule fat (*Baccharis salicifolia*), Mexican elder (*Sambucus nigra* ssp. *caerulea*), and tree tobacco (*Nicotiana glauca*), the latter a non-native species. Understory species' included mugwort (*Artemisia douglasiana*), a native species, and a number of non-native weedy species such as rip-gut, soft chess, and poison hemlock (*Conium maculatum*).

Riparian vegetation located on the Project Site's northern boundary provides habitat for a number of terrestrial vertebrates, and of all the landuse/habitat types present on the site is used by the largest number of species. The value of riparian vegetation to native terrestrial vertebrate

species is due, largely, to the presence of multiple canopy layers. Herbaceous, shrub, and tree layers provide ample opportunity for cover, roosting, nesting, and foraging. The presence of water in Deer Creek during the winter, spring, and early summer is important as a source of drinking water and habitat for invertebrate and amphibian species upon which terrestrial vertebrates forage. Deer Creek provides aquatic habitat suitable for amphibians such as Pacific treefrogs and western toads. These amphibians are likely to attract predators such as common garter snakes (*Thamnophis sirtalis*). Avian species include resident species such as California scrub jay (*Aphelocoma californica*) and black phoebes (*Sayornis nigricans*), winter migrants such as white-crowned sparrows (*Zonotrichia sandwichensis*) and dark-eyed juncos (*Junco hyemalis*), and summer migrants such as Ash-Throated Flycatcher (*Myiarchus cinerascens*) and lazuli buntings (*Passerina amoena*).

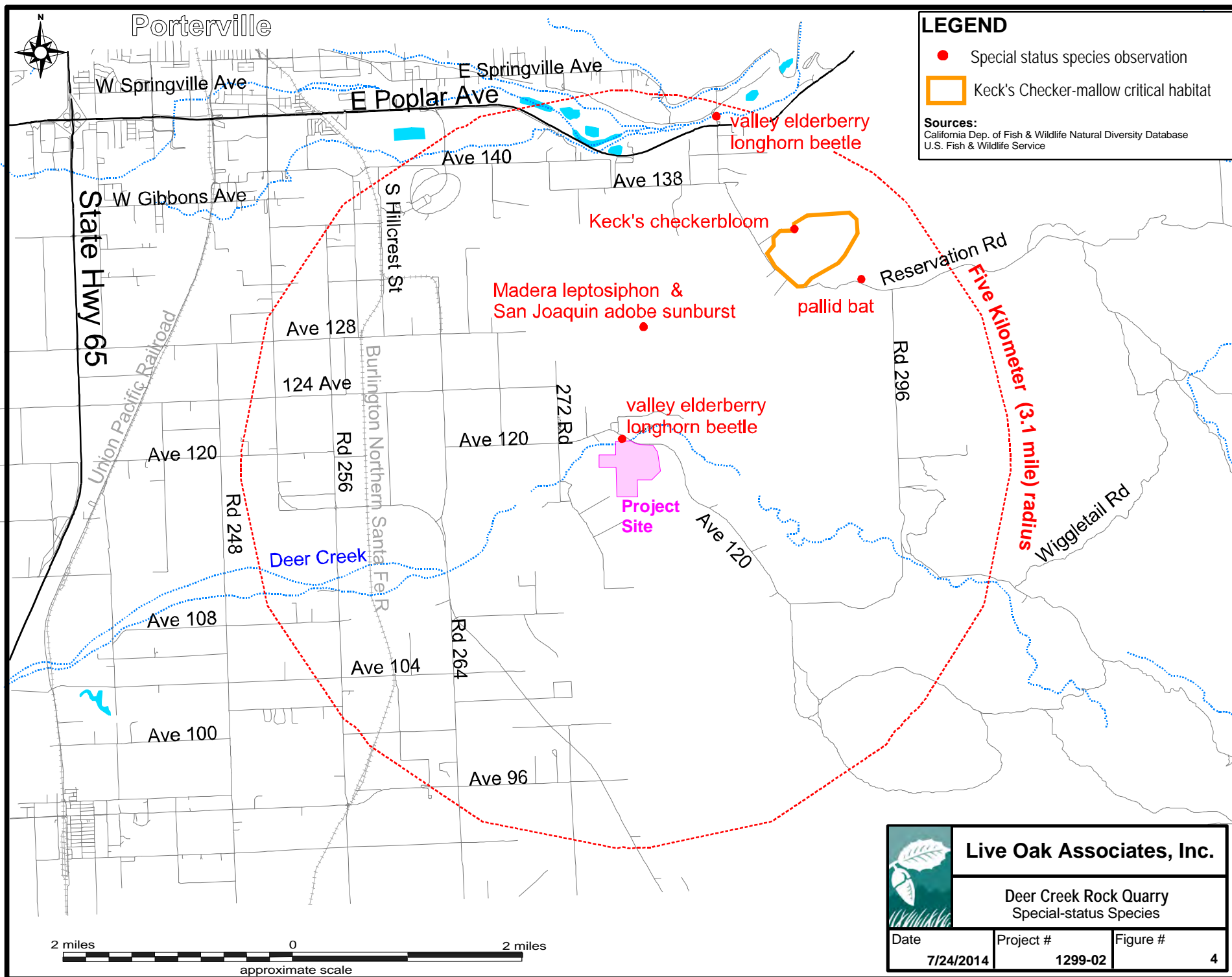
2.2 SPECIAL STATUS PLANTS AND ANIMALS

Several species of plants and animals within the state of California have low populations, limited distributions, or both. 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 2014). Collectively, these plants and animals are referred to as “special status species”.

A number of special status plants and animals occur in the vicinity of the study area. These species, and their potential to occur in the study area, are listed in Table 1. The locations of nearby sightings of special status species have been shown in Figures 4 and 5. Sources of information for this table included *California’s Wildlife, Volumes I, II, and III* (Zeiner et. al 1988 and 1990), *California Natural Diversity Data Base* (CDFW 2014), *Sacramento USFWS Office*

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On-line List of Endangered Species (USFWS 2014), California eBird (a real-time on-line bird checklist program), *The Online CNPS Inventory of Rare and Endangered Plants* (CNPS 2014), and various technical reports prepared by LOA for other projects in the vicinity of the Deer Creek Rock Mine.



LEGEND

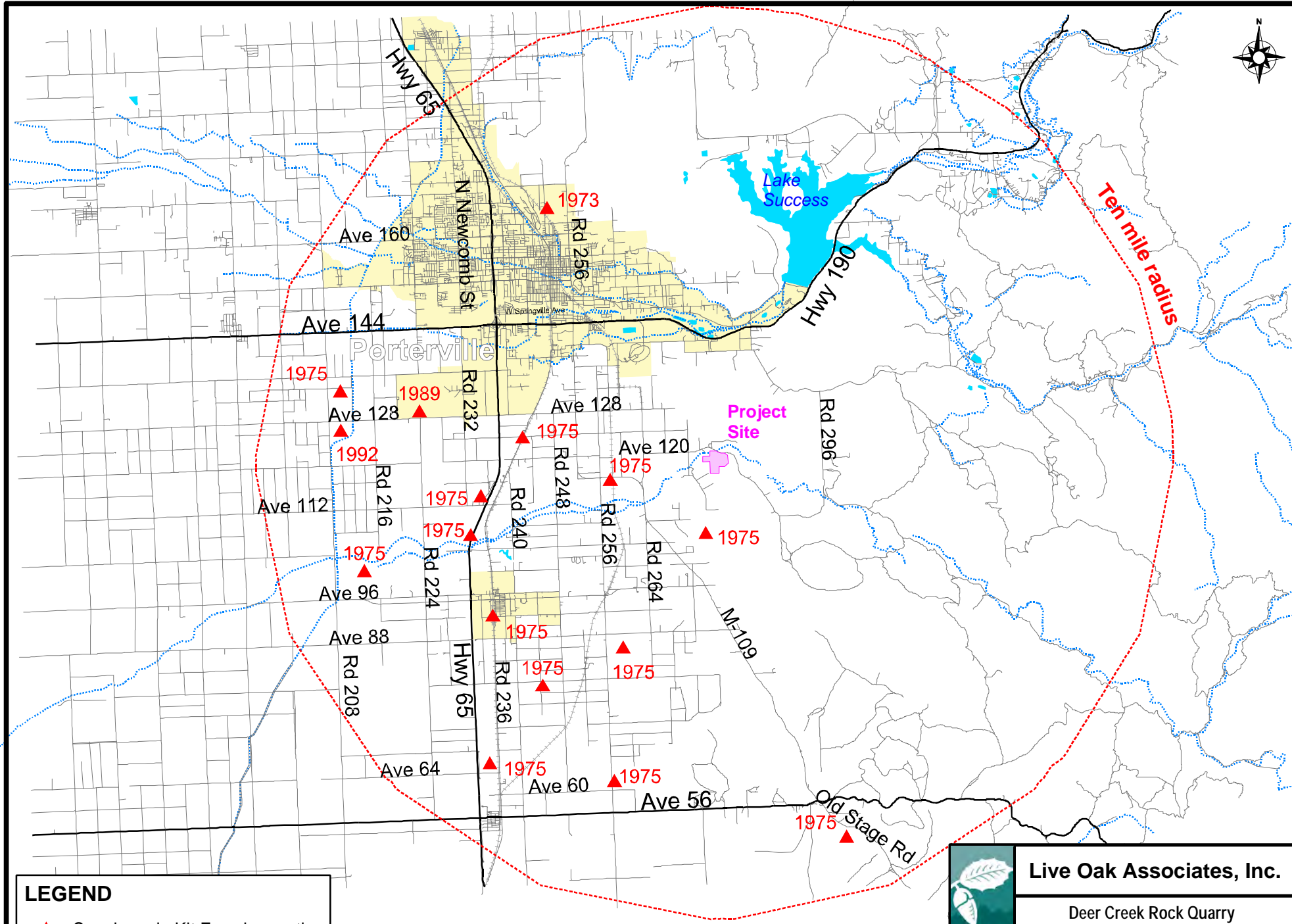
- Special status species observation
- ▭ Keck's Checker-mallow critical habitat

Sources:
California Dep. of Fish & Wildlife Natural Diversity Database
U.S. Fish & Wildlife Service

Live Oak Associates, Inc.

Deer Creek Rock Quarry
Special-status Species

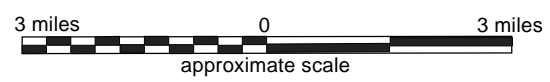
Date	Project #	Figure #
7/24/2014	1299-02	4



LEGEND

▲ San Joaquin Kit Fox observation

Sources:
 California Dep. of Fish & Wildlife Natural Diversity Database
 Recovery Plan for Upland Species of the San Joaquin Valley




 Live Oak Associates, Inc.		
Date 7/24/2014	Project # 1299-02	Figure # 5

TABLE 1. SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE VICINITY OF THE DEER CREEK ROCK MINE, TULARE COUNTY, CALIFORNIA.

PLANTS (adapted from CDFW 2014 and CNPS 2014)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	*Occurrence in the Study Area
Succulent Owl's Clover (<i>Castilleja campestris</i> ssp. <i>succulenta</i>)	FT, CE CNPS 1B	Vernal pools California's Central Valley.	Absent. Vernal pool habitats required by this species are absent from the Project Site.
Springville Clarkia (<i>Clarkia springvillensis</i>)	FE, CE CNPS 1B	Cismontane woodland, valley and foothill grassland, found in decomposed granite loam; nearest known location to Project Site is Lewis Hill approx. 8 miles to north-northwest (CDFW 2014).	Unlikely. The soils of the site do not consist of decomposed granite loam. This species would not have been blooming at the time of the site visit, but no seedlings of any species of the genus <i>Clarkia</i> were observed on the site.
Striped Adobe-lily (<i>Fritillaria striata</i>)	CE CNPS 1B	Cismontane woodland, valley and foothill grassland, in heavy clay soils of Centerville and Porterville Series; nearest known location to Project Site is Mine Hill approx. 5 miles to the northeast (CDFW 2014).	Absent. Patchy Centerville clay soils appear to be present on the site, but striped adobe-lily was not observed during the 2009 field survey at a time when it should have been visible and identifiable.
San Joaquin Valley Orcutt Grass (<i>Orcuttia inaequalis</i>)	FT, CE CNPS 1B	Vernal pools in California's Central Valley. Requires deep pools with prolonged periods of inundation.	Absent. Vernal pool habitats required by this species are absent from the Project Site.
San Joaquin Adobe Sunburst (<i>Pseudobahia peirsonii</i>)	FT, CE	Occurs in Centerville and Porterville heavy clay soils in valley and foothill grassland habitat; nearest location to Project Site is by Lake Success approx. 5 miles to northeast, and in Fountain Springs area 7-8 miles to south-east (CDFW 2014).	Absent. Patchy Centerville clay soils appear to be present on the site, but San Joaquin adobe sunburst was not observed during the 2009 field survey at a time when it should have been visible and identifiable.
Keck's Checkerbloom (<i>Sidalcea keckii</i>)	FE CNPS 1B	Mixed oak woodland and non-native grassland of southern Sierra foothills; this species has been documented in Centerville clay soils approx. two miles north of the site (CDFW 2014).	Absent. Patchy Centerville clay soils appear to be present on the site, but Keck's checkerbloom was not observed during the 2009 field survey at a time when it should have been visible and identifiable.
Greene's Tuctoria (<i>Tuctoria greenei</i>)	FE, CR CNPS 1B	Vernal pools in California's Central Valley. Requires deep pools with prolonged periods of inundation.	Absent. Vernal pool habitats required by this species are absent from the Project Site.

CNPS-listed Species

Munz's Iris (<i>Iris munzii</i>)	CNPS 1B	Cismontane woodland in granitic moist sandy loam soils, often along streams; nearest known location to Project Site is on South Fork of the Tule River on the Tule River Indian Reservation (CDFW 2014).	Absent. Suitable habitat for this species is not present on the Project Site.
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TABLE 1. SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE VICINITY OF THE DEER CREEK ROCK MINE, TULARE COUNTY, CALIFORNIA.

PLANTS ((adapted from CDFW 2014 and CNPS 2014))

CNPS-listed Species

Species	Status	Habitat	*Occurrence in the Study Area
Madera Leptosiphon (<i>Leptosiphon serrulatus</i>)	CNPS 1B	Cismontane woodland and annual grasslands on dry slopes, often on decomposed granite. This species has been documented from a location approx. one mile north of the Project Site at nearly 1,000 feet in elevation (CDFW 2014).	Unlikely. This species was not observed on the site during a field survey conducted at a time when it should have been visible and identifiable (i.e., spring of 2009). No species of <i>Linanthus/Leptosiphon</i> were observed on the site.
Calico Monkeyflower (<i>Mimulus pictus</i>)	CNPS 1B	Broadleaf upland forest, cismontane woodlands, in bare ground around gooseberry bushes on or around granite rock outcrops; nearest sighting to Project Site is in lowest foothills approx. two miles east of Porterville (CDFW 2014).	Absent. Habitats of the Project Site are not suitable for this species.
Spiny-sepaled Button Celery (<i>Eryngium spinosepalum</i>)	CNPS 1B	Vernal pools of Madera, Fresno, and Tulare Counties.	Absent. Vernal pool and vernal swale habitats required by this species are absent from the Project Site.

ANIMALS (adapted from CDFW 2014)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Vernal Pool Fairy Shrimp (<i>Branchinecta lynchi</i>)	FT	Primarily found in vernal pools; may use other seasonal wetlands.	Absent. Vernal pool habitat required by this species is absent from the Project Site.
Vernal Pool Tadpole Shrimp (<i>Lepidurus packardii</i>)	FE	Primarily found in deep vernal pools; may use other seasonal wetlands.	Absent. Vernal pool habitat required by this species is absent from the Project Site.
Valley Elderberry Longhorn Beetle (<i>Desmocerus californicus dimorphus</i>)	FT	Lives in mature elderberry shrubs of California's Central Valley and Sierra Foothills. The valley elderberry longhorn beetle (VELB) has been documented in elderberry bushes along Deer Creek (adjacent to the Project Site) and the Tule River 3-4 miles to the north of the Project Site (CDFW 2014).	Possible. The primary host plant required by this species, the Mexican elder, is present within the riparian corridor associated with Deer Creek. The host plant is not present within any areas of the Project Site permitted for mining.
California Red-legged Frog (<i>Rana aurora draytonii</i>)	FT, CSC	Rivers, creeks and stock ponds of the Sierra foothills, prefers pools with overhanging vegetation.	Absent. This species appears to have been extirpated from the southern Sierra foothills, and therefore is presumed absent. Furthermore, suitable perennial aquatic habitat required by this species is absent from the Project Site.
California Condor (<i>Gymnogyps californianus</i>)	FE, CE	Nests on rocky cliffs and forages over vast areas of grassland. Blue Ridge in the Sierra, which is about 20 miles to the northeast of the Project Site, has historically served as a roost site (CDFW 2014).	Absent. The small amount of rangeland found on the Project Site would not be used by foraging condors due to the general absence of carrion and the proximity of the Project Site to an active mine site.

TABLE 1. SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE VICINITY OF THE DEER CREEK ROCK MINE, TULARE COUNTY, CALIFORNIA.

ANIMALS (adapted from CDFW 2014)

California Species of Special Concern (cont.)

Species	Status	Habitat	*Occurrence in the Study Area
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	CE	Ranges widely over state, most often associated with seacoast, lakes and reservoirs.	Unlikely. Bald eagles winter and forage at nearby Lake Success Reservoir, but this species would not likely forage on the Project Site due to its proximity to an active mining operation.
American Peregrine Falcon (<i>Falco peregrinus anatum</i>)	CE	Individuals breed on cliffs in the Sierra or in coastal habitats; occurs in many habitats of the state during migration and winter.	Possible. Individuals may pass over the site from time to time during migration.
San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)	FT, CE	Annual grasslands and alkali sink scrub of California's southern Central Valley and Inner Coast Range. One individual (roadkill) was observed due west of Tennessee Knob approx. 2 miles south of the Project Site (CDFW 2014).	Unlikely. Abandoned ground squirrel burrows were observed on the site, but no possible kit fox dens were present. While the site provides possible foraging habitat, the kit fox has not been documented in the immediate project vicinity for nearly 35 years (Fig. 5).

California Species of Special Concern

Foothill Yellow-legged Frog (<i>Rana boylei</i>)	CSC	Once widespread in fast-moving rivers and creeks of the Sierra foothills with cobble bottoms; historically occurred in nearby Mill Creek, but now nearly extirpated from the Sierra foothills.	Absent. Habitat in which this species occurs is absent from the study area.
Western Pond Turtle (<i>Actinemys marmorata</i>)	CSC	Open slow moving water of rivers and creeks of central Calif. with rocks and logs for basking. This species occurs along many foothill creeks, and is possibly present in nearby Deer Creek, although no record of this can be found in the CNDDB (2014).	Possible. Although western pond turtles may occur in Deer Creek, the site outside the riparian zone would not likely be used as nesting habitat. This species requires loose friable soils for the excavation of a nest. Soils and rock outcrops of undisturbed portions of the Project Site are not loose and friable and largely inaccessible due to mining operations. Mining operations render the remainder of the site unsuitable for this species.
California Horned Lizard (<i>Phrynosoma coronatum</i>)	CSC	Grasslands, scrublands, oak woodlands, etc. of central California. Common in sandy washes with scattered shrubs.	Absent. The Project Site provides unsuitable habitat for this species. Undisturbed sandy friable soils are absent from the Project Site.
Northern Harrier (<i>Circus cyaneus</i>)	CSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	Possible. Non-native grasslands of site provide limited post-breeding foraging habitat for this species and extremely marginal breeding habitat.
Golden Eagle (<i>Aquila chrysaetos</i>)	CSC	Open grasslands, oak savannahs agricultural fields, etc. of San Joaquin Valley and nearby foothills of Inner Coast Range.	Possible. The site provides suitable foraging habitat for this species. Nesting habitat is absent.

TABLE 1. SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE VICINITY OF THE DEER CREEK ROCK MINE, TULARE COUNTY, CALIFORNIA.

ANIMALS (adapted from CDFW 2014)

California Species of Special Concern (cont.)

Species	Status	Habitat	*Occurrence in the Study Area
Burrowing Owl (<i>Athene cunicularia</i>)	CSC	Found in open, dry grasslands, deserts and ruderal areas. Requires suitable burrows.	Unlikely. Ground squirrel burrows were limited to non-native grasslands east and south of the mine site. These burrows had not been recently occupied by ground squirrels, and evidence that any burrows had been used by burrowing owls was found absent during LOA site surveys.
Long-eared Owl (<i>Asio otus</i>)	CSC	Occurs in riparian woodlands and forests of the state. Nests in abandoned crow, raven, magpie, or hawk nests. Forages over marshes and grasslands.	Possible. Riparian vegetation associated with Deer Creek provides suitable roosting, foraging, and nesting habitat for this species. Grasslands of the site provide limited foraging habitat for this species.
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	CSC	This species is found in open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches	Possible. The study area provides suitable foraging and nesting habitat for this species.
Vaux's Swift (<i>Chaetura vauxi</i>)	CSC	Migrants move through the foothills of the western Sierra in spring and late summer. Some individuals breed in region.	Possible. The site provides suitable foraging habitat for migrants. Breeding habitat is absent.
Black Swift (<i>Cypseloides niger</i>)	CSC	Migrants and transients found throughout many habitats of state; in Sierra nests are usually associated with waterfalls from 4,000-7,000 ft.	Possible. The site provides suitable foraging habitat for migrants. Breeding habitat is absent.
Yellow Warbler (<i>Dendroica petechia brewsteri</i>)	CSC	This species breeds in riparian thickets of alder, willow and cottonwoods. Migrants move through many habitats of the state.	Possible. This species may seek cover in the riparian vegetation of Deer Creek during migration, but would not likely nest there.
Spotted Bat (<i>Euderma maculatum</i>)	CSC	Found in a variety of habitats from arid desert and grassland to mixed conifer forest. Feeds over water. Roosts and reproduces in rock crevices and cliffs.	Possible. This species may forage over the site. Roosting habitat is absent.
Townsend's Western Big-eared Bat (<i>Corynorhinus townsendii townsendii</i>)	CSC	Primarily a cave-dwelling bat, which may also roost in buildings. Occurs in a variety of habitats.	Possible. This species may forage over the site. Roosting habitat is absent.
Western Mastiff Bat (<i>Eumops perotis</i>)	CSC	Frequents grasslands to woodland habitats along the central and southern coast and the Central Valley; requires high buildings, cliff faces, caves or tunnels for roosting and nesting.	Possible. This species may forage over the site. Roosting habitat is absent.

TABLE 1. SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE VICINITY OF THE DEER CREEK ROCK MINE, TULARE COUNTY, CALIFORNIA.

ANIMALS (adapted from CDFW 2014)

California Species of Special Concern (cont.)

Species	Status	Habitat	*Occurrence in the Study Area
Pallid Bat (<i>Antrozous pallidus</i>)	CSC	Grasslands, chaparral, woodlands, and forests of California; most common in dry rocky open areas providing roosting opportunities. May also use hollow trees for roosting.	Possible. This species may forage over the site. Roosting habitat is absent.
American Badger (<i>Taxidea taxus</i>)	CSC	In the Sierra this species inhabits open and dry sections of shrub, forest and herbaceous habitats with friable soil.	Possible. The Project Site provides potential foraging and breeding habitat. Burrows used by this species were not observed on site.

*Present: Species observed on the study area at time of field surveys or during recent past.

Likely: Species not observed on the study area, but it may reasonably be expected to occur there on a regular basis.

Possible: Species not observed on the study area, but it could occur there from time to time.

Unlikely: Species not observed on the study area, and would not be expected to occur there except, perhaps, as a transient.

Absent: Species not observed on the study area, and precluded from occurring there because habitat requirements not met.

STATUS CODES

FE Federally Endangered
FT Federally Threatened
FPE Federally Endangered (Proposed)
FC Federal Candidate

CE California Endangered
CT California Threatened
CR California Rare
CSC California Species of Special Concern
CNPS California Native Plant Society Listing

An expanded discussion of some special status species listed in Table 1 is warranted either because the information related to their occurrence in the region is ambiguous, or because the USFWS or CDFW is likely to consider them present. The presence of these species on the site, or their presumed presence, may be significant to future site development.

2.2.1 Special Status Plant Species

The Keck's checkerbloom, a federally endangered species, was thought to be extinct until recent years. It was re-discovered on Tivy Mountain just southwest of the intersection of North Elwood and Pine Flat Dam Roads within the last 10 years. At this location, this species occurs in soils of the Tivy series, soils that have formed from the weathering of gabbrodiorite rocks or metamorphic basic volcanic rocks. The soils of the Project Site do not meet the edaphic requirements of this species. Soils of the Tivy series are not present on the Project Site. Given

the scarcity of this species throughout its range, the fact that soils in which it has been observed are absent from the site, and the fact that it was not observed in the spring of 2009, it is considered not present on any portion of the Project Site.

The Madera leptosiphon, a species listed as endangered in California and elsewhere by the California Native Plant Society, is a species occurring in non-native grasslands and mixed oak woodlands of the Sierra foothills. Only 19 populations of this species have been documented within its range, which extends from Madera County on the north to Kern County on the south. Most documented occurrences of this species are at elevations greater than 1,000 feet NGVD. One recorded occurrence is at the confluence of the North and South Forks of the Kings River (CDFW 2014). The elevation of this population is approximately 1,000 feet.

The Project Site provides suitable habitat for this species. Given the scarcity of this species throughout its range and the fact that it was not observed in the spring of 2009 at a time during which it is known to bloom, it is considered not present on any portion of the Project Site.

2.2.2 Valley Elderberry Longhorn Beetle

The Valley elderberry longhorn beetle (VELB), a federally threatened insect species, only occurs in the blue elderberry, a shrub of riparian and foothill woodland habitats. The VELB has been documented in a variety of habitats of the Sierra foothills, including the shores of Lake Success, an impoundment of the nearby Tule River.

Elderberry shrubs were observed as a component of the riparian vegetation associated with Deer Creek. Therefore, the VELB may occur within this riparian vegetation. Elderberry shrubs were absent from the mine/mix plant site, the Shannon Trust acreage, and the Garden Groves acreage. Therefore, the VELB would not be present within the area being evaluated by the study summarized in this report.

2.3 JURISDICTIONAL WATERS

Jurisdictional waters include rivers, creeks, and drainages with a defined bed and bank that may carry at most ephemeral flows, 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 3.2.4 of this report for additional information).

Waters of the United States have been defined in the Code of Federal Regulations (33 CFR, Section 128), but these definitions have been modified by the U.S Supreme Court decision *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (SWANCC Decision) in 2001 and the combined *Rapanos/Carabell Decision* in 2007. Prior to this decision, the USACE claimed as jurisdictional isolated wetlands and other waters on the basis that such wetlands provided habitat for migratory birds. The Supreme Court ruled in the SWANNC decision that migratory bird use of isolated drainages and wetlands could no longer be used to establish federal jurisdiction over such areas. The Supreme Court ruled in 2007 in the *Rapanos/Carabell* decision that wetlands may be waters of the United States if a significant nexus between those wetlands and any downstream waters of the United States can be demonstrated to exist. The discharge of fill into waters of the United States requires a permit from the USACE per the provisions of Section 404 of the Clean Water Act.

The RWQCB has claimed jurisdiction over all surface waters in the state of California. The RWQCB has the authority to develop water quality standards for these waters and evaluate project compliance with those standards per provisions of the Porter-Cologne Water Quality Control Act. The USACE cannot issue any Clean Water Act permit unless the RWQCB has determined that the proposed action to be covered by the permit meets state water quality standards. The RWQCB also has permit authority over isolated waters that are not considered waters of the United States.

The CDFW regulates activities within the bed and bank of natural drainage channels that may alter the channels in ways harmful to fish and wildlife. This regulatory authority derives from provisions of Section 1602 of the California Fish and Game code. Projects altering a natural drainage channel require that an applicant enter into a Streambed Alteration Agreement with the CDFW.

Deer Creek, which passes through the very northernmost part of the Project Site, no longer connects downstream to other waters of the United States. Presumably, Deer Creek would not be considered a water of the United States per the SWANNC decision of 2001. Any alterations to the Deer Creek Channel would require a Streambed Alteration Agreement with the CDFW and the submittal of a Notice of Waste Discharge to the RWQCB.

3.0 IMPACTS AND MITIGATIONS

3.1 SIGNIFICANCE CRITERIA

Approval of general plans, area plans, and specific projects is subject to the provisions of CEQA. The purpose of CEQA is to assess the impacts of proposed projects on the environment before they are carried out. CEQA is concerned with the significance of a proposed project's impacts. For example, a proposed development project may require the removal of some or all of a site's existing vegetation. Animals associated with this vegetation could be destroyed or displaced. Animals adapted to humans, roads, buildings, pets, etc., may replace those species formerly occurring on the site. Plants and animals that are state and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed.

Whenever possible, public agencies are required to avoid or minimize environmental impacts by implementing practical alternatives or mitigation measures. 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."

Specific project impacts to biological resources may be considered "significant" if they would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- 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.

- 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.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065(a) states that a project may trigger the requirement to make “mandatory findings of significance” if the project has the potential to:

“Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory.”

3.2 RELEVANT GOALS, POLICIES, AND LAWS

3.2.1 Threatened and Endangered Species

State and federal “endangered species” legislation has provided the CDFW and the USFWS with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Species listed as threatened or endangered under provisions of the state and federal endangered species acts, candidate species for such listing, state species of special concern, and some plants listed as endangered by the California Native Plant Society are collectively referred to as “species of special status.” Permits may be required from both the CDFW and USFWS if activities associated with a proposed project will result in the “take” of a listed species. “Take” is defined by the state of California as “to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill” (California Fish and Game Code, Section 86). “Take” is more broadly defined by the federal Endangered Species Act to include “harm”

(16 USC, Section 1532(19), 50 CFR, Section 17.3). Furthermore, the CDFW and the USFWS are responding agencies under CEQA. Both agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

3.2.2 Migratory Birds

State and federal laws also protect most birds. The Federal Migratory Bird Treaty Act (16 U.S.C., sec. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

3.2.3 Birds of Prey

Birds of prey are also protected in California under provisions of the State Fish and Game Code, Section 3503.5, which states that it is “unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “taking” by the CDFW.

3.2.4 Wetlands and Other Jurisdictional Waters

Natural drainage channels and adjacent wetlands may be considered “Waters of the United States” (hereafter referred to as “jurisdictional waters”) subject to the jurisdiction of the USACE. The extent of jurisdiction has been defined in the Code of Federal Regulations but has also been subject to interpretation of the federal courts. Jurisdictional waters generally include:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
- All interstate waters including interstate wetlands.

- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce.
- All impoundments of waters otherwise defined as waters of the United States under the definition.
- Tributaries of waters identified in the bulleted items above.

As determined by the United States Supreme Court in its 2001 *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (SWANCC) decision, channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds. Similarly, in its 2006 consolidated *Carabell/Rapanos* decision, the U.S. Supreme Court ruled that a significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered a navigable and therefore jurisdictional water.

The USACE regulates the filling or grading of jurisdictional waters under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by “ordinary high water marks” on opposing channel banks. All activities that involve the discharge of fill into jurisdictional waters are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values. No permit can be issued until the RWQCB issues a certification (or waiver of such certification) that the proposed activity will meet state water quality standards.

The filling of isolated wetlands, over which the USACE has disclaimed jurisdiction, is regulated by the RWQCB. It is unlawful to fill isolated wetlands without filing a Notice of Intent with the RWQCB. The RWQCB is also responsible for enforcing National Pollution Discharge Elimination System (NPDES) permits, including the General Construction Activity Storm Water Permit. All projects requiring federal money must also comply with Executive Order 11990 (Protection of Wetlands).

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code (2003). Activities that would disturb these waters are regulated by the CDFW via a Streambed Alteration Agreement. Such an agreement typically stipulates that certain measures will be implemented which protect the habitat values of the drainage in question.

3.2.5 Oak Woodlands

Oak protection legislation (SB 1334) signed by Governor Schwarzenegger in January of 2005 establishes that the conversion of oak woodlands within county jurisdictions of the state be subject to CEQA review, and that significant impact to oak woodlands be mitigated. Fresno County defines oak woodland as a tree habitat with 5 or more oak trees per acre. “Conversion” has been defined as the cutting or removing of 30 percent or more of the canopy from oak woodland, and changing the land use such that the converted acreage could no longer sustain oak woodland in the future.

3.3 POTENTIAL IMPACTS TO BIOLOGICAL RESOURCES FROM PROPOSED ACTION

As described in Section 1.0 of this report, the proposed action consists of an amendment to existing Tulare County permits PMR 01-001, PSP 01-055(ZA), and PMR 09-002. This amendment seeks three results. First, it will allow for an increase in production from a 500,000 ton per year limit to 950,000 tons per year. Second, permit PSP 01-055 (ZA) amended permits PSP 77-70 and PMR 01-001 to allow operating hours to be from 7:00 a.m. Mondays to 6:00 PM Fridays with an allowance to work on weekends due to utility demands and state and local government paving requirements. This amendment will conform the operating hours of permit PMR 09-002 to the same operating hours. Third, it shall allow for an increase in truck trips from 100 to an average of 188 and a maximum of 250 per day. Approval of this amendment will have no effect on the current permitted footprint of the existing mine operation, which is 98 acres, nor will approval of this amendment have any effect on mitigation measures already attached to Permit PMR 09-002.

3.3.1 Project Impacts to Special Status Plant Species

Impact Discussion. As noted in *Biotic Evaluation, Deer Creek Quarry Expansion Site, Tulare County, California* (LOA 2009), eleven special status vascular plant species are known to occur in the general project vicinity in Tulare County (Table 1). The Shannon Trust acreage was examined for these species or habitats suitable for them during the spring of 2009. These species were at that time considered absent from the Shannon Trust acreage or unlikely to occur within habitats of that acreage. A survey of the entire mine site in July of 2014 confirms that these special status plant species are unlikely to occur anywhere on the site. Furthermore, the proposed amendment to existing Tulare County permits (the action evaluated in this report) would not alter the magnitude of eventual project impact on natural habitats of the mine site in ways not already addressed in other environmental documents prepared for the existing permits. Therefore, approval of the proposed amendment to the existing Tulare County permits will have no adverse environmental effect on special status plant species.

Mitigation Measures. The proposed action will have no adverse effect on special status plant species. Mitigation measures are not warranted.

3.3.2 Project Impact to Special Status Animal Species

Impact Discussion. LOA determined in 2009 that 23 special status animal species occur in the general vicinity of the Deer Creek Rock Mine. A review of the listing status of species occurring in the project vicinity reveals that in 2014, 24 special status species occur in the general vicinity of the Deer Creek Rock Mine. Of these 24 species, 9 would not occur in habitats of the Project Site, 4 may pass over the site during migration, but not use the site, 9 species may forage regularly on or in the airspace over the site, and two species, the valley elderberry longhorn beetle and the western pond turtle may be resident in the riparian corridor associated with the Deer Creek channel.

The proposed action is the approval of an amendment that will not result in new mining impacts to habitats potentially occupied by special status animal species (for example, no encroachment into the Deer Creek channel or the undeveloped buffer along it is proposed). Therefore, the increased tonnage of rock to be mined will come from the same areas already permitted for

mining. Since most special status animal species potentially using the site occur on it episodically to forage, their foraging activities are not expected to be affected by the language in the amendment that standardizes the hours of operation for the existing mine/mix plant site and the Shannon acreage. Weekday peak hour truck traffic will increase from 40 trips to 76 trips, an increase of 36 trips. This increase in truck traffic will have no effect on special status animal species within the active mine site, since such animal species do not use the mine site. Increase truck traffic passing over the Deer Creek Bridge would have no effect on valley elderberry longhorn beetles that may occur in scattered elderberry bushes along the channel downstream of the bridge, or on western pond turtles that may occur in the Deer Creek channel. Nor will the increase in truck traffic have any measurable effect on other wildlife species susceptible to traffic disturbance, since the truck traffic permitted by the proposed amendment will not result in impact to such species that has not already occurred from the existing level of truck traffic. Therefore, the proposed amendments to the existing County permits will have no adverse environmental effect on special status animal species.

Mitigation Measures. The proposed action will have no adverse effect on special status animal species. Mitigation measures are not warranted.

3.3.3 Project Impact to Riparian Habitat or other Sensitive Natural Communities

Impact Discussion. The only sensitive natural community within the Project Site is the riparian habitat associated with Deer Creek along the Project Site's northern boundary. As previously noted, the proposed amendments to the existing Tulare County permits would not result in any change to the existing footprint of mining activities. The Deer Creek channel, its associated riparian habitat, and the existing buffer between the active mine and the riparian habitat will remain unaffected by the proposed amendments. Therefore, the proposed amendments to the existing County permits will have no adverse environmental effect on riparian habitat or other sensitive natural communities.

Mitigation Measures. The proposed action will have no adverse effect on riparian habitat or other sensitive natural communities. Mitigation measures are not warranted.

3.3.4 Project Impact to Federally Protected Wetlands as Defined by Section 404 of the Clean Water Act

Impact Discussion. The channel of Deer Creek passes along the northern boundary of the larger Project Site, but this channel may not be considered a water of the United States, due to the fact that it does not connect to a downstream water of the United States. In any event, the proposed amendments to the existing Tulare County permits do not enlarge the mining operation footprint from that already permitted. Therefore, the channel of Deer Creek, its associated riparian vegetation, and the existing disturbance-free buffer between the creek and the existing mining operation will not be affected by approval of the proposed amendments. Therefore, the proposed amendments to the existing County permits will have no adverse environmental effect on federally protected wetlands as defined by Section 404 of the Clean Water Act.

Mitigation Measures. The proposed action will have no adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act. Mitigation measures are not warranted.

3.3.5 Project Impact to Wildlife Movement Corridors and Wildlife Habitat

Impact Discussion. As noted by LOA in *Biotic Evaluation, Deer Creek Quarry Expansion Site, Tulare County, California* (LOA 2009), the Shannon Trust acreage is not obviously a part of a larger wildlife movement corridor. The same can be said for the larger mine site and Garden Groves acreage, which are highly disturbed and subject to on-going disturbance. The Deer Creek riparian corridor along the northern boundary of the Project Site provides a discontinuous cover of riparian vegetation that favors roosting and nesting habitat for riparian birds. This riparian corridor is likely to be used for regular and predictable wildlife movements during the spring and fall. Migratory birds in particular would likely use the riparian vegetation for cover and foraging.

Proposed amendments to the existing Tulare County permits will not have any effect on the riparian corridor that existing mining operations do not already have. As previously noted, Deer Creek, its associated riparian vegetation, and a buffer between the creek corridor and the existing mining operation will be unaffected by approval of the proposed amendments.

Therefore, the proposed amendments to the existing Tulare County permits will have no adverse environmental effect on wildlife movement corridors and wildlife habitat.

Mitigation Measures. The proposed action will have no adverse effect on wildlife movement corridors and wildlife habitat. Mitigation measures are not warranted.

3.3.6 Will the Project Conflict with any Local Policies or Ordinances Protecting Biological Resources, such as a Tree Preservation Policy or Ordinance

Impact Discussion. The proposed amendments to existing Tulare County permits do not alter the footprint of the existing mine/mix plant, and therefore would not result in direct impact to any biological resources that have not already been identified in other environmental documents prepared for the existing permits. Presumably, the proposed amendments are being considered, because like the original permits they are consistent with local policies or ordinances protecting biological resources.

Mitigation Measures. The proposed action appears to be consistent with General Plan policies of Tulare County that are relevant to natural resource protection. Additional mitigation measures protecting biological resources are not warranted.

3.3.7 Degradation of Water Quality in Seasonal Creeks, Reservoirs and Downstream Waters

Impact Discussion. Proposed amendments to the existing Tulare County permits would not increase in any way the susceptibility of the mining operation to erosion and sediment transport into Deer Creek such that water quality in the Creek would be degraded. Other permit conditions addressing erosion and sediment transport into Deer Creek will not change with the adoption of the proposed permit amendments. Therefore, the proposed amendments to the existing Tulare County permits will have no adverse environmental effect on water quality in seasonal creeks, reservoirs and downstream waters.

Mitigation Measures. The proposed action will have no adverse effect on water quality in seasonal creeks, reservoirs and downstream waters. Mitigation measures are not warranted.

3.3.8 Loss of Oak Woodlands

Impact Discussion. Oak woodlands do not occur within the Project Site. The mining operation as currently permitted and as permitted with the approval of the proposed amendment will have no impact on oak woodlands.

Mitigation Measures. The proposed action will have no adverse effect on oak woodlands. Mitigation measures are not warranted.

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August 6, 2014

**APPENDIX A:
TULARE COUNTY RESOURCE MANAGEMENT AGENCY APPLICATION
PMR 14-002**



TULARE COUNTY RESOURCE MANAGEMENT AGENCY APPLICATION

GENERAL INFORMATION / COVER SHEET



SURFACE MINING PERMITS AND/OR RECLAMATION

- ☐ Surface Mining Permit & Reclamation Plan
☐ Reclamation Plan
☒ Amendment to Surface Mining Permit & Reclamation Plan (No. **Below)

General Information:

Applicant DEER CREEK ROCK CO., INC.

Mailing Address P. O. BOX 994248 City REDDING State CA Zip 96099-4248

Phone 530.241.2112 Cell Phone _____ E-Mail lbandell@wjbinc.net

Property Owner (if different) _____

Mailing Address _____ City _____ State _____ Zip _____

Phone _____ Cell Phone _____ E-Mail _____

Agent (if applicable) Leonard Bandell, Vice President, Deer Creek Rock Co., Inc.

Mailing Address P. O. Box 994248 City Redding State CA Zip 96099-4248

Phone 530.241.2112 Cell Phone _____ E-Mail lbandell@wjbinc.net

Site Address: 27671 Avenue 120 / Road 272, Porterville, CA 93257

Physical Location of Site (cross streets & nearest community): _____

Assessor's Parcel No(s): 305-190-018 and ±28 acres of 305-190-020 per approved Lot Line Adjustment Map 13-009

THIS SPACE FOR OFFICE USE ONLY

Application Received/Reviewed by: _____ Project Number(s) _____

Use Description _____

Current Zoning: _____ Economic Development Project: _____

Land Use Designation: _____

Agricultural Preserve & Contract Nos. (if applicable) _____

Filing Fee(s): _____ Total Amount Paid: _____

Date Received: _____ Payment Type: _____

Receipt Number(s) _____ Existing Entitlements/References: _____

COUNTY HOURS: Monday-Thursday 7:30 a.m. to 5:30 p.m. - Friday 8:00 a.m. to 12:00 p.m.

PERMIT CENTER HOURS: MONDAY-THURSDAY 9:00 TO 4:30 P.M.

****County permits covering mining operations are: PMR 01-001; PSP 01-055(ZA); and PMR 09-002. Where "N/C" appears, there is "no change" from existing permits.**

SURFACE MINING PERMITS AND/OR RECLAMATION PLAN

REQUIREMENTS, FEES AND INSTRUCTIONS *(Please use dark blue or black ink)*

1. The application must be filled out completely and in every respect with all questions answered and all requested information provided before the County can officially accept the application for processing. In the course of accepting and processing the application, the Permit Center Official or the Project Planner may request the applicant to clarify, amplify, correct or otherwise supplement the required information. The application may be filed with the Tulare County Resource Management Agency, Permit Center, located at 5961 South Mooney Blvd, Visalia, CA 93277-9394. The phone number is (559) 624-7100.
2. Section 7-25-1105 of the Ordinance Code of Tulare County requires a filing fee to be paid at the time of filing an applicant for Surface Mining Permits/Reclamation Plan. This fee is to cover the cost to the County for advertising, investigations and processing the application through its various stages. If the costs of preparing the written staff report and environmental review exceed the deposit paid, the applicant will be billed an additional \$100/hour for staff time. A public hearing will not be scheduled until payment is received. The following fees apply, depending on the type of use applied for:

Description of Permit	FEE AMOUNT (SUBJECT TO CHANGE AT ANY TIME)
Surface Mining Permit/Reclamation Plan (Planning Commission)	\$3,441.00 deposit plus \$100/hr.
Surface Mining Permit/Reclamation Plan exempt from CEQA	\$2,567.00 deposit plus \$100/hr.
Amendment to Surface Mining Permit/Reclamation Plan	\$2,457.00 deposit plus \$100/hr.
Minor Modification to Surface Mining Permit/Reclamation Plan	\$525.00
Request for approval of Financial Assurance	\$135.00
Inspection for release of Financial Assurances	\$350.00 deposit plus \$100/hr.
Interim Management Plan	\$1,510.00 deposit plus \$100/hr.
Additional Fees Due Prior to Public Hearing (if applicable)	
Compliance Monitoring Fee (3 inspections at \$65.00)	\$195.00 deposit
State Fish & Game fee for Environmental Impact Report	\$2,995.25
State Fish & Game fee for Negative Declaration or Mitigated ND	\$2,156.25
County Clerk Filing Fee for Notice of Determination	\$58.00
Recording Fee	\$75.00
Annual Inspection Fee	\$400.00
Additional Charge for Staff Time	To Be Determined

IMPORTANT NOTICE: The applicant is responsible for the payment of all fees associated with this application, including the initial deposit and additional fees charged for processing. In addition, the applicant may be required to submit to the County additional deposits. All fees charged for this application are required to be paid to the County prior to approval of the proposal.

3. This application must be filled out with full and complete answers and must be signed by at least one of the property owners.
4. At least 10 copies of the site plan and an aerial photo shall be submitted so that a complete evaluation may be made of the application by the appropriate agencies, as required. Additional copies of the site plans may be required. The site plan shall include the following:
 - a. Boundaries and topographic details of the site
 - b. Location of all streams, surface water bodies, roads, railroads, water wells and utility facilities within 500 feet of the site
 - c. Location of all currently proposed access roads to be constructed in conducting the surface mining operations(s) and proposed surface dust treatment
 - d. Location of areas [to be] mined, and of waste dumps and tailing ponds
 - e. All existing and proposed processing and stockpile areas
 - f. Typical cross sections of the extent and configuration of slopes to be maintained in excavated areas
 - g. Provisions for the conservation and protection of groundwater, the disposition of surface drainage and erosion control

- h. By use of overlay symbol or color, depiction of separate mining phases, if applicable
- i. The source of map base, north point, and scale
5. In the case of large integrated operations, with several separate mines or pits, it will be to the advantage of the applicant to answer all items in sufficient detail not only for clarifying the nature of his operation, but also for protecting any vested rights under the provisions of the Act. The principal map should be of a scale sufficient to show the required details clearly. For a large operation, a smaller-scale, overall map with large-scale detail maps of the critical areas may be more practical. In long-range operations, precision of detail is not as important as a clear exposition of the operation. The use of colored symbols or map overlays is recommended to simplify the map preparation. Aerial photographs may be substituted for maps where they adequately indicate the required information.
6. The attached "Indemnification Agreement" must be signed by the applicant and submitted with the completed application.
7. Operational Statement: Please attach a detailed operational statement.

SUMMARY OF REQUIREMENTS FOR A SURFACE MINING OR RECLAMATION PLAN APPLICATION

Except where marked, information is on file		Application	Staff
1.	Completed Application	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.	Owner's Affidavit (signed by property owner)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.	Filing Fee	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.	Minimum of 10 copies of the site plan of the mined land (additional copies may be required)	<input type="checkbox"/>	<input type="checkbox"/>
5.	Indemnification and Cost Recovery Agreement (separate attachment)	<input type="checkbox"/>	<input type="checkbox"/>
6.	Supplemental Information – Review of "Identified Hazardous Waste Sites" List	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7.	Applicant's Request for Notification of Proposed Land Use Action	<input type="checkbox"/>	<input type="checkbox"/>
8.	Operational Statement (if required by County)	<input type="checkbox"/>	<input type="checkbox"/>
9.	Copy of the Assessor's Map, deeds, contract of sale, or other legal description.	<input type="checkbox"/>	<input type="checkbox"/>
10.	10 copies of plans indicating method, sequence and timing for reclamation	<input type="checkbox"/>	<input type="checkbox"/>
11.	Notarized statement of acknowledgement that all owners of a possessory interest in the land to be mined have been notified of the proposed mining operations	<input type="checkbox"/>	<input type="checkbox"/>
12.	10 copies of a Location and Vicinity Map <i>It is suggested that this map be shown on a USGS 7-1/2 minute topographic quadrangle sheet (Scale: 1: -2000") unless larger scale maps are available. If these are not available, or if the operation is extensive, 15 minute sheets (Scale 1' - 1 mile) may be used. Contours, roads, drainage, adjacent towns, etc., should be shown, as well as the site of the operation.</i>	<input type="checkbox"/>	<input type="checkbox"/>
13.	Request for Unused Fees Form (Signed by Applicant)	<input type="checkbox"/>	<input type="checkbox"/>

Note: Information on SMARA can be found online at the Department of Conservation-Office of Mine Reclamation website (<http://www.conserv.ca.gov/OMR/index.htm>). Additional link: on the Mineral Resources page of the County RMA website (<http://www.co.tulare.ca.us/government/rma/countywide/mineral.asp>)

PLEASE FILL OUT THE FOLLOWING INFORMATION COMPLETELY

1. The applicant requests approval of a (check box):

☐ Surface Mining Permit and Reclamation Plan

☐ Reclamation Plan

☒ Amendment to an existing Surface Mining Permit and or Reclamation Plan

State exactly what is to be done on, or with the property (add additional sheets if necessary): _____

To increase annual production from 500,000 to 950,000 tons per year, as permitted under PMR #s 01-001 and 09-002 and PSP 01-055(ZA).

The amendment is to make the PMRs consistent with each other. No lateral expansion of the approved mine footprint will occur.

Both permits to allow for trucks hauling to not exceed 250 vehicle trips per day. (See Condition 21 of PMR 01-001.)

2. Name of Mineral Property, if applicable: Rock
3. Property owner(s), or owner(s) of surface rights (use additional sheets if necessary).
Property Owner(s): Deer Creek Rock Co., Inc. Phone: 530.241.2112
Mailing Address: P. O. Box 994248
City: Redding State: CA Zip: 96099-4248

Owner(s) of mineral rights - List, if separate from surface owner. If a mining claim, indicate the owner(s) of the possessory rights (claim owner). (Use additional sheets if necessary.)

Name(s): Same as Applicant Phone: _____
Mailing Address: _____
City: _____ State: _____ Zip: _____

Lessee(s)

Name(s): _____ Phone: _____
Mailing Address: _____
City: _____ State: _____ Zip: _____

Operator(s) List as individual, partnership, corporation, etc. If a joint venture, also show name of managing person or concern.

Name(s): Same as Applicant Phone: _____
Mailing Address: _____
City: _____ State: _____ Zip: _____

Agent of process

Name: W. Jaxon Baker Phone: 530.241.2112
Mailing Address: P. O. Box 994248
City: Redding State: CA Zip: 96099-4248

Where applicable, indicate "Same as applicant." If the actual reclamation is to be conducted by a "person" other than the applicant or operator, indicate the name and address of said person(s).

If more than one owner, enter name and address of each on a separate page. If more than one parcel is included in the operation, enter the owners of each parcel. If the surface and mineral rights are separated, show the owners of surface rights under this item. On Federal land, enter U.S.A. as owner, with administering agency; e.g., USFS, BLM, NPS, etc.

4. How much area of the total parcel or lot is being utilized for the proposed use: N/C - 98 Acres
5. Present use of the project site: N/C - Mining
6. Mineral commodity [to be] mined: N/C - Rock
7. Geologic description, including brief general geologic setting, more detailed description of the mineral deposit [to be] mined, and principal minerals or rock types present: N/C

A brief and concise answer is required. Include only essential data on geologic formations, structures, rocks and minerals, and nature of the mineral deposit.

8. Proposed starting date of operation: Presently in Operation
If the surface mine was already in operation on January 1, 1976, or the operation was conducted prior to that date, so state.
9. Estimated life of operation: Fifty years as per PMR 09-002. This is a change from PMR 01-001.
10. Duration of first subsequent phases: N/C - Project will be mined in one phase.
11. Employees: Indicate the total number of employees and include the number of shifts and number of employees per shift:
There will be as many as 27 employees. There might be 2 shifts, with no more than 15 employees per shift.
12. Hours/Days of Operation
☐ Continuous ☐ Seasonal ☐ Intermittent (if seasonal, include months of operation):
To conform with #2 of PSP 01-055(ZA), regular hours shall be Monday through Friday from 7 a.m. to 6 p.m. Rock crushing and processing, asphalt production and material hauling may occur at any time from 7 a.m. Monday morning until 6 p.m. Friday evening, outside of those hours if necessitated by market demands or electrical grid concerns as long as those operations conform to Conditions 3 through 8 of PSP 01-055(ZA).
☐ Developed, not yet in operation ☐ Temporarily deactivated ☐ Stockpile in mine
13. Type of equipment and/or machines to be utilized: Excavator; Haul truck; Rock drill; D-8 Caterpillar [on site at times, as used at other facilities]; Bobcat; Water truck; Fuel & lube truck; 980-G loaders (2-3) [used at other facilities]; Rock breaker [rental]; Pick-up trucks F-250; GMC 2500; Mechanic's truck; 25- and 40-ton cranes [on site at times, as used at other facilities]; Miscellaneous welders, generators and hand tools; Transport trucks having 40-ton gross and 25-ton net capacity.
14. Typical size and carrying capacity of trucks to be used: N/C - See #13
15. Operation will be (check appropriate box):
☐ Under 5,000 tons or cubic yards per year
☐ 5,000 – 50,000 tons or cubic yards per year
☐ 50,000 – 250,000 tons or cubic yards per year
☒ 250,000 – 1,000,000 tons or cubic yards per year
☐ Over 1,000,000 tons or cubic yards per year
16. Total anticipated production will be (check appropriate box):
☒ Mineral commodities to be removed 40,000,000 tons or _____ cu. yds.
☐ Waste or overburden retained on site _____ tons or _____ cu. yds.
☐ Waste or overburden disposed off-site _____ tons or _____ cu. yds.
☐ Maximum anticipated depth _____ feet.
If more than one individual pit or quarry is included in the plan, answer these items for each operation. Note that either tons, or cubic yards (in-place) are requested. The unit not used should be crossed out. Include all ore, mineral, overburden and waste as one total quantity. Attach an additional sheet, if necessary.
17. Mining method (check all that apply). N/C
☒ Open Pit ☐ Gravel/Sand Pit
☐ Single Bench ☐ Drill and Blast
Quarry: N/C
☐ Hill Top ☐ Clay Pit

- | | |
|--------------------------------------|--|
| <input type="checkbox"/> Multi-bench | <input type="checkbox"/> Truck to Processing Plant (to RR) |
| <input type="checkbox"/> Side Hill | <input type="checkbox"/> Borrow Pit |
| <input type="checkbox"/> Drag Line | <input type="checkbox"/> Tailings Pond |
| <input type="checkbox"/> Low Level | <input type="checkbox"/> Slurry Pump |
| <input type="checkbox"/> Shovel | <input type="checkbox"/> Waste Dump |
| <input type="checkbox"/> Gravel Bar | <input type="checkbox"/> Underground |
| <input type="checkbox"/> Rail | <input type="checkbox"/> Skimming |
| <input type="checkbox"/> In-stream | <input type="checkbox"/> Other _____ |

18. Operating practices proposed to minimize noise, vibration and dust: N/C
-
-
19. Methods to prevent pollution of surface or underground water: N/C
-
-
20. If processing of the ores or minerals mined is planned to be conducted at or adjacent to the site, describe the nature of the processing and explain disposal method of the tailings or waste from processing:
 Except as to any modifications approved per this application, processing will be pursuant to PSP 77-70
-
-
21. Estimate quantity (*gallons per day*) and quality of water required by the proposed operation. Specify proposed sources of the water, method of its conveyance to the property and the quantity and method of disposal for used and/or surplus water:
200 gpm
-
-
22. If the nature of the deposit and the mining method used will permit, describe and show the steps or phases of the mining operation that allow concurrent reclamation, and include a proposed time schedule for such concurrent activities (*If essentially no reclamation may be accomplished during first phase, so indicate and explain*):
No modification to Revised Reclamation Plan for Jaxon /Shannon Mine
-
-
23. If the mining operation was in existence prior to January 1, 1976, indicate on an overlay map (or by color or symbol) those areas mined since January 1, 1976, which are to be covered by the reclamation plan.
 Acreage: N/A
-
-
24. Describe the ultimate physical condition of the site and specify proposed use(s), or potential uses, of the mined lands as reclaimed:
N/C from approved reclamation plan. Ultimate reclaimed use will be for cattle grazing.
-
-
25. Describe the relationship of the interim uses other than mining and the ultimate physical condition to:

a. Zoning regulations

AE 40

b. General Plan elements FGPM (Foothill Growth Management Plan)

26. Describe soil conditions and a proposed soil salvage plan: N/C

If proposed for refill, identify the type of refill material and probable sources:

27. Describe on separate pages the method, sequence and timing proposed to bring the reclamation of the land to its end state. Indicate on the map or diagram the following information:

a. Backfilling and grading

SEE APPROVED RECLAMATION PLAN

b. Stabilization of slopes

c. Stabilization of permanent waste dumps, tailing, etc.

d. Rehabilitation of pre-mining drainage

e. Removal, disposal or utilization of residual equipment, structures, refuse, etc.

f. Water features and methods planned to overcome stagnation

g. Control of contaminants, especially with regard to surface runoff and ground water

h. Treatment of streambeds and stream banks to control erosion and sedimentation

i. Removal or minimization of residual hazards

j. Re-soiling, re-vegetation with evidence that selected plants can survive given the site's topography, soil and climate

k. Landscaping plan and planting schedule designed to protect natural vegetation and to restore the appearance of the property

l. Approximate final contouring

m. The final disposition of structures

28. If a short term phasing of the reclamation has been determined, describe in detail the specific reclamation to be accomplished during the first phase: N/A

Describe how the reclamation of the site in this manner may affect future mining at this site and in the surrounding area.

ENVIRONMENTAL SETTING

29. Describe the project site, prior to the proposed use, including all above and below ground developed improvements (*residences, outbuildings, barns, sheds, covers, shop buildings, septic tank-leach line systems, domestic/agricultural wells, fuel storage tanks, etc.*), including the size of each.

N/C - APN 305-190-018 is presently being mined and the acreage from 305-190-020, approved to be merged, is also approved for mining.

30. Describe the slopes (% and direction) and general terrain of the subject site: N/A
31. Trees: identify the type and size of any large trees on site. None
32. Water courses: identify the type and location of any on-site or nearby water courses (*rivers, canals, ditches, streams, creeks, natural drainage channels, etc.*).
There are no watercourses on-site. Deer Creek is to the north.
33. Describe the character and land use of the surrounding properties (orchards, vineyards, row crops, pasture, open space, water courses, railroads, roads, rural residential, subdivisions, commercial, schools, churches, vacant, city or county boundary):

DIRECTION	CHARACTER/LAND USE
North	Vacant, possible grazing
South	Shannon Orchard to southeast
East	Shannon Property - grazing
West	Orchard

34. Liquid waste disposal (*please check appropriate box*): ☐ Existing ☐ Proposed
- ☒ Septic Tank-Leach Lines: Size of tank _____ gallons & length of lines _____ ft.
- ☐ Seepage Pit - Size _____
- ☐ Community System - Name: _____
- ☐ Aerobic tank - Size of tank _____
35. Water supply (*please check appropriate box*): ☐ Existing ☐ Proposed
- ☒ Domestic Well - Size of pump 2 pumps @ 70 gpm 1 pump @ 60 gpm Gallons per minute _____
- ☐ Irrigation Well: _____
- ☐ Irrigation District - Name: _____
- ☐ Private Water Company - Name: _____
- ☐ Community System - Name: _____

Note: A "Will Serve" letter must be provided from any off-site community water and/or sewage disposal provider and must be submitted as part of this application. In addition, water availability information for all existing and/or proposed on-site domestic wells must also be submitted with this application.

36. Source of energy (*please check appropriate box*):
- ☒ Electricity - Company name: Southern California Edison
- ☐ Natural Gas - Company name: _____
- ☒ Propane: Size of tank 10,000 gal. Provider _____
37. Will the project require the development of public service facilities (*roads, sewer lines, water lines, etc.*)? If so, describe the required development:
No

**SUPPLEMENTAL INFORMATION FOR
APPLICATION OF ANY DEVELOPMENT PROJECT**

HAZARDOUS WASTE AND SUBSTANCES STATEMENT:

Per California Government Code Section 65962.5(f), before the County accepts as complete an application for any development project, the applicant or owner shall consult the State's lists of hazardous waste facilities, shall submit a signed statement to the County indicating whether the project is located on a site that is included on any of the lists. The "Identified Hazardous Waste Sites" list may be viewed on the web at <http://www.envirostor.dtsc.ca.gov/public> or reviewed at the Resource Management Agency Permit Center, 5961 South Mooney Blvd., Visalia, California.

Before any application can be accepted as complete by the Tulare County Resource Management Agency, the owner of the subject property, or the owner's authorized agent, must complete this form.

STATEMENT:

I have reviewed the "Identified Hazardous Waste Sites" list (which may be viewed on the web at <http://www.envirostor.dtsc.ca.gov/public>) dated May 28, 2014, and state that:

"The site(s) of the project subject to this application ___ is / X is not on the "Identified Hazardous Waste Sites" list."

(If the site is on any of hazardous waste facilities lists, the applicant shall inform the County of which list, the date of the list, the regulatory identification number of the site on the list and corrective measures that will be taken to remove the site from the State list.)

CERTIFICATION:

I hereby certify that the information furnished herein presents to the best of my knowledge and belief, true and correct facts, statements, and information, and that I am the owner, or the authorized agent of the owner, of the subject property.

Signed: _____



Leonard Bandell, Vice President
Deer Creek Rock Co., Inc.

Dated: May 28, 2014

OWNER'S AFFIDAVIT
(Must be signed by property owner)

STATE OF CALIFORNIA)
COUNTY OF SHASTA)

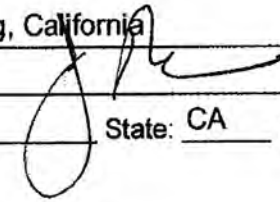
SS.

I, (We,) the undersigned, say:

I (We) own property involved in this application and I (we) have completed this application and other documents and maps required hereby to the best of my (our) ability and the statements and information above referred to are, in all respects, true and correct to the best of my (our) knowledge and belief. I (We) declare under penalty of perjury that the foregoing is true and correct.

Executed on May 28, 2014, at Redding, California

Name: W. Jaxon Baker, President

Signature: 

Address: 1643 TAHOE COURT

State: CA Zip: 96003

Optional – additional property owner

Name: _____

Signature: _____

Address: _____ State: _____ Zip: _____

If there is an agent, title company, or prospective buyer who desires notification of the action taken on this application, please enter name here.

Name: Leonard Bandell
Relationship: Vice President
Address: P. O. Box 994248, Redding
State: CA Zip: 96099-4248
Telephone: 530.241.2112
FAX No.: 530.241.8108

In the case of applications which are subject to the authority of the Zoning Administrator, (see list of projects), the Zoning Ordinance provides that the applicant has the right to request that the Planning Commission hear the application rather than the Zoning Administrator. Please sign below if you wish to have your application heard by the Planning Commission. Note: An additional fee is required for the Planning Commission process.

Signed: _____ Date: _____

**APPLICANTS' REQUEST FOR NOTIFICATION
OF PROPOSED LAND USE ACTION**

NOTICE:

Under Section 65945(a) of the California Government Code, at the time of filing an application for a development permit, the applicant may make a written request to receive notice from the County of a proposal to adopt or amend any of the following plans or ordinances which may affect the proposed development permit:

1. A General Plan
2. A Specific Plan
3. A Zoning Ordinance
4. An Ordinance affecting building permits or grading permits

The applicant shall specify, in written request, the types of proposed actions for which notice is requested. Prior to taking any of those actions, the County is required to give notice to any applicant who has requested notice of the type of action proposed and whose development project is pending before the County if the County determines that the proposal is reasonably related to the applicant's request for the development permit. Notice shall be given only for those types of actions which the applicant specifies in the request for notification.

REQUEST:

- ☐ I hereby request under Section 65945(a) for the following types of actions (see above). Circle those that apply:

1 2 3 4

- ☐ I hereby waive notice under Section 65945(a).

I understand that any rights to notice under Section 65945(a) will lapse at the time that final action is taken on my development project.

Signed: _____
(applicant or authorized agent)

Dated: _____

Permit No.: _____

**ADDITIONAL INFORMATION REGARDING
SURFACE MINING AND RECLAMATION PLAN REQUIREMENTS
TULARE COUNTY RESOURCE MANAGEMENT AGENCY**

EXEMPTIONS

The State Surface Mining and Reclamation Act of 1975 (SMARA) provides that the Act does not apply to any of the following activities (reference Section 2714, Public Resources Code):

1. Excavations or grading conducted for farming or on-site construction or for the purpose of restoring land following a flood or natural disaster.
2. Prospecting for, or the extraction of minerals for commercial purposes, and the removal of overburden in total amounts of less than 1,000 cubic yards in any one location of one acre or less.
3. Surface mining operations that are required by federal law in order to protect a mining claim, if such operations are conducted solely for that purpose.
4. Such other surface mining operations which the State Mining and Geology Board determines to be of an infrequent nature and which involve only minor surface disturbances.

Additional exemptions established by the State Guidelines (Section 3506, Title 14, California Administrative Code):

1. Prospecting and exploration for minerals of commercial value where less than 1,000 cubic yards of overburden is removed in any one location of one acre or less.

Such activities that consist of geological, geochemical and geophysical mapping; hand surface sampling of outcrops and soil; and core or other test drilling that do not involve extensive, de-vegetation or other significant environmental impact, would normally be considered exempt from the provisions of the Act.
2. Any surface mining operation that does not involve either the removal of a total of more than 1,000 cubic yards of minerals, ores, and overburden, or involve more than one acre in any one location.

ZONING COMPLIANCE

The above described uses and activities are exempt from any requirement to secure approval of a surface mining permit and/or reclamation plan; however, this does not excuse such uses from complying with all applicable zoning requirements. Some of these uses may, for example, require the approval of a Special Use Permit if such a permit is required under the Zoning Ordinance. In addition, some of the uses may be excluded from particular zones.

A more important zoning consideration is that all surface mining permits must comply with the zoning regulations applicable to the property. The Tulare County Zoning Ordinance presently permits the following described surface mining uses in only the following zones:

TYPE OF USE	ZONES ALLOWED
Borrow Pit	AE, AE-10, AE-20, AE-40, AE-80, AE-1, R-A, O, M-1, M-2, PD-F, AP, AF
Excavation and removal of rock, sand, gravel and other materials	F-1
Mining or extraction of metal, minerals, oils, gas, or hydrocarbons, together with necessary buildings, apparatus, and appurtenances incidental thereto	AE, AE-10, AE-20, AE-40, AE-80, A-1, R-A, R-0, R-1, R-2, R-3, O, P-O, P-1, C-1, C-2, M-1, M-2, PD-F, AF, AP
Mineral and hydrocarbon discovery and mining, but not including processing.	TPZ
Potash works	A-1, AE-40, AE-80, M-2, AF
Quarry and stone mill	A-1, AE-40, AE-80, M-2, AF

The above described uses are permitted only in the identified zones, and most require the issuance of a Special Use Permit under the Zoning Ordinance. However, the Zoning Ordinance provides "that no Use Permit shall be required if a surface mining permit and/or reclamation plan is required under the provisions of Section 7-25-1000 et seq. of the Ordinance Code of Tulare County". This means that the Special Use Permit requirements under the Zoning Ordinance are satisfied if compliance under SMARA is required. Remember, however, a Special Use Permit may still be required even if the use is exempted from SMARA as described above. The applicant should consult with the Resource Management Agency, Planning Division to determine whether or not a Special Use Permit will be required in such cases.

PROCESSING OF MINED MATERIALS

It should be emphasized that approval of a surface mining permit only constitutes an approval or entitlement for use of a surface mining operation. It does not include any approval of processing facilities for the mined materials. If such processing facilities are proposed on the same site, or in conjunction with the surface mining operation, additional permits or approvals may be required under the Zoning Ordinance. Applicants are again encouraged to consult with the Planning staff to determine what additional permits or approvals are necessary before filing the mining permit application.

DEFINITIONS

The following definitions were extracted from the SMARA and the State Guidelines (*not a complete list*).

"Mined land" includes the surface, subsurface, and ground water of an area in which surface mining operations will be, are being, or have been conducted, including private ways and roads appurtenant to any such area, land excavations, workings, mining waste and areas in which structures, facilities, equipment, machines, tools or other materials or property which result from, or are used in, surface mining operations are located.

"Operator" means any person who is engaged in surface mining operations, himself, or who contracts with others to conduct operations on his behalf, except a person who is engaged in surface mining operations as an employee with wages as his sole compensation.

"Reclamation" means the combined process of land treatment that minimizes water degradation, air pollution, damage to aquatic or wildlife habitat, flooding, erosion, and other adverse effects from surface mining operations, including adverse surface effects incidental to underground mines, so that mined land uses and create no danger to public health or safety. The process may extend to affected lands surrounding mined lands, and may require backfilling, grading, re-soiling, re-vegetation, soil compaction, stabilization, or other measures.

"Reclamation Plan" means the applicant's (operator's) completed and approved plan for reclaiming the lands affected by his surface mining operations conducted after January 1, 1976 (Reference Section 2772 of SMARA).

"Surface Mining Operations" means all, or any part of, the process involved in the mining of minerals on mined lands by removing overburden and mining directly from the mineral deposits, open-pit mining of minerals naturally exposed, mining by the auger method, dredging and quarrying, or surface work incident to an underground mine. Surface mining operations shall include, but are not limited to:

- (a) In place distillation or retorting or leaching.
- (b) The production and disposal of mining waste.
- (c) Prospecting and exploratory activities.

"Minerals" means any naturally occurring chemical element or compound, or groups of elements and compounds, formed from inorganic processes and organic substances, including, but limited to, coal, peat, and bituminous rock, but excluding geothermal resources, natural gas and petroleum.

APPLICATION PROCESS

The following is a summary of the various Tulare County deadlines and processing requirements for surface mining permits and/or reclamation plan applications:

1. Not less than 30 days after filing out the application, the County Planning and Development Department must determine whether the application is complete and inform the applicant of the determination. In the event the application is found to be incomplete, the Department will specify those parts of the application, which are incomplete and indicate the manner in which they can be made complete.
2. If the application qualifies for a Negative Declaration under the California Environmental Quality Act (CEQA), the applicant will be informed and the application will be set for public hearing. A hearing will be scheduled before the Planning Commission not more than 90 days after the acceptance of the application as complete. The hearing may be continued from time to time.
3. If the application requires the preparation of an Environmental Impact Report (EIR) under the CEQA, the applicant will be informed and requested to authorize the preparation of the EIR if authorization was not previously given. The Department is not permitted to initiate work on the EIR until the applicant agrees to the preparation of the EIR. (Note: The applicant has the right to appeal the decision to prepare an EIR to the Board of Supervisors within 5 days). Once the applicant agrees to the preparation of the EIR, the EIR is completed and the fees have been paid, the Department is free to set the matter for hearing. A hearing will be scheduled before the Planning Commission not more than 30 days after completion of the Final EIR. The hearing may be continued from time to time.
4. Notice of the Planning Commission hearing is given at least 10 days prior to the hearing. Both the applicant and the owners of all property within 300' of the site will be given mailed notice of the hearing.
5. After the hearing, the Planning Commission may approve, conditionally approve or deny the proposal.
6. The applicant will be mailed a copy of the Planning Commission's decision within 10 days after the date the decision is made.
7. Any person adversely affected by the decision of the Planning Commission's decision to the Tulare County Board of Supervisors. The appeal must be in writing and filed with the Clerk of the Board of Supervisors within 10 days after the date the decision is made.
8. If no appeal is filed, the Planning Commission's decision is final 10 days after the date the decision is made.
9. If an appeal is filed, 10 days notice of the appeal hearing before the Board of Supervisors will be given to the applicant, the applicant, and all persons who requested a copy of the Planning Commission's decision and to all owners of property within 300'.
10. After the hearing, the Board of Supervisors may affirm, revoke, or modify the Planning Commission's decision, or refer the matter back to the Planning Commission.
11. An additional appeal for certain types of projects may be filed with the State Mining and Geology Board, within 15 days of exhausting all appeal rights with the Board of Supervisors.

The County of Tulare
“INDEMNIFICATION AND COST RECOVERY AGREEMENT”
(must accompany this application)

Please download or print out the form from the
County Web Site
(located with the list of land use applications).

The Indemnification and Cost Recovery Agreement
must be filled in and signed by the applicant and must be
submitted as part of any land use application requiring
discretionary review by the County.

This Agreement must be signed by the Applicant

Please sign the Agreement in blue ink (preferred)
and submit the original, signed document with the appropriate
land use application.

WITHDRAWAL OF APPLICATION

Should you, at any time during the processing of your application, wish to withdraw your application and request a refund of fees paid, you may do so by forwarding a letter to the Resource Management Agency making that request. Please state clearly that you no longer wish to proceed with your land use project (*state the project number*), and that you are requesting a withdrawal of your project and a refund of any fees that have not been expended for the processing of your application.

Please date and sign the letter and include a mailing address where you would like any refund of fees (if applicable) to be mailed. Forward the request to the attention of the project planner.

REQUEST FOR REFUND OF FEES

Resource Management Agency
5961 S. Mooney Blvd.
Visalia, CA 93277

Project Number: _____

Please refund any unused fees associated with this application to the designated name and address below.

(please print name)

(Street Address, Suite/Apt. No.)

(City, State, Zip)

Signature

Date

August 6, 2014

APPENDIX B: VASCULAR PLANTS OF THE STUDY AREA

APPENDIX B VASCULAR PLANTS OF THE STUDY AREA

The plant species listed below have been observed within or adjacent to the study area during site surveys conducted by David Hartesveldt of Live Oak Associates, Inc., on April 2, 2009 and July 23, 2014. The U.S. Fish and Wildlife Service wetland indicator status for each plant has been shown following the common name of the plant species.

OBL - Obligate
FACW - Facultative Wetland
FAC - Facultative
FACU - Facultative Upland
UPL - Upland
 +/- - Higher/lower end of category
NR - No review
NA - No agreement
NI - No investigation

AMARANTHACEAE – Amaranth Family

<i>Amaranthus albus</i>	Tumbleweed	FACU
<i>Amaranthus blitoides</i>	Prostate Pigweed	FACW

APIACEAE – Carrot Family

<i>Conium maculatum</i>	Poison Hemlock	FACW
<i>Lomatium utriculatum</i>	Common Lomatium	UPL

ASCLEPIADACEAE – Milkweed Family

<i>Asclepias fascicularis</i>	Narrow-leaf Milkweed	FAC
<i>Asclepias vestita</i>	Woolly Milkweed	UPL

ASTERACEAE – Sunflower Family

<i>Achyrachaena mollis</i>	Blow Wives	FAC
<i>Ambrosia psilostachya</i>	Western Ragweed	FACU
<i>Artemisia douglasiana</i>	Mugwort	FAC
<i>Baccharis salicifolia</i>	Mule Fat	FAC
<i>Carduus pycnocephalus</i>	Italian Thistle	UPL
<i>Centaurea solstitialis</i>	Yellow Star Thistle	UPL
<i>Helianthus annuus</i>	Annual Sunflower	FACU
<i>Hesperis matronalis</i>	Hogwallow Starfish	OBL
<i>Heterotheca grandiflora</i>	Telegraph Weed	UPL
<i>Hypochaeris glabra</i>	Smooth Cat's-ear	UPL
<i>Micropus californicus</i> ssp. <i>californicus</i>	Cotton-top	FACU
<i>Erigeron Canadensis</i>	Canada Horseweed	FACU
<i>Senecio vulgaris</i>	Common groundsel	FACU
<i>Xanthium Canadensis</i>	Common Cocklebur	UPL

BORAGINACEAE – Borage Family

<i>Amsinckia menziesii</i> ssp. <i>intermedia</i>	Rancher's Fireweed	UPL
<i>Plagiobothrys nothofulvus</i>	Rusty Popcornflower	FAC

BRASSICACEAE – Mustard Family

<i>Athysanus pusillus</i>	Common Sandweed	UPL
<i>Brassica nigra</i>	Black Mustard	UPL
<i>Capsella bursa-pastoris</i>	Shepherd's Purse	FAC-

<i>Lepidium nitidum</i>	Common Peppergrass	UPL
<i>Raphanus sativus</i>	Wild Radish	UPL
CAPRIFOLIACEAE – Honeysuckle Family		
<i>Sambucus nigra</i>	Black Elderberry	FAC
CARYOPHYLLACEAE – Pink Family		
<i>Cerastium vulgatum</i>	Mouse-eared Chickweed	FACU
<i>Stellaria media</i>	Common Chickweed	FACU
CHENOPODIACEAE – Goosefoot Family		
<i>Chenopodium murale</i>	Nettle-leaf Goosefoot	FACU
<i>Salsola tragus</i>	Russian Thistle	FACU
CRASSULACEAE – Stonecrop Family		
<i>Parvisedum congdonii</i>	Congdon's Stonecrop	UPL
EUPHORBIACEAE – Spurge Family		
<i>Croton setigerus</i>	Dove Weed	UPL
FABACEAE -- Pea Family		
<i>Medicago polymorpha</i>	Bur Clover	UPL
<i>Trifolium microcephalum</i>	Small-headed Clover	FACU
GERANEACEAE – Geranium Family		
<i>Erodium botrys</i>	Broad-leaf Filaree	UPL
<i>Erodium moschatum</i>	White-stem Filaree	UPL
LILIACEAE – Lily Family		
<i>Allium hyalinum</i>	Paper-flowered Onion	NI
<i>Brodiaea elegans</i>	Harvest Brodiaea	UPL
<i>Chlorogalum pomeridianum</i>	Soap Plant	UPL
<i>Dichelostemma capitatum</i>	Blue Dicks	UPL
<i>Tritelia ixioides</i> ssp. <i>analina</i>	Pretty-face	UPL
ONAGRACEAE – Evening Primrose Family		
<i>Epilobium brachycarpum</i>	Panicled Willow-herb	UPL
PLANTAGINACEAE – Plantain Family		
<i>Plantago erecta</i>	California plantain	UPL
POACEAE – Grass Family		
<i>Avena fatua</i>	Wild Oat	UPL
<i>Avena barbata</i>	Slender Wild Oats	UPL
<i>Bromus diandrus</i>	Ripgut Brome	UPL
<i>Bromus hordeaceus</i>	Soft-chess Brome	FACU
<i>Bromus madritensis</i> ssp. <i>rubens</i>	Red Brome	UPL
<i>Bromus tectorum</i>	Soft Chess	UPL
<i>Cynodon dactylon</i>	Bermuda Grass	FAC
<i>Hordeum murinum</i> ssp. <i>leporinum</i>	Barnyard Barley	NI
<i>Lolium multiflorum</i>	Italian Ryegrass	UPL
<i>Polypogon monspeliensis</i>	Rabbit's-foot Grass	FACW
<i>Vulpia myuros</i>	Rattail Fescue	FACU
POLEMONIACEAE – Phlox Family		
<i>Gilia tricolor</i>	Bird's-eye Gilia	UPL
<i>Navarretia nigelliformis</i> ssp. <i>nigelliformis</i>	Adobe Navarretia	UPL
SOLANACEAE – Nightshade Family		
<i>Datura wrightii</i>	Jimson Weed	UPL
ZYGOPHYLLACEAE – Caltrop Family		
<i>Tribulus terrestris</i>	Puncture Vine	UPL

August 6, 2014

**APPENDIX C: TERRESTRIAL VERTEBRATE SPECIES POTENTIALLY
OCCURRING ON THE STUDY AREA**

APPENDIX C
TERRESTRIAL VERTEBRATE SPECIES POTENTIALLY OCCURRING
ON THE STUDY AREA

The species listed below are those that may reasonably be expected to use the habitats of the study area. The list was not intended to include birds that are vagrants or occasional transients. Its purpose was rather to include those species that may be expected to routinely and predictably use the planning area during some or all of the year. An asterisk denotes a species observed within or adjacent to the study area during surveys conducted on April 2, 2009 and July 23, 2014.

CLASS: AMPHIBIA (Amphibians)

ORDER: ANURA (Frogs and Toads)

FAMILY: BUFONIDAE (True Toads)

Western Toad (*Bufo boreas*)

FAMILY: HYLIDAE (Tree Frogs and Relatives)

Pacific Chorus Frog (*Pseudacris regilla*)

CLASS: REPTILIA (Reptiles)

ORDER: SQUAMATA (Lizards and Snakes)

FAMILY: PHRYNOSOMATIDAE

*Western Fence Lizard (*Sceloporus occidentalis*)

Sagebrush Lizard (*Sceloporus graciosus*)

FAMILY: SCINCIDAE (Skinks)

Gilbert's Skink (*Eumeces gilberti*)

FAMILY: TEIIDAE (Whiptails and Relatives)

Western Whiptail (*Aspidoscelis tigris*)

FAMILY: ANGUIDAE (Alligator Lizards and Relatives)

Southern Alligator Lizard (*Elgaria multicarinata*)

FAMILY: BOIDAE (Boas)

Rubber Boa (*Charina bottae*)

FAMILY: COLUBRIDAE (Colubrids)

Ring-Necked Snake (*Diadophis punctatus*)

Sharp-Tailed Snake (*Contia tenuis*)

Racer (*Coluber constrictor*)

California Whipsnake (Striped Racer) (*Masticophis lateralis*)

Gopher Snake (*Pituophis catenifer*)

Common Kingsnake (*Lampropeltis getula*)

Common Garter Snake (*Thamnophis sirtalis*)

Western Terrestrial Garter Snake (*Thamnophis elegans*)

Night Snake (*Hypsiglena torquata*)

FAMILY: VIPERIDAE (Vipers)

Western Rattlesnake (*Crotalus viridis*)

CLASS: AVES (Birds)

ORDER: CICONIIFORMES (Herons, Storks, Ibises and Relatives)

FAMILY: ARDEIDAE (Herons and Bitterns)

Great Blue Heron (*Ardea herodias*)

FAMILY: CATHARTIDAE (New World Vultures)

*Turkey Vulture (*Cathartes aura*)

ORDER: ANSERIFORMES (Screamers, Ducks and Relatives)

FAMILY: ANATIDAE (Swans, Geese and Ducks)

Wood Duck (*Aix sponsa*)

Mallard (*Anas platyrhynchos*)

Common Merganser (*Mergus merganser*)

ORDER: FALCONIFORMES (Vultures, Hawks and Falcons)

FAMILY: ACCIPITRIDAE (Hawks, Old World Vultures and Harriers)

Sharp-Shinned Hawk (*Accipiter striatus*)

Cooper's Hawk (*Accipiter cooperii*)

Northern Goshawk (*Accipiter gentiles*)

Red-Shouldered Hawk (*Buteo lineatus*)

*Red-Tailed Hawk (*Buteo jamaicensis*)

Ferruginous Hawk (*Buteo regalis*)

Rough-legged Hawk (*Buteo lagopus*)

FAMILY: FALCONIDAE (Caracaras and Falcons)

American Kestrel (*Falco sparverius*)

ORDER: CHARADRIIFORMES (Shorebirds, Gulls and Relatives)

FAMILY: CHARADRIIDAE (Plovers and Relatives)

Killdeer (*Charadrius vociferus*)

ORDER: COLUMBIFORMES (Pigeons and Doves)

FAMILY: COLUMBIDAE (Pigeons and Doves)

Rock Pigeon (*Columba livia*)

*Mourning Dove (*Zenaida macroura*)

ORDER: PSITTACIFORMES (Parrots and Relatives)

ORDER: STRIGIFORMES (Owls)

FAMILY: TYTONIDAE (Barn Owls)

Barn Owl (*Tyto alba*)

FAMILY: STRIGIDAE (Typical Owls)

Great Horned Owl (*Bubo virginianus*)

Northern Pygmy Owl (*Glaucidium gnoma*)

Long-Eared Owl (*Asio otus*)

ORDER: APODIFORMES (Swifts and Hummingbirds)

FAMILY: APODIDAE (Swifts)

Black Swift (*Cypseloides niger*)

Vaux's Swift (*Chaetura vauxi*)

White-Throated Swift (*Aeronautes saxatalis*)

FAMILY: TROCHILIDAE (Hummingbirds)

Black-Chinned Hummingbird (*Archilochus alexandri*)

Anna's Hummingbird (*Calypte anna*)

Calliope Hummingbird (*Stellula calliope*)

Rufous Hummingbird (*Selasphorus rufus*)

Allen's Hummingbird (*Selasphorus sasin*)

ORDER: PASSERIFORMES (Perching Birds)

FAMILY: TYRANNIDAE (Tyrant Flycatchers)

*Black Phoebe (*Sayornis nigricans*)

Says Pheobe (*Sayornis saya*)

*Ash-Throated Flycatcher (*Myiarchus cinerascens*)

*Western Kingbird (*Tyrannus verticalis*)

FAMILY: LANIIDAE (Shrikes)

Loggerhead Shrike (*Lanius ludovicianus*)

FAMILY: CORVIDAE (Jays, Magpies and Crows)

Western Scrub-Jay (*Aphelocoma californica*)

American Crow (*Corvus brachyrhynchos*)

*Common Raven (*Corvus corax*)

FAMILY: ALAUDIDAE (Horned Larks)

Horned Lark (*Eremophila alpestris*)

FAMILY: HIRUNDINIDAE (Swallows)

*Tree Swallow (*Tachycineta bicolor*)

Violet-Green Swallow (*Tachycineta thalassina*)

Northern Rough-Winged Swallow (*Stelgidopteryx serripennis*)

*Cliff Swallow (*Petrochelidon pyrrhonota*)

Barn Swallow (*Hirundo rustica*)

FAMILY: TROGLODYTIDAE (Wrens)

*Rock Wren (*Salpinctes obsoletus*)

FAMILY: TURDIDAE (Thrushes)

Western Bluebird (*Sialia mexicana*)

Mountain Bluebird (*Sialia currucoides*)

American Robin (*Turdus migratorius*)

FAMILY: MIMIDAE (Mockingbirds and Thrashers)

Northern Mockingbird (*Mimus polyglottos*)

FAMILY: STURNIDAE (Starlings and Allies)

*European Starling (*Sturnus vulgaris*)

FAMILY: BOMBYCILLIDAE (Waxwings)

Cedar Waxwing (*Bombycilla cedrorum*)

FAMILY: PARULIDAE (Wood Warblers and Relatives)

Yellow-Rumped Warbler (*Dendroica coronata*)

FAMILY: THRAUPIDAE (Tanagers)

Western Tanager (*Piranga ludoviciana*)

FAMILY: EMBERIZIDAE (Emberizines)

California Towhee (*Pipilo crissalis*)

Rufous-Crowned Sparrow (*Aimophila ruficeps*)

*Lark Sparrow (*Chondestes grammacus*)

Fox Sparrow (*Passerella iliaca*)

Song Sparrow (*Melospiza melodia*)

Savannah Sparrow (*Passerculus sandwichensis*)

*White-Crowned Sparrow (*Zonotrichia leucophrys*)

Golden-Crowned Sparrow (*Zonotrichia atricapilla*)

Dark-Eyed Junco (*Junco hyemalis*)

FAMILY: CARDINALIDAE (Cardinals, Grosbeaks and Allies)

Lazuli Bunting (*Passerina amoena*)

FAMILY: ICTERIDAE (Blackbirds, Orioles and Allies)

*Brewer's Blackbird (*Euphagus cyanocephalus*)

Red-winged Blackbird (*Agelaius phoeniceus*)

Tri-color Blackbird (*Agelaius tricolor*)

Brown-Headed Cowbird (*Molothrus ater*)

*Western Meadowlark (*Sturna neglecta*)

FAMILY: FRINGILLIDAE (Finches)

*House Finch (*Carpodacus mexicanus*)

American Goldfinch (*Carduelis tristis*)

Lesser Goldfinch (*Carduelis psaltria*)

Lawrence's Goldfinch (*Carduelis lawrencei*)

CLASS: MAMMALIA (Mammals)

ORDER: DIDELPHIMORPHIA (Marsupials)

FAMILY: DIDELPHIDAE (Opossums)

Virginia Opossum (*Didelphis virginiana*)

FAMILY: TALPIDAE (Moles)

Broad-Footed Mole (*Scapanus latimanus*)

ORDER: CHIROPTERA (Bats)

FAMILY: VESPERTILIONIDAE (Evening Bats)

Little Brown Myotis (*Myotis lucifugus*)

Yuma Myotis (*Myotis yumanensis*)

Long-Eared Myotis (*Myotis evotis*)

Fringed Myotis (*Myotis thysanodes*)

Long-Legged Myotis (*Myotis volans*)

California Myotis (*Myotis californicus*)

Western Small-Footed Myotis (*Myotis ciliolabrum*)

Western Pipistrelle (*Pipistrellus hesperus*)

Big Brown Bat (*Eptesicus fuscus*)

Western Red Bat (*Lasiurus blossevillii*)

Hoary Bat (*Lasiurus cinereus*)

Spotted Bat (*Euderma maculatum*)

Pale Big-eared Bat (*Corynorhinus townsendii pallescens*)

Townsend's Big-Eared Bat (*Corynorhinus townsendii townsendii*)

Pallid Bat (*Antrozous pallidus*)

FAMILY: MOLOSSIDAE (Free-tailed Bats)

Brazilian Free-Tailed Bat (*Tadarida brasiliensis*)

Western Mastiff Bat (*Eumops perotis*)

ORDER: LAGOMORPHA (Rabbits, Hares and Pika)

FAMILY: LEPORIDAE (Rabbits and Hares)

Desert Cottontail (*Sylvilagus audubonii*)

Black-Tailed Jackrabbit (*Lepus californicus*)

ORDER: RODENTIA (Rodents)

FAMILY: SCIURIDAE (Squirrels, Chipmunks and Marmots)

*California Ground Squirrel (*Spermophilus beecheyi*)

FAMILY: GEOMYIDAE (Pocket Gophers)

*Botta's Pocket Gopher (*Thomomys bottae*)

FAMILY: HETEROMYIDAE (Pocket Mice and Kangaroo Rats)

California Pocket Mouse (*Chaetodipus californicus*)

FAMILY: MURIDAE (Mice, Rats and Voles)

Western Harvest Mouse (*Reithrodontomys megalotis*)

California Mouse (*Peromyscus californicus*)

Deer Mouse (*Peromyscus maniculatus*)

California Vole (*Microtus californicus*)

House mouse (*Mus musculus*)

ORDER: CARNIVORA (Carnivores)

FAMILY: CANIDAE (Foxes, Wolves and Relatives)

Coyote (*Canis latrans*)

Gray Fox (*Urocyon cinereoargenteus*)

FAMILY: MUSTELIDAE (Weasels and Relatives)

Long-Tailed Weasel (*Mustela frenata*)

American Badger (*Taxidea taxus*)

FAMILY: MEPHITIDAE (Skunks)

Western Spotted Skunk (*Spilogale gracilis*)

Striped Skunk (*Mephitis mephitis*)

FAMILY: FELIDAE (Cats)

Feral Cat (*Felis catus*)

Bobcat (*Lynx rufus*)

ORDER: ARTIODACTYLA (Even-toed Ungulates)

FAMILY: UIDAE (Pigs)

Wild Pig (*Sus scrofa*)

FAMILY: CERVIDAE (Deer, Elk and Relatives)

Mule Deer (*Odocoileus hemionus*)

August 6, 2014

**APPENDIX D:
SELECT PHOTOGRAPHS OF THE PROJECT SITE**



Photo #1. Deer Creek Rock Mine, Tulare County. Active mine site,



Photo #2. Deer Creek Rock Mine, Tulare County. Active mine site,



Photo #3. Deer Creek Rock Mine, Tulare County. Active mine site from former olive orchard on Garden Groves parcel.



Photo #4. Deer Creek Rock Mine, Tulare County. Former olive orchard on Garden Groves parcel.



Photo #5. Deer Creek Rock Mine, Tulare County. Non-native grassland south of active mine site.



Photo #6. Deer Creek Rock Mine, Tulare County. Riparian habitat associated with Deer Creek relative to active mine site in photo's upper left-hand corner.

APPENDIX E



**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 for:

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Prepared by:

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Sierra Valley Cultural Planning
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September 2014

Topographic Quadrangle: Success Dam, 7.5' (1977) and Monson, 7.5' (1969)
Area: 98 acres (40 hectares)

(Keywords: *Tulare, Township 22S, Range 28E, Bokninuwad Yokuts, K'eyau, Deer Creek*)

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SUMMARY OF FINDINGS

Deer Creek Rock Company has applied for an amendment to an existing surface mining and Reclamation plan permit issued by the County of Tulare Resources Management Agency. No lateral expansion of the approved 98-acre mine footprint will occur as a result of this proposed action.

On September 2, 2014, the author travelled to the Deer Creek Rock company quarry to perform an archaeological survey of accessible portions of the project area. All of the study area is currently within an open rock quarry. The Deer Creek Rock Company study area (which includes APN 305-1990-021) is located in Township 22S, Range 28E, Section 21, MDB&M (see Maps 1-3).

Tulare County Resource Management Agency is preparing environmental documents necessary under the California Environmental Quality Act (CEQA). Provisions and implementing guidelines of the CEQA, as amended March 18, 2010, state that identification and evaluation of historical resources is required for any action that may result in a potential adverse effect on the significance of such resources, which include archaeological resources.

No archaeological or other cultural resources were identified as a result of this cultural resources assessment. No Native American areas of concern were identified as a result of consultation with the Native American Heritage Commission and local Native American groups. Therefore, it is unlikely that the proposed action will have an effect on important archaeological, historical, or other cultural resources. No further cultural resources investigation is therefore recommended. In the unlikely event that buried archaeological deposits are encountered within the project area, the finds must be evaluated by a qualified archaeologist. Should human remains be encountered, the County Coroner must be contacted immediately; if the remains are determined to be Native American, then the Native American Heritage Commission must be contacted as well.

INTRODUCTION

This report presents the findings of a cultural resources assessment of a 98-acre rock quarry located in south-central Tulare County, California (see Maps 1-3). The study was completed by Sierra Valley Cultural Planning (SVCP) Principal Investigator C. Kristina Roper.

Deer Creek Rock Company has applied for an amendment to an existing surface mining and Reclamation plan permit issued by the County of Tulare Resources Management Agency. No lateral expansion of the approved 98-acre mine footprint will occur as a result of this proposed action.

Tulare County Resource Management Agency is preparing environmental documents necessary under the California Environmental Quality Act (CEQA). Provisions and implementing guidelines of the CEQA, as amended March 18, 2010, state that identification and evaluation of historical resources is required for any action that may result in a potential adverse effect on the significance of such resources, which include archaeological resources.

SVCP Principal Investigator C. Kristina Roper performed the assessment reported herein. Ms. Roper has over 33 years of professional experience in the field of archaeologist, historical research, specifically in the investigation and management of cultural resources within the context of local, state and federal regulatory compliance for projects in the Far West. Ms. Roper holds a Master's degree in Cultural Resources Management awarded in 1993 from Sonoma State University, and is certified as a Registered Professional Archaeologist.

PROJECT LOCATION AND DESCRIPTION

Deer Creek Rock Company has applied for an amendment to an existing surface mining and Reclamation plan permit issued by the County of Tulare Resources Management Agency. No lateral expansion of the approved 98-acre mine footprint will occur as a result of this proposed action. The proposed project would amend Tulare County permits covering mining operations for PM 01-001, PSP 01-055(ZA), and PMR 09-002. Specifically, the amendments would allow: (1) the expansion of production for the hard rock mine and asphalt concrete drum mix plant from 500,000 tons per year to 950,000 tons per year, (2) affirm the operating hours are from 7:00 a.m. Mondays to 6:00 p.m. Fridays, with an allowance to work on weekends due to utility demands and state and local government paving requirements, and (3) increase heavy-duty diesel haul truck trips per day from 100 to 187.5 (from 200 to 375 round-trips). The proposed project would operate through the year 2062, which is the estimated mining operation completion date. The project site would be reclaimed to grazing land pursuant to the existing approved reclamation plan.

This project site encompasses approximately 98 acres, and is located in south central Tulare County, south of Deer Creek and Avenue 120 and east of Road 272, approximately 8 miles southeast of the City of Porterville. The Deer Creek Rock Project site can be found on the Lake Success USGS 7.5-minute quadrangle, in Section 21 of Township 22 South, Range 28 East, Mount Diablo Base and Meridian (MDB&M) (see Maps 1-3).

REGULATORY FRAMEWORK

CEQA requires consideration of project impacts on archaeological or historical sites deemed to be "historical resources." Under CEQA, a substantial adverse change in the significant qualities of a historical resource is considered a significant effect on the environment. For the purposes of CEQA, a "historical resource" is a resource listed in, or determined to be eligible for listing in, the CR (Title 14 CCR §15064.5(a)(1)-(3)). Historical resources may include, but are not limited to, "any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (PRC §5020.1(j)).

The eligibility criteria for the CR are the definitive criteria for assessing the significance of historical resources for the purposes of CEQA (Office of Historic Preservation n.d.). Generally, a resource is considered "historically significant" if it meets one or more of the following criteria for listing on the CR:

- (1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- (2) Is associated with the lives of persons important in our past.
- (3) 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.
- (4) Has yielded, or may be likely to yield, information important in prehistory or history. (PRC §5024.1(c)).

SOURCES CONSULTED

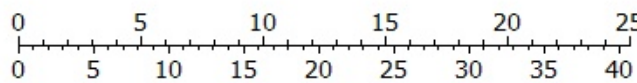
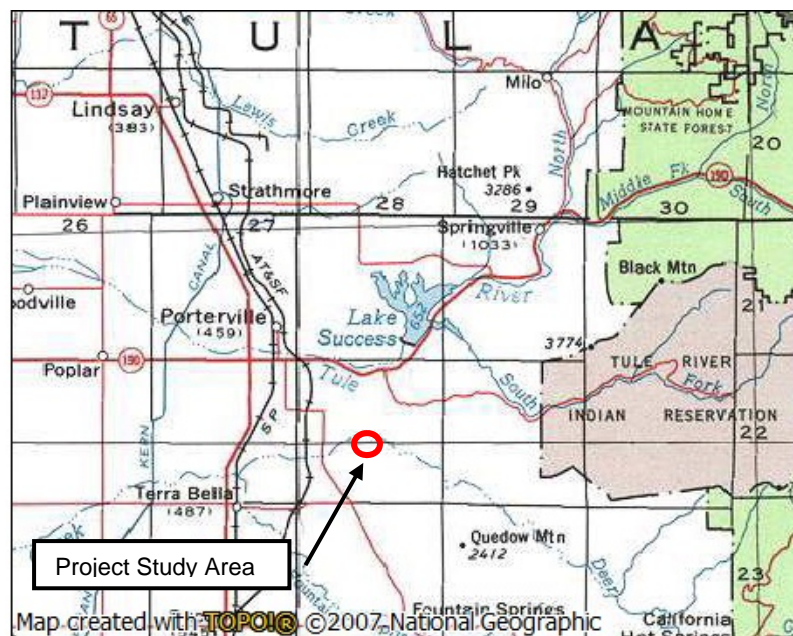
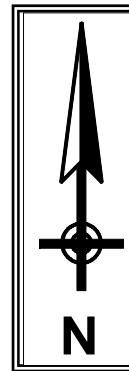
Prior to field inspection, a records search was conducted by the author with the Southern San Joaquin Valley Information Center of the California Historical Resources Information System to identify areas previously surveyed and identify known cultural resources present within or in close proximity to the study area. According to the Information Center records, there has been one cultural resource survey completed within the project study area (Jensen 2009), and one study immediately adjacent to the project study area (Hudlow 2008). No cultural resources have been recorded within, or within a one-half mile radius of the project study area. There are no other resources within or in the immediate vicinity of the study area that are listed on the National Register of Historic Places, the California Register of Historic Resources, California Points of Historical Interest, State Historic Landmarks, or the California Inventory of Historic Resources (see Attachment A).

The Native American Heritage Commission (NAHC) was contacted on 8 August 2014 in order to determine whether Native American sacred sites have been identified either within or in close proximity to the study area. A response received August 12, 2014. While no Native American traditional cultural places were identified within the project area, there are cultural resources in close proximity to the project area along Deer Creek. The NAHC provided a list of nine Native American tribes and individuals/organization that may have knowledge of cultural resources in or near the project area. Letters were written to the nine individuals on 22 August 2014. No responses were received as of 11 September 2014. Consultation correspondence is included in Attachment B.

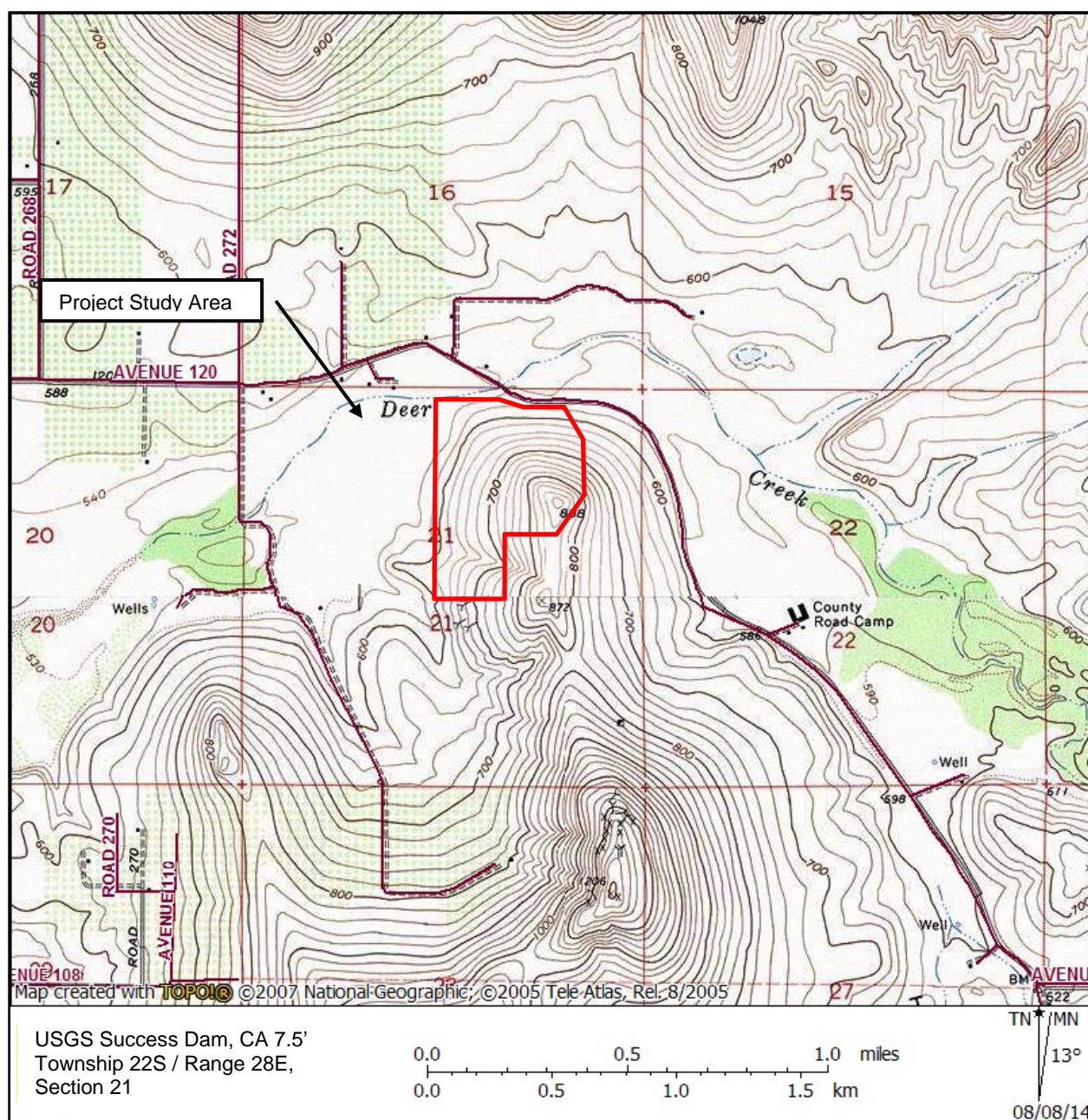
MAP 1. STUDY VICINITY

Deer Creek Rock Company
Project Study Area

County of Tulare



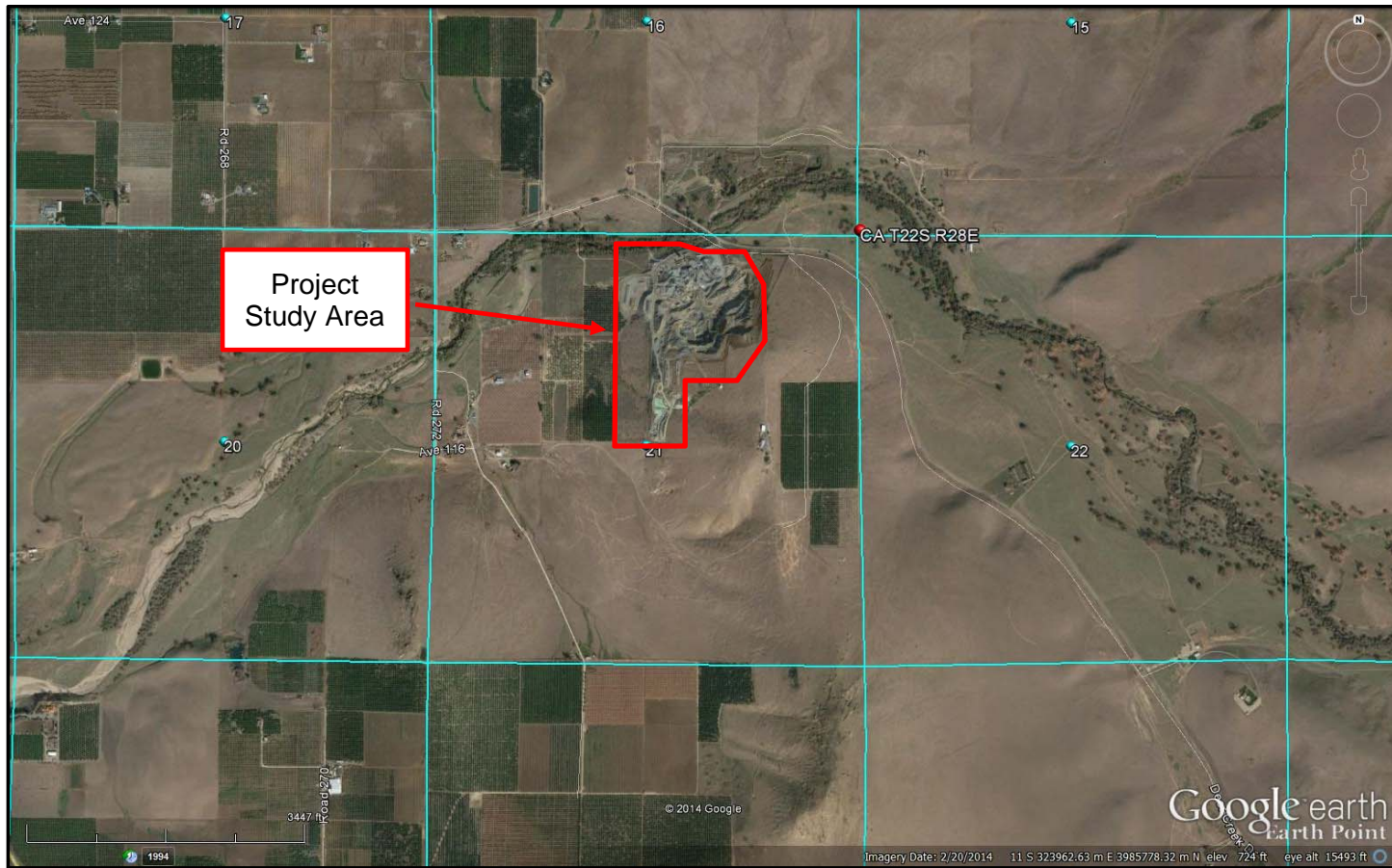
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Map 2. Deer Creek Rock Company Project Study Area, Tulare County, California.

BACKGROUND

Prior to EuroAmerican exploration and settlement in the region, the central San Joaquin Valley was extensive grassland covered with spring-flowering herbs. Stands of trees -- sycamore, cottonwoods, box elders and willows -- lined the stream and river courses with groves of valley oaks in well-watered localities with rich soil. Rivers yielded fish, mussels, and pond turtles; migratory waterfowl nested in the dense tules along the river sloughs downstream. When the Spanish first set foot in the area, they found the deer and tule elk trails to be so broad and extensive that they first supposed that the area was occupied by cattle. Grizzly bears occupied



Map 3. Aerial View of Deer Creek Rock Company Project Study Area.

the open grassland and riparian corridors on the valley floor and adjacent foothills. Smaller mammals and birds, including jackrabbits, ground squirrels, and quail were abundant. Native Americans occupants of the region describe abundant sedge beds, along with rich areas of deer grass, plants that figure prominently in the construction of Native American basketry items.

Prehistoric Period Summary

The San Joaquin Valley and adjacent Sierran foothills and Coast Range have a long and complex cultural history with distinct regional patterns that extend back more than 11,000 years (McGuire 1995). The first generally agreed-upon evidence for the presence of prehistoric peoples in the region is represented by the distinctive basally-thinned and fluted projectile points, found on the margins of extinct lakes in the San Joaquin Valley. These projectiles, often compared to Clovis points, have been found at three localities in the San Joaquin Valley including along the Pleistocene shorelines of former Tulare Lake. Based on evidence from these sites and other well-dated contexts elsewhere, these Paleo-Indian hunters who used these spear points existed during a narrow time range of 11550 cal B.C. to 8550 cal B.C. (Rosenthal et al. 2007).

As a result of climate change at the end of the Pleistocene, a period of extensive deposition occurred throughout the lowlands of central California, burying many older landforms and providing a distinct break between Pleistocene and subsequent occupations during the Holocene. Another period of deposition, also a product of climate change, had similar results

around 7550 cal B.C., burying some of the oldest archaeological deposits discovered in California (Rosenthal and Meyer 2004).

The Lower Archaic (8550-5550 cal B.C.) is characterized by an apparent contrast in economies, although it is possible they may be seasonal expressions of the same economy. Archaeological deposits which date to this period on the valley floor frequently include only large stemmed spear points, suggesting an emphasis on large game such as artiodactyls (Wallace 1991). Recent discoveries in the adjacent Sierra Nevada have yielded distinct milling assemblages which clearly indicate a reliance on plant foods. Investigations at Copperopolis (LaJeunesse and Pryor 1996) argue that nut crops were the primary target of seasonal plant exploitation. Assemblages at these foothill sites include dense accumulations of handstones, millingslabs, and various cobble-core tools, representing “frequently visited camps in a seasonally structured settlement system” (Rosenthal et al. 2007:152). During the Lower Archaic, regional interaction spheres were well established. Marine shell from the central California coast has been found in early Holocene contexts in the Great Basin east of the Sierra Nevada, and eastern Sierra obsidian comprises a large percentage of flaked stone debitage and tools recovered from sites on both sides of the Sierra (Rosenthal et al. 2007:152).

About 8,000 years ago, many California cultures shifted the main focus of their subsistence strategies from hunting to nut and seed gathering, as evidenced by the increase in food-grinding implements found in archeological sites dating to this period. This cultural pattern is best known for southern California, where it has been termed the Milling Stone Horizon (Wallace 1954, 1978a), but recent studies suggest that the horizon may be more widespread than originally described and is found throughout the central region during the Middle Archaic Period. Dates associated with this period vary between 9,000 and 2,000 cal BP, although most cluster in the 6,800 to 4,500 cal BP range (Basgall and True 1985).

On the valley floor, early Middle Archaic sites are relatively rare; this changes significantly toward the end of the Middle Archaic. In central California late Middle Archaic settlement focused on river courses on the valley floor. “Extended residential settlement at these sites is indicated by refined and specialized tool assemblages and features, a wide range of nonutilitarian artifacts, abundant trade objects, and plant and animal remains indicative of year-round occupation” (Rosenthal et al. 2007:154). Again, climate change apparently influence this shift, with warmer, drier conditions prevailing throughout California. The shorelines of many lakes, including Tulare Lake, contracted substantially, while at the same time rising sea levels favored the expansion of the San Joaquin/Sacramento Delta region, with newly formed wetlands extending eastward from the San Francisco Bay.

In contrast with rare early Middle Archaic sites on the valley floor, early Middle Archaic sites are relatively common in the Sierran foothills, and their recovered, mainly utilitarian assemblages show relatively little change from the preceding period with a continued emphasis on acorns and pine nuts. Few bone or shell artifacts, beads, or ornaments have been recovered from these localities. Projectile points from this period reflect a high degree of regional morphological variability, with an emphasis on local toolstone material supplemented with a small amount of obsidian from eastern sources. In contrast with the more elaborate mortuary assemblages and extended burial mode documented at Valley sites, burials sites documented at some foothill sites such as CA-FRE-61 on Wahtoke Creek are reminiscent of “re-burial” features reported from Milling Stone Horizon sites in southern California. These re-burials are characterized by re-interment of incomplete skeletons often capped with inverted millingsstones (McGuire 1995:57).

A return to colder and wetter conditions marked the Upper Archaic in Central California (550 cal B.C. to cal A.D. 1100). Previously desiccated lakes returned to spill levels and increased freshwater flowed in the San Joaquin and Sacramento watershed. Cultural patterns as reflected

in the archeological record, particularly specialized subsistence practices, emerged during this period. The archeological record becomes more complex, as specialized adaptations to locally available resources were developed and valley populations expanded into the lower Sierran foothills. New and specialized technologies expanded and distinct shell bead types occurred across the region. The range of subsistence resources utilized and exchange systems expanded significantly from the previous period. In the Central Valley, archaeological evidence of social stratification and craft specialization is indicated by well-made artifacts such as charmstones and beads, often found as mortuary items.

The period between approximately cal A.D. 1000 and Euro-American contact is referred to as the Emergent Period. The Emergent Period is marked by the introduction of bow and arrow technology which replaced the dart and atlatl at about cal A.D. 1000 and 1300. In the San Joaquin region, villages and small residential sites developed along the many stream courses in the lower foothills and along the river channels and sloughs of the valley floor. A local form of pottery was developed in the southern Sierran foothills along the Kaweah River. While many sites with rich archaeological assemblages have been documented in the northern Central Valley, relatively few sites have been documented from this period in the southern Sierran foothills and adjacent valley floor, despite the fact that the ethnographic record suggests dense populations for this region.

Ethnographic Summary

Prior to EuroAmerican settlement, most of the San Joaquin Valley and the bordering foothills of the Sierra Nevada were inhabited by speakers of Yokutsan languages. Kroeber (1963) identified foothill groups as holding the Sierran piedmont at elevations between roughly 150 and 900 m (500-3,000 ft). The Western Mono (Monache) formed a second tier of occupation between roughly 900 and 2,200 m (3,000-7,200 ft) elevation (Moratto 1984). The present study area falls within the *Bokninuwad* Yokuts territory. The *Bokninuwad* Yokuts, occupied the area between Tule River and Deer Creek in the lower Sierra foothills. Their main village was *K'eyau*, with a secondary village at *Hoin Tinliu* farther up on Deer Creek near California Hot Springs. Their recognized northward range included the present-day Tule River Indian Reservation (Kroeber 1925:480).

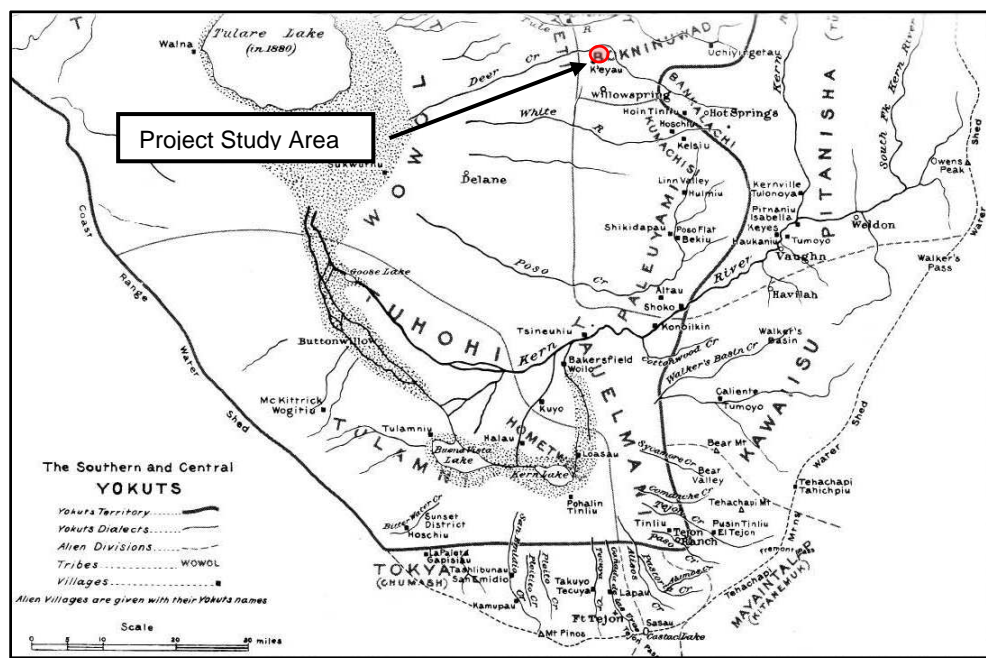


Figure 1. *Bokninuwad* Yokuts Territory relative to the Project Study Area (Kroeber 1925).

Due to the abundance and diversity of wildlife habitats and plant communities within the Sierran foothills and nearby San Joaquin Valley and higher elevations of the Sierra Nevada, Native American population densities in the region were quite high (Baumhoff 1963). While the acorn was the dietary staple, the diversity of accessible natural resources provided an omnivorous diet. The reader is referred to Gayton (1948), Kroeber (1925), Latta (1999), Spier (1978) and Wallace (1978b) for additional information on pre-contact Yokuts subsistence and culture. Figure 1 depicts the location of *Bokninuwad* Yokut territory relative to the study area.

Historic Period Summary

The San Joaquin Valley was visited in the early 1800s by Spanish expeditions exploring the interior in search of potential mission sites. The Moraga (1806) expedition may have passed through *Koyeti* territory to the west of the study area (Cook 1960; Smith 1939). In 1832-33 Colonel Jose J. Warner, a member of the Ewing-Young trapping expedition, passed through the San Joaquin Valley. Warner described Native villages densely packed along the valley waterways, from the foothills down into the slough area. The next year he revisited the area following a devastating malaria epidemic. Whereas the previous year the region had been densely occupied by Native peoples, during this trip not more than five Indians were observed between the head of the Sacramento Valley and the Kings River (Cook 1955).

EuroAmerican appreciation for the land did not include acceptance of its indigenous human populations, and pressure was exerted upon the US military to remove the Native population from the region, leaving the region open for American settlement and resource development. EuroAmerican settlement of the region began in 1851 with the establishment of Fort Miller on the San Joaquin River. In 1856 Native Americans burned 13 houses in the foothills along Deer Creek and Tule River (Menefee and Dodge 1913:24). Hostilities between Native inhabitants and American settlers initially prevented widespread settlement of the region; however, by 1860 such threats had been reduced and settlers began taking up large tracts in the region.

Due to the marshy conditions of the Tulare Lake basin, wagon roads on the east side of the San Joaquin Valley were located along the east side of the valley adjacent to the lower Sierran foothills. Following the discovery of gold in California in 1848, most gold seekers went to the central and northern Sierran foothills; however, a number of miners sought fortune in the southern Sierran foothills. A store was set up in the area that was to become Porterville in 1856 to sell goods to miners and the Indians who lived in tribal lands along the rivers. By the late 1850s, a number of settlers had made permanent locations in the area, and in 1859 the Overland Mail Route between St. Louis and San Francisco was established with a stage stop located in what is now Porterville. Royal Porter Putnam came to the village in 1860 to raise cattle, horses and hogs. He bought 40 acres of land and built a two-story store and a hotel on the highest point of the swampy property, which is now the corner of Oak and Main. The town took its name from the founder's given name because another Putnam family lived south of town (Menefee and Dodge 1913: 75).

In 1862, 20.8 inches of rain fell in the area causing the change of course of the Tule River. Putnam's acres drained and he had his property surveyed, staking out lot lines and establishing streets. Settlers were offered a free lot for every one purchased. Needs of a burgeoning California population for food gave the impetus which led to permanent development of the east side southern San Joaquin Valley. The long, dry, hot summer prompted irrigation of the lands.

In 1888, the Southern Pacific Railway brought in the branch line from Fresno. The Pioneer Hotel and Bank were built by businessmen from San Francisco. The town incorporated in 1902, as miners moved into the area to extract magnetite ore, and the Chamber of Commerce was formed in 1907. A City Manager-Council form of government was adopted in 1926, and a Charter

was adopted. The City has grown from a community of 5,000 persons in 1920. Agriculture supplemented by the Central Valley Water Project has been the major source of economic growth in the area. The City is the center of a large farming area noted especially for citrus and livestock (City of Porterville 2011).

SURVEY METHODS AND RESULTS

On September 2, 2014, the author travelled to the Deer Creek Rock company quarry to perform an archaeological survey of accessible portions of the project study area. All of the area is currently within an open rock quarry. 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 project area. The northern and northwestern perimeter of the mining area along Deer Creek within an existing orchard were inspected for cultural resources. No cultural resources were noted in these areas.

FINDINGS AND RECOMMENDATIONS

No archaeological or other cultural resources were identified as a result of this cultural resources assessment. No Native American areas of concern were identified as a result of consultation with the Native American Heritage Commission and local Native American groups. Therefore, it is unlikely that the proposed action will have an effect on important archaeological, historical, or other cultural resources. No further cultural resources investigation is therefore recommended. In the unlikely event that buried archaeological deposits are encountered within the project area, the finds must be evaluated by a qualified archaeologist. Should human remains be encountered, the County Coroner must be contacted immediately; if the remains are determined to be Native American, then the Native American Heritage Commission must be contacted as well.

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PREPARER'S QUALIFICATIONS

C. Kristina Roper conducted the historical resources inventory and background research, and assisted in the preparation of this Archaeological Survey Report. Ms. Roper has over 30 years of professional experience in the field of archaeology, historical research and architectural evaluation, specifically in the investigation and management of cultural resources within the context of local, state and federal regulatory compliance for projects in the Far West. Ms. Roper holds a Master's degree in Cultural Resources Management awarded in 1993 from Sonoma State University, and is certified as a Registered Professional Archaeologist. She has completed graduate-level coursework in historical architectural evaluation and historic research. Her experience in cultural resources management includes both government and private sector employment and contracting for archaeological field services and historic research, documentation of resource assessments for Initial Studies (IS), Environmental Assessments (EA), Environmental Impact Reports (EIR), and Environmental Impact Statements (EIS). Ms. Roper is a registered archaeologist with the California Historic Resources Information System.

Ms. Roper has participated in planning efforts with numerous governmental entities in the San Joaquin Valley. She has prepared heritage preservation ordinances for the City of Chowchilla, serves as advisory staff to the Chowchilla Heritage Preservation Commission, and has recently completed a multi-year survey and assessment of Chowchilla's built environment. Ms. Roper has prepared a cultural resources records search and sensitivity analysis to be used in the development of a revised General Plan for the City of Coalinga, Fresno County. Ms. Roper has consulted with Native American tribes in the San Joaquin Valley and Sierra foothills under Senate Bill 18 (SB 18), which applies to General Plans, Specific Plans, and amendments proposed on or after March 1, 2005. SB 18 expands CEQA for the protection of California's traditional tribal cultural places by requiring consultation with Native American Groups during these planning efforts to define resources and sacred areas and incorporate protection of these important resources into the planning process.

Ms. Roper has served as a Lecturer in Anthropology at California State University Fresno from 1995 to the present. Among her many courses taught is an upper division course in Cultural Resources Management which provides an overview of state and federal historic preservation law and the identification and evaluation of cultural resources. From 2002 through June of 2009, Ms. Roper served as Project Director for a services contract with the California Department of Transportation, District 6, Cultural Resources Branch, administered by the California State University Foundation. Ms. Roper supervised a team of cultural resources technicians who performed professional and technical services required by Caltrans for cultural resource studies. These included archaeological survey, title search for historic structures and properties, prehistoric and historic background research, excavation of archaeological sites, electronic data entry, and maintenance of confidential archaeological records and files.

ATTACHMENT A:
RECORDS SEARCH



8/13/2014

C. Kristina Roper
Sierra Valley Cultural Planning
41845 Sierra Drive
Three Rivers, CA 93271

Re: Deer Creek Rock Company Surface Mining and Reclamation
Records Search File No.: 14-288

The Southern San Joaquin Valley Information Center received your record search request for the project area referenced above, located on the Fountain Springs and Success Dam USGS 7.5' quads. The following reflects the results of the records search for the project area and a 0.25 mile radius:

As indicated on the data request form, the locations of resources and reports are provided in the following format: ☐ custom GIS maps ☐ shapefiles ☒ hand-drawn maps (custom GIS maps & shapefiles not currently available)

Resources within project area:	None
Resources within 0.025 radius:	None
Reports within project area:	TU-01336
Reports within 0.25 radius:	TU-01335

Resource Database Printout (list):

☐ enclosed ☐ not requested ☒ nothing listed ☐ not available

Resource Database Printout (details):

☐ enclosed ☐ not requested ☒ nothing listed ☐ not available

Resource Digital Database Records:

☐ enclosed ☒ not requested ☐ nothing listed ☐ not available

Report Database Printout (list):

☒ enclosed ☐ not requested ☐ nothing listed ☐ not available

Report Database Printout (details):

☒ enclosed ☐ not requested ☐ nothing listed ☐ not available

Report Digital Database Records:

☐ enclosed ☒ not requested ☐ nothing listed ☐ not available

Resource Record Copies:

☐ enclosed ☐ not requested ☒ nothing listed ☐ not available

Report Copies:

☒ enclosed ☐ not requested ☐ nothing listed ☐ not available

OHP Historic Properties Directory:

☐ enclosed ☐ not requested ☒ nothing listed ☐ not available

Archaeological Determinations of Eligibility:

☐ enclosed ☐ not requested ☒ nothing listed ☐ not available

CA Inventory of Historic Resources (1976):

☐ enclosed ☐ not requested ☒ nothing listed ☐ not available

Caltrans Bridge Survey:

☐ enclosed ☒ not requested ☐ nothing listed ☐ not available

Ethnographic Information:☐ enclosed ☒ not requested ☐ nothing listed ☐ not available**Historical Literature:**☐ enclosed ☒ not requested ☐ nothing listed ☐ not available**Historical Maps:**☐ enclosed ☐ not requested ☐ nothing listed ☒ not available**Local Inventories:**☐ enclosed ☒ not requested ☐ nothing listed ☐ not available**GLO and/or Rancho Plat Maps:**☐ enclosed ☐ not requested ☐ nothing listed ☒ not available**Shipwreck Inventory:**☐ enclosed ☐ not requested ☐ nothing listed ☒ not available**Soil Survey Maps:**☐ enclosed ☐ not requested ☐ nothing listed ☒ not available

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Please note that invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

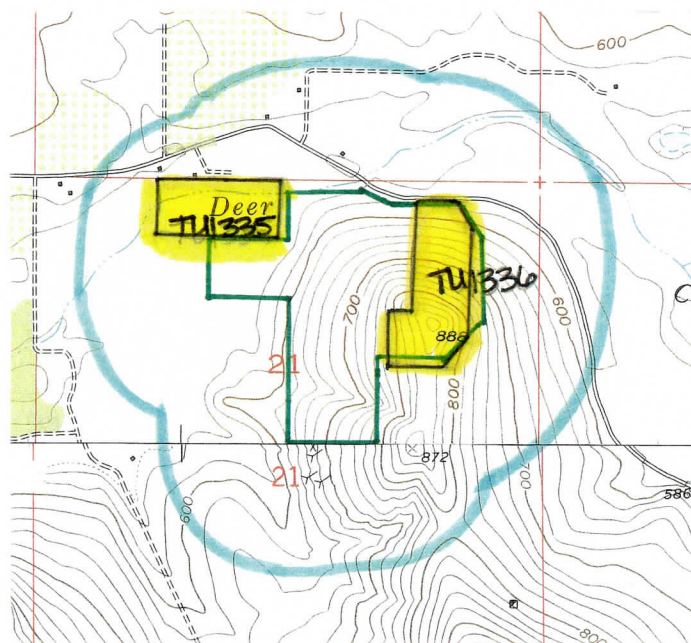
Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,



Celeste Thomson
Coordinator

Record Search 14-288
Fountain Springs 7.5'
& Success Dam 7.5'
Tulare County, CA



ATTACHMENT B:
NATIVE AMERICAN HERITAGE COMMISSION
CORRESPONDENCE

NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710
Fax (916) 373-5471



August 12, 2014

C. Kristina Roper
Sierra Valley Cultural Planning
41845 Sierra Drive
Three Rivers, CA 93271

Sent by Fax: (559) 561-6041
Number of Pages: 2

Re: Deer Creek Rock Company Surface Mining and Reclamation Project, Tulare County.

Dear Ms. Roper,

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 373-3712.

Sincerely,

A handwritten signature in cursive script that reads "Katy Sanchez".

Katy Sanchez
Associate Government Program Analyst

Native American Contact List
Tulare County
August 11, 2014

* Santa Rosa Rancheria
Rueben Barrios Sr., Chairperson
P.O. Box 8
Lemoore, CA 93245
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Tache
Tachi
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* Kern Valley Indian Council
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Tubatulabal
Kawaiisu
Koso
Yokuts

* Tule River Indian Tribe
Neil Peyron, Chairperson
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Yokuts

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Yokuts

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Mono
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Choinumni

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Porterville, CA 93258
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Yokuts

* Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
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Salinas, CA 93906
kwood8934@aol.com
(831) 443-9702

Foothill Yokuts
Mono
Wuksache

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to the proposed Deer Creek Rock Company Surface Mining and Reclamation Project, Tulare County.

22 August 2014

Wuksache Indian Tribe / Eshom Valley Band
Kenneth Woodrow, Chairperson
P.O. Box 589
Porterville, CA 93258

Re: Cultural Resources Assessment, Deer Creek Rock Company, Surface Mining Permit
Amendment, Northern Foot of Tennessee Ridge, five miles southeast of Porterville,
Tulare County, CA

Dear Chairperson Woodrow:

Deer Creek Rock Company has applied for an amendment to an existing surface mining and Reclamation plan permit issued by the County of Tulare Resources Management Agency. No lateral expansion of the approved mine footprint will occur as a result of this proposed action. The amendment is to make the existing permits consistent with each other.

Sierra Valley Cultural Planning has been asked to complete a cultural resources assessment for the Deer Creek Rock Company, which includes background research and a pedestrian survey of the project area to address potential effects to cultural resources as a result of the proposed project. Aerial and topo maps of the general area are attached.

We are seeking information from Native American representatives in the area regarding the existence of sites that could be affected by development-related activities in the project area. A search of the Sacred Lands Inventory on file with the Native American Heritage Commission (NAHC) failed to indicate the presence of Native American cultural resources in the project area. A records search with the Southern San Joaquin Valley Information Center at CSU Bakersfield has also failed to identify any cultural resources within or immediately adjacent to the project area. Portions of the project area were previously inventory in 2009; no resources were discovered at that time.

The NAHC has recommended that we contact culturally affiliated tribes and interested Native American individuals that may have knowledge of the religious and cultural significance of historic properties in the project area vicinity so as to best avoid unanticipated discoveries once the project is underway.

Thank you for your assistance in this matter. Please give me a call at (559) 288-6375 if you have any questions.

Respectfully,

C. Kristina Roper
Principal

22 August 2014

Tule River Indian Tribe
Kerri Vera, Director - Environmental Department
P.O. Box 589
Porterville, CA 93258

Re: Cultural Resources Assessment, Deer Creek Rock Company, Surface Mining Permit Amendment, Northern Foot of Tennessee Ridge, five miles southeast of Porterville, Tulare County, CA

Dear Director Vera:

Deer Creek Rock Company has applied for an amendment to an existing surface mining and Reclamation plan permit issued by the County of Tulare Resources Management Agency. No lateral expansion of the approved mine footprint will occur as a result of this proposed action. The amendment is to make the existing permits consistent with each other.

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Thank you for your assistance in this matter. Please give me a call at (559) 288-6375 if you have any questions.

Respectfully,

C. Kristina Roper
Principal

22 August 2014

Kern Valley Indian Council
Julie Turner, Secretary
P.O. Box 589
Porterville, CA 93258

Re: Cultural Resources Assessment, Deer Creek Rock Company, Surface Mining Permit Amendment, Northern Foot of Tennessee Ridge, five miles southeast of Porterville, Tulare County, CA

Dear Ms. Turner:

Deer Creek Rock Company has applied for an amendment to an existing surface mining and Reclamation plan permit issued by the County of Tulare Resources Management Agency. No lateral expansion of the approved mine footprint will occur as a result of this proposed action. The amendment is to make the existing permits consistent with each other.

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Thank you for your assistance in this matter. Please give me a call at (559) 288-6375 if you have any questions.

Respectfully,

C. Kristina Roper
Principal

22 August 2014

Kern Valley Indian Council
Robert Robinson, Co-Chairperson
P.O. Box 589
Porterville, CA 93258

Re: Cultural Resources Assessment, Deer Creek Rock Company, Surface Mining Permit Amendment, Northern Foot of Tennessee Ridge, five miles southeast of Porterville, Tulare County, CA

Dear Chairperson Robinson:

Deer Creek Rock Company has applied for an amendment to an existing surface mining and Reclamation plan permit issued by the County of Tulare Resources Management Agency. No lateral expansion of the approved mine footprint will occur as a result of this proposed action. The amendment is to make the existing permits consistent with each other.

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Thank you for your assistance in this matter. Please give me a call at (559) 288-6375 if you have any questions.

Respectfully,

C. Kristina Roper
Principal

22 August 2014

Tule River Indian Tribe
Neil Peyron, Chairperson
P.O. Box 589
Porterville, CA 93258

Re: Cultural Resources Assessment, Deer Creek Rock Company, Surface Mining Permit Amendment, Northern Foot of Tennessee Ridge, five miles southeast of Porterville, Tulare County, CA

Dear Chairperson Peyron:

Deer Creek Rock Company has applied for an amendment to an existing surface mining and Reclamation plan permit issued by the County of Tulare Resources Management Agency. No lateral expansion of the approved mine footprint will occur as a result of this proposed action. The amendment is to make the existing permits consistent with each other.

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Thank you for your assistance in this matter. Please give me a call at (559) 288-6375 if you have any questions.

Respectfully,

C. Kristina Roper
Principal

22 August 2014

Tule River Indian Tribe
Joey Garfield, Tribal Archaeological Monitor
P.O. Box 589
Porterville, CA 93258

Re: Cultural Resources Assessment, Deer Creek Rock Company, Surface Mining Permit Amendment, Northern Foot of Tennessee Ridge, five miles southeast of Porterville, Tulare County, CA

Dear Mr. Garfield:

Deer Creek Rock Company has applied for an amendment to an existing surface mining and Reclamation plan permit issued by the County of Tulare Resources Management Agency. No lateral expansion of the approved mine footprint will occur as a result of this proposed action. The amendment is to make the existing permits consistent with each other.

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Thank you for your assistance in this matter. Please give me a call at (559) 288-6375 if you have any questions.

Respectfully,

C. Kristina Roper
Principal

22 August 2014

Santa Rosa Tachi Rancheria
Lalo Franco, Cultural Coordinator
P.O. Box 8
Lemoore, CA 93245

Re: Cultural Resources Assessment, Deer Creek Rock Company, Surface Mining Permit Amendment, Northern Foot of Tennessee Ridge, five miles southeast of Porterville, Tulare County, CA

Dear Coordinator Franco:

Deer Creek Rock Company has applied for an amendment to an existing surface mining and Reclamation plan permit issued by the County of Tulare Resources Management Agency. No lateral expansion of the approved mine footprint will occur as a result of this proposed action. The amendment is to make the existing permits consistent with each other.

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Thank you for your assistance in this matter. Please give me a call at (559) 288-6375 if you have any questions.

Respectfully,

C. Kristina Roper
Principal

22 August 2014

Sierra Nevada Native American Coalition
Lawrence Bill, Interim Chairperson
P.O. Box 589
Porterville, CA 93258

Re: Cultural Resources Assessment, Deer Creek Rock Company, Surface Mining Permit
Amendment, Northern Foot of Tennessee Ridge, five miles southeast of Porterville,
Tulare County, CA

Dear Chairperson Bill:

Deer Creek Rock Company has applied for an amendment to an existing surface mining and Reclamation plan permit issued by the County of Tulare Resources Management Agency. No lateral expansion of the approved mine footprint will occur as a result of this proposed action. The amendment is to make the existing permits consistent with each other.

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Thank you for your assistance in this matter. Please give me a call at (559) 288-6375 if you have any questions.

Respectfully,

C. Kristina Roper
Principal

22 August 2014

Santa Rosa Rancheria
Rueben Barrios, Sr., Chairperson
P.O. Box 8
Lemoore, CA 93245

Re: Cultural Resources Assessment, Deer Creek Rock Company, Surface Mining Permit Amendment, Northern Foot of Tennessee Ridge, five miles southeast of Porterville, Tulare County, CA

Dear Chairperson Barrios:

Deer Creek Rock Company has applied for an amendment to an existing surface mining and Reclamation plan permit issued by the County of Tulare Resources Management Agency. No lateral expansion of the approved mine footprint will occur as a result of this proposed action. The amendment is to make the existing permits consistent with each other.

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Thank you for your assistance in this matter. Please give me a call at (559) 288-6375 if you have any questions.

Respectfully,

C. Kristina Roper
Principal

APPENDIX F



Deer Creek Rock Co., Inc.

Noise Study Report

Prepared for:

Tulare County
Resource Management Agency
5961 South Mooney Blvd
Visalia, CA 93277

Prepared by:

VRPA Technologies, Inc.
4630 W. Jennifer, Suite 105
Fresno, CA 93722
Project Manager: Georgiena Vivian



September 2014



Deer Creek Rock Co., Inc. Noise Study Report

Study Team

- Georgiena Vivian, President, VRPA Technologies, Inc., gvivian@vrpatechnologies.com, (559) 259-9257
 - Erik Ruehr, Dir. of Traffic Engineering, VRPA Technologies, Inc., eruehr@vrpatechnologies.com, (858) 566-1766
 - Jason Ellard, Transportation Engineer, VRPA Technologies, Inc., jellard@vrpatechnologies.com, (559) 271-1200
-

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Executive Summary

This Noise Study Report (NSR) has been prepared for the purpose of identifying potential noise impacts that may result from the proposed mining permit amendment for Deer Creek Rock Co., Inc. (Project) which seeks to increase production from 500,000 tons/year to 950,000 tons/year, affirm operating hours, increase truck trips from 100 to 188 per day, and allow for mining related activities on the 20 acre site that was acquired from Garden Groves. The proposed Project is located south of Avenue 120 (Deer Creek Drive) approximately 1/2 mile east of Road 272 along the south bank of Deer Creek.

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.

The Project proposes an amendment to the existing Surface Mining Permit to increase annual production from 500,000 to 950,000 tons/year, as permitted under PMR #'s 01-001 and 09-002 and PSP 01-055(ZA). The amendment is to make the PMRs consistent with each other. No lateral expansion of the approved mine footprint is proposed to occur. Both permits are proposed to allow for trucks hauling to not exceed 188 vehicle trips per day.

When preparing an NSR, guidelines set by affected agencies must be followed. In analyzing noise levels, the FHWA Highway Traffic Noise Prediction methodology must be applied. Safety concerns must also be analyzed to determine the need for appropriate mitigation resulting from increased noise due to increased traffic and other evaluations such as the need for noise barriers and other noise abatement improvements. Unless otherwise stated, all sound levels reported are in A-weighted decibels (dBA). A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards use A-weighting, as it provides a high degree of correlation with human annoyance and health effects.

IMPACTS

Exterior Noise Analysis

Traffic volumes, truck mix, and vehicle speeds were used as inputs to the TNM 2.5 noise model for the Existing, Existing Plus Project, Existing Plus Project Plus Cumulative, and Cumulative Year 2040 With and Without Project modeled scenarios. Traffic volumes and truck mix were determined by the Traffic Impact Study (TIS) prepared for the Project. Table E-1 shows the predicted noise levels at seven (7) sensitive receptors for the Cumulative Year 2040 scenario. Results of the analyses show that none of the sensitive receptors will exceed Tulare County's Land Use Compatibility for Community Noise Environments for both the Year 2040 Without Project and the Cumulative Year 2040 Plus Project scenarios.



When the Project traffic is added to the background or existing noise levels, a slight increase in noise level may occur. The Project's traffic contributes approximately 10% of traffic that is anticipated in the Cumulative 2040 scenario. Table E-1 shows that the greatest increase in noise levels at sensitive receptors as a result of the Project is 2.3 L_{eq} dB's. Tulare County's General Plan has determined that a Project will have a significant impact if it causes or contributes to noise levels that exceed Tulare County's Land Use Compatibility for Community Noise Environments for sensitive receptors. Therefore, the Projects impacts to sensitive receptors is considered less than significant.

Project-Related On-Site Noise Generation

Noise sources identified on the Project site are related to surface mining activities, including loaders, excavators, service trucks, water trucks, and dumb trucks importing/hauling material. Table E-2 shows the noise levels corresponding to the operation of the equipment that is typically used at the project site. There is a residential home located approximately 875 feet southeast of the project's operation/excavation area. It should be noted that the land located south, west, and southwest of the property is zoned AE-40, which is an exclusive zone for intensive agricultural uses and for those uses which are necessary and integral part of the agricultural operation.

Table E-2 also shows the predicted noise generation of the individual on-site noise sources at the nearest residence. In order to determine the cumulative effect of the on-site noise sources, methodology found in Caltrans' Technical Noise Supplement was used. Based on the decibel addition methodology found in Caltrans' Technical Noise Supplement, it was determined that the noise levels experienced at the nearest residence is approximately 68 dBA, if all equipment is operating at the same time. Therefore, on-site operations from the Project have a less than significant impact on the nearest residence southeast of the Property's boundary.

TABLE E-1

Traffic Noise Impacts for Future Year Conditions

Receptor I.D. No.	Cumulative Year 2040 Without Project Noise Level Leq(h) dBA	Cumulative Year 2040 Plus Project Noise Level Leq(h) dBA	Noise Increase (+) or Decrease (-) ¹	Tulare County Noise Standard dBA Ldn	Impact
1	66.1	66.4	0.3	70.0	None
2	48.1	50.4	2.3	60.0	None
3	51.0	53.3	2.3	60.0	None
4	54.8	57.1	2.3	60.0	None
5	56.9	57.4	0.5	60.0	None
6	55.6	55.9	0.3	60.0	Yes
7	48.1	48.4	0.3	70.0	None

TABLE E-2
Project On-Site Noise Emissions

Noise Source	Sound Levels Measured (dBA at 100 feet)	Sound Levels (dBA at nearest residence, approximately 875 feet south of Project boundary) ⁴
Excavation	67 ¹	49.2
Rock Drills	79 ²	61.3
Processing Plant	83 ³	65.3
Front-End Loader	74 ²	56.3
Trucks	78 ²	60.3

¹ Reference measurement data from "Woolstenhulme Ranch Noise Impact Assessment", Merced County, California.
Prepared by RGP Planning & Development Services, July 1999.

² Noise Control for Buildings and Manufacturing Plants (Bolt, Beranek and Newman, 1987).

³ Reference measurement data from "Noise Assessment for the Horowitz Quarry", Riverside County, California.
Prepared by Mestre Greve Associates, August 1990.

⁴ Determined from sound levels at 100 feet and noise attenuation due to distance

CEQA ENVIRONMENTAL CHECKLIST

The following thresholds of significance are based on Appendix G of the 2008 CEQA Guidelines. The significance criteria established by Tulare County is relied upon to make the following determinations.

Would the project:

- ◆ Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Table 7 of the NSR shows that the greatest increase in noise levels at sensitive receptors as a result of the Project is 2.3 Leq dB's. Tulare County's General Plan has determined that a Project will have a significant impact if it causes or contributes to noise levels that exceed Tulare County's Land Use Compatibility for Community Noise Environments for sensitive receptors. Therefore, the Projects impacts to sensitive receptors is considered less than significant.

- ◆ Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?



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 are shown in Table 10. 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.

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 residences include constructions activities, train operations, and street traffic. Table 11 provides some common sources of ground vibration and the relationship to human perception. This information comes from the Federal Transit Administration's "Basic Ground-Borne Vibration Concepts."

Despite the perceptibility threshold of about 65 VdB, human reaction to vibration is not significant unless the vibration exceeds 75 VdB according to the United States Department of Transportation.

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.

$$L_v(D) = L_v(25 \text{ ft}) - 20 \log (D/25)$$

The nearest residence is approximately 875 feet away from to the proposed Projects boundary. Using the highest vibration level shown in Table 10 (L_v 87) and the formula shown above, the anticipated vibration level at the nearest residence is 57 VdB. As a result, constructed related vibration is from the proposed Project is considered less than significant.



- ◆ A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Under Existing conditions, none of the sensitive receptor locations in both the With and Without Project scenarios exhibit predicted noise impacts that exceed Tulare County's Land Use Compatibility for Community Noise Environments. A change in the noise level of at least 5 dB is required before any noticeable change in community response would be expected. Table 5 of the NSR shows that the sensitive receptors will increase by no more than 2.5 L_{eq} dB as a result of the Project. Therefore, impacts from the Project are anticipated to be less than significant.

- ◆ A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

There are no construction activities associated with the amendment to the Project's Permit that would generate an increase in ambient noise levels.

The Project's traffic contributes approximately 10% of traffic that is anticipated in the Cumulative 2040 scenario. Table 7 of the NSR shows that the greatest increase in noise levels at sensitive receptors as a result of the Project is 2.3 L_{eq} dB's. Tulare County's General Plan has determined that a Project will have a significant impact if it causes or contributes to noise levels that exceed Tulare County's Land Use Compatibility for Community Noise Environments for sensitive receptors. Therefore, the Project's impacts to sensitive receptors is considered less than significant.

- ◆ For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The Project is not located within two miles of a public airport or public use airport.

- ◆ For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The Project is not located within the vicinity of a private airstrip.

This Noise Study Report (NSR) has been prepared for the purpose of identifying potential noise impacts that may result from the proposed mining permit amendment for Deer Creek Rock Co., Inc. (Project) which seeks to increase production from 500,000 tons/year to 950,000 tons/year, affirm operating hours, increase truck trips from 100 to 188 per day, and allow for mining related activities on the 20 acre site that was acquired from Garden Groves. The proposed Project is located south of Avenue 120 (Deer Creek Drive) approximately 1/2 mile east of Road 272 along the south bank of Deer Creek.

1.0 Introduction

1.1 Description of the Region/Project

The Project lies within the central portion of the San Joaquin Valley. The Project is located on the Valley floor at an elevation of approximately 375 feet above sea level with the surrounding area mostly flat. Figures 1 and 2 show the location of the Project along with major roadways and highways and study intersections and segments.

The Project proposes an amendment to the existing Surface Mining Permit to increase annual production from 500,000 to 950,000 tons/year, as permitted under PMR #'s 01-001 and 09-002 and PSP 01-055(ZA). The amendment is to make the PMRs consistent with each other. No lateral expansion of the approved mine footprint is proposed to occur. Both permits are proposed to allow for trucks hauling to not exceed 188 vehicle trips per day.

1.2 Existing Roadway Network

Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the type of service they are intended to provide. Fundamental to this process is the recognition that individual streets and highways do not serve travel independently in any major way. Rather, most travel involves movement through a network of roads.

The current hierarchical system of roadways within Tulare County's sphere of influence consists of the following four (4) basic classifications:

- ◆ **Freeways** – provide for the ability to carry large traffic volumes at high speeds for long distances. Access points are fully controlled. Freeways connect points within the County and link the County to other parts of the State.
- ◆ **Arterials** – provide for mobility within the County and its cities, carrying through traffic on continuous routes and joining major traffic generators, freeways, and other arterials. Access to abutting private property and intersecting local streets shall generally be restricted.
 - **State Route 65** – currently exists as a two-lane undivided roadway with a posted speed limit of 65 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 in 2012.



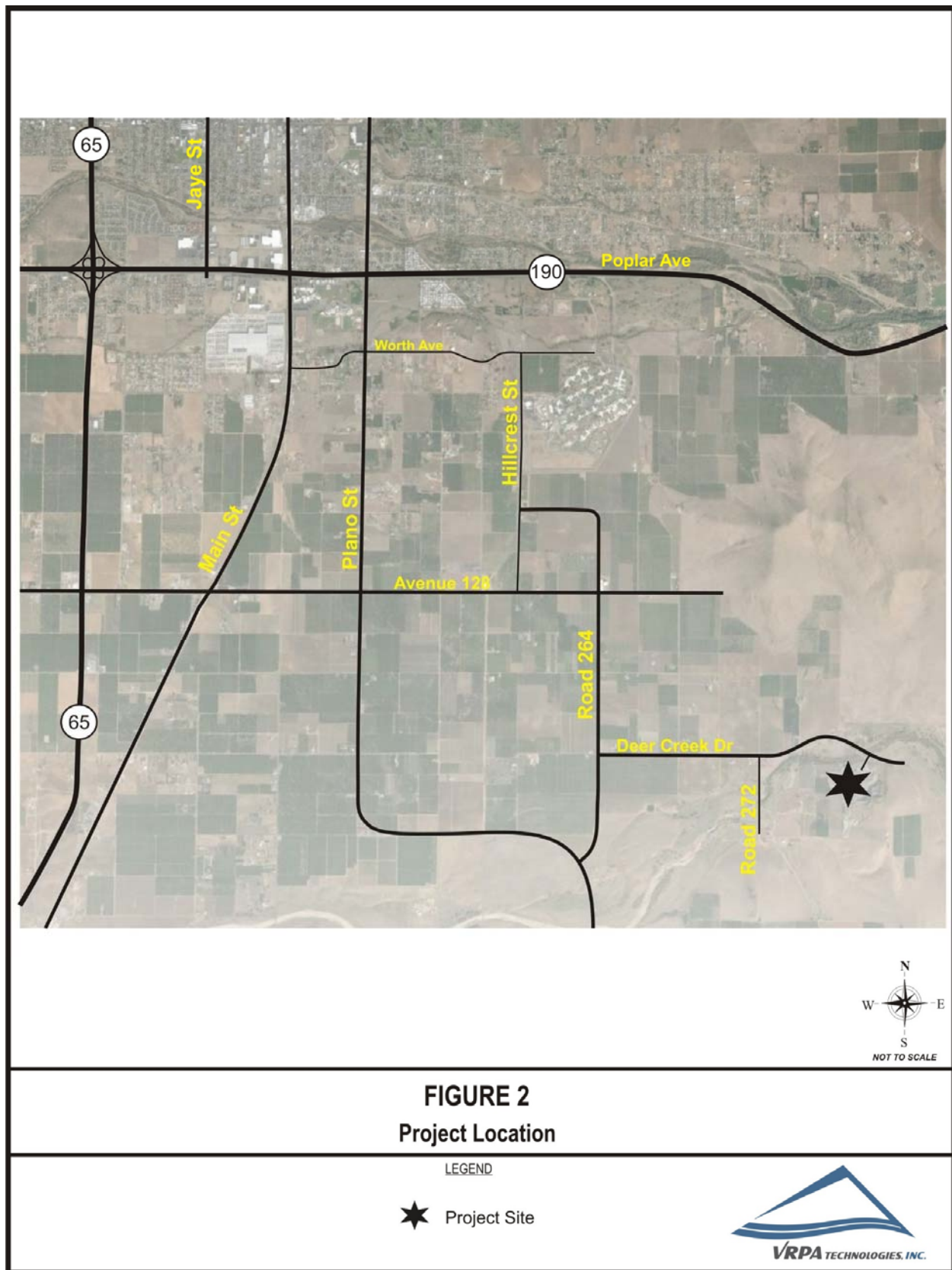


FIGURE 1
Regional Location

LEGEND

★ Project Location





- ◆ **Collectors** – provide for internal traffic movement within communities, and connect local roads to arterials. Direct access to abutting private property shall generally be permitted. While not specifically identified in the Circulation Element of the Tulare County General Plan Update, the following roadways are assumed to serve as collectors.
 - **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** – currently exists as a two-lane undivided roadway without bike lanes and without a posted speed limit through the study area.
 - **Road 264** – currently exists as a two-lane undivided roadway without bike lanes and without a posted speed limit through the study area.
 - **Deer Creek Drive** – currently exists as a two-lane undivided roadway without bike lanes and without a posted speed limit through the study area.
- ◆ **Local Streets** – provide direct access to abutting property and connect with other local roads, collectors, and arterials. Local roads are typically developed as two-lane undivided roadways. Access to abutting private property and intersecting streets shall be permitted.

1.3 Sound and the Human Ear

The amplitude of a sound determines its loudness. Loudness of sound increases and decreases with increasing and decreasing amplitude. Sound pressure amplitude is measured in units of micro-Newton per square meter (N/m²), also called micro-Pascal (μPa). One μPa is approximately one-hundred billionth (0.0000000001) of normal atmospheric pressure. The pressure of a very loud sound may be 200 million μPa, or 10 million times the pressure of the weakest audible sound (20 μPa). Because expressing sound levels in terms of μPa would be very cumbersome, sound pressure level (SPL) is used instead to describe in logarithmic units the ratio of actual sound pressures to a reference pressure squared. These units are called bels, named after Alexander Graham Bell. To provide a finer resolution, a bel is subdivided into 10 decibels, abbreviated dB.

1.3.1 A-Weighted Decibels

Sound pressure level alone is not a reliable indicator of loudness. The frequency, or pitch, of a sound also has a substantial effect on how humans will respond. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear. Human hearing is limited not only in the range of audible frequencies but also in the way it perceives the SPL in that range. In general, the healthy human ear is most sensitive to sounds between 1,000 Hz and 5,000 Hz, and it perceives a sound within that range as being more intense than a sound of higher or lower frequency with the same magnitude. To approximate the frequency response of the human ear, a series of SPL adjustments is usually applied to the sound measured by a sound level meter.

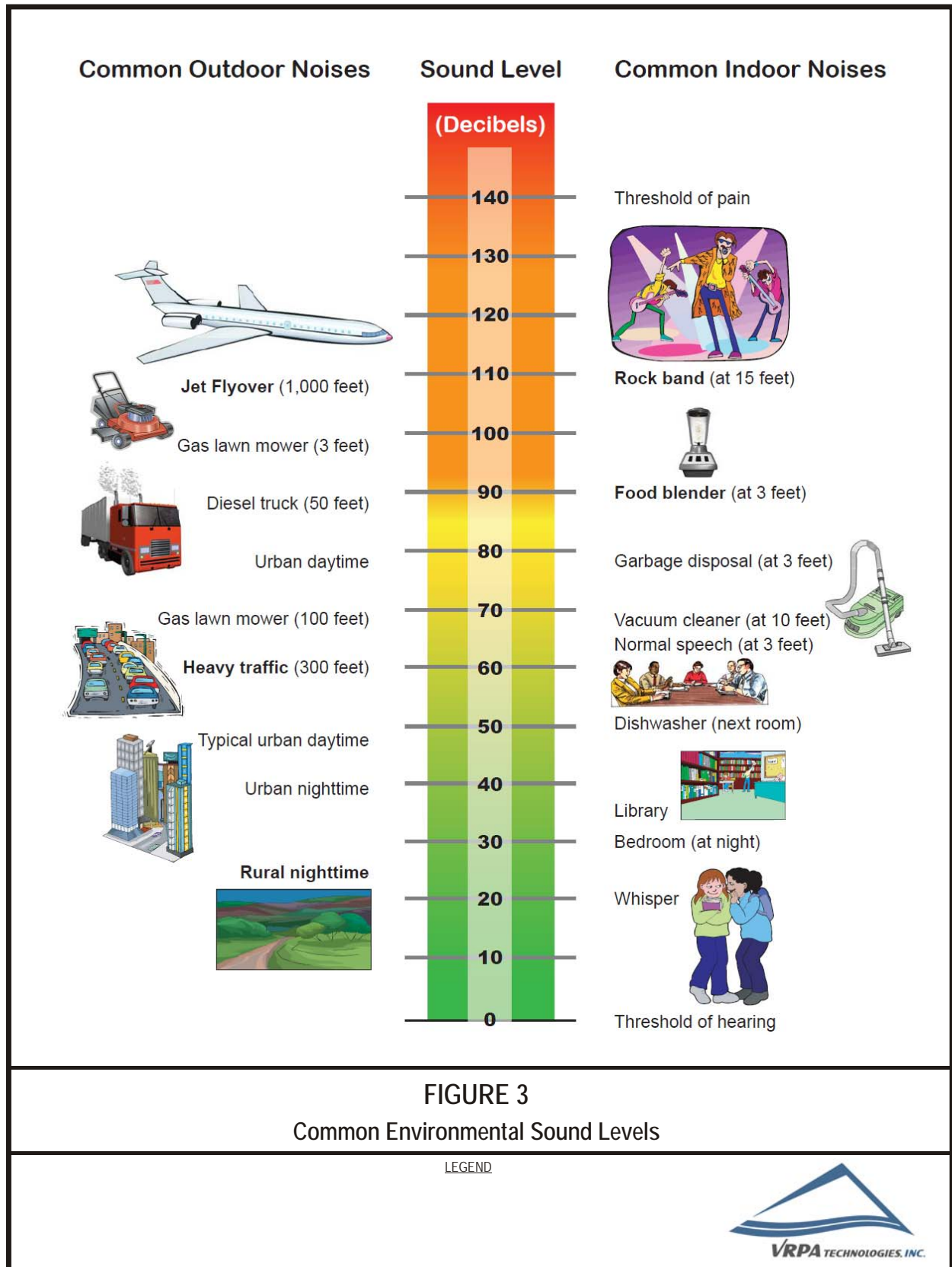
The adjustments (referred to as a weighting network) are frequency dependent. The A-scale weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Other weighting networks have been devised to address high noise levels or other special problems (e.g., B-scale, C-scale, D-scale), but these scales are rarely, if ever, used in conjunction with highway traffic noise. Noise levels for traffic noise reports are typically reported in terms of A-weighted dBAs. In environmental noise studies, A-weighted SPLs are commonly referred to as noise levels.

Unfortunately, there is no completely satisfactory way to measure the subjective effects of noise, or of the corresponding reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance, and habituation to noise over differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment, referred to as the "ambient" environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by the hearers. With regard to increases in A-weighted noise level, knowledge of the following relationships will be helpful in understanding this report:

- ◆ Except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived by humans.
- ◆ Outside of the laboratory, a 3 dB change is considered a just-perceivable difference.
- ◆ A change in level of at least 5 dB is required before any noticeable change in community response would be expected.
- ◆ A 10 dB change is subjectively heard as approximately a doubling in loudness.

1.3.2 Sound Pressure Levels and Decibels

Because of the ability of the human ear to detect a wide range of sound pressure fluctuations, sound pressure levels are expressed in logarithmic units called decibels. The sound pressure level in decibels is calculated by taking the log of the ratio between the actual sound pressure and the reference sound pressure squared. The reference sound pressure is considered the absolute hearing threshold. In addition, because the human ear is not equally sensitive to all sound frequencies, a specific frequency-dependent rating scale was devised to relate noise to human sensitivity. A dBA scale performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear. The basis for comparison is the faintest sound audible to the average ear at the frequency of maximum sensitivity. This dBA scale has been chosen by most authorities for purposes of environmental noise regulation. Typical indoor and outdoor noise levels are presented in Figure 3 (Common Environmental Sound Levels).



1.3.3 Sound, Noise, and Acoustics

Sound is a disturbance created by a moving or vibrating source in a gaseous or liquid medium or the elastic stage of a solid and is capable of being detected by the hearing organs. Sound may be thought of as the mechanical energy of a vibrating object transmitted by pressure waves through a medium to a hearing organ, such as a human ear. For traffic sound, the medium of concern is air. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired. Sound is actually a process that consists of three components: the sound source, the sound path, and the sound receiver. All three components must be present for sound to exist. Without a source to produce sound, there is no sound. Likewise, without a medium to transmit sound pressure waves, there is also no sound. Finally, sound must be received; a hearing organ, sensor, or object must be present to perceive, register, or be affected by sound or noise. In most situations, there are many different sound sources, paths, and receptors rather than just one of each. Acoustics is the field of science that deals with the production, propagation, reception, effects, and control of sound.

1.3.4 Frequency and Hertz

A continuous sound can be described by its frequency (pitch) and its amplitude (loudness). Frequency relates to the number of pressure oscillations per second. Low-frequency sounds are low in pitch, like the low notes on a piano, whereas high-frequency sounds are high in pitch, like the high notes on a piano. Frequency is expressed in terms of oscillations, or cycles, per second. Cycles per second are commonly referred to as Hertz (Hz). A frequency of 250 cycles per second is referred to as 250 Hz. High frequencies are sometimes more conveniently expressed in units of kilo-Hertz (kHz), or thousands of Hertz. The extreme range of frequencies that can be heard by the healthiest human ear spans from 16–20 Hz on the low end to about 20,000 Hz (or 20 kHz) on the high end.

1.3.5 Addition of Decibels

Because decibels are logarithmic units, sound pressure levels cannot be added or subtracted by ordinary arithmetic means. For example, if one automobile produces an SPL of 70 dBA as it passes an observer, two cars passing simultaneously would not produce 140 dBA; they would, in fact, combine to produce 73 dBA. When two sounds of equal SPL are combined, they will produce a combined SPL 3 dBA greater than the original individual SPL. In other words, sound energy must be doubled to produce a 3 dBA increase. If two sound levels differ by 10 dBA or more, the combined SPL is equal to the higher SPL; in other words, the lower sound level does not increase the higher sound level.

1.4 Characteristics of Sound Propagation and Attenuation

Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks, and airplanes, and stationary sources such as construction sites, machinery, and

industrial operations. Noise generated by mobile sources typically attenuates (is reduced) at a rate between 3.0 and 4.5 dBA per doubling of distance. The rate depends on the ground surface and the number or type of objects between the noise source and the receiver. Hard and flat surfaces, such as concrete or asphalt, have an attenuation rate of 3.0 dBA per doubling of distance. Soft surfaces, such as uneven or vegetated terrain, have an attenuation rate of about 4.5 dBA per doubling of distance. Noise generated by stationary sources typically attenuates at a rate between 6.0 and about 7.5 dBA per doubling of distance. Sound levels can be reduced by placing barriers between the noise source and the receiver. In general, barriers contribute to decreasing noise levels only when the structure breaks the “line of sight” between the source and the receiver. Buildings, concrete walls, and berms can all act as effective noise barriers. Wooden fences or broad areas of dense foliage can also reduce noise, but are less effective than solid barriers.

1.4.1 Noise Descriptors

Noise in the daily environment fluctuates over time. Some of the fluctuations are minor; some are substantial. Some noise levels occur in regular patterns; others are random. Some noise levels fluctuate rapidly, others slowly. Some noise levels vary widely; others are relatively constant. Various noise descriptors have been developed to describe time-varying noise levels. The following is a list of the noise descriptors most commonly used in traffic noise analysis:

- ◆ **Equivalent Sound Level (Leq)** - Leq represents an average of the sound energy occurring over a specified period. Leq is, in effect, the steady-state sound level that, in a stated period, would contain the same acoustical energy as the time-varying sound that actually occurs during the same period. The one-hour A-weighted equivalent sound level, Leq(h), is the energy average of the A-weighted sound levels occurring during a one-hour period and is the basis for the Noise Abatement Criteria (NAC) used by the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA).
- ◆ **Percentile-Exceeded Sound Level (Lx)** - Lx represents the sound level exceeded for a given percentage of a specified period. For example, L10 is the sound level exceeded 10 percent of the time, and L90 is the sound level exceeded 90 percent of the time.
- ◆ **Maximum Sound Level (Lmax)** - Lmax is the highest instantaneous sound level measured during a specified period.

1.4.2 Sound Propagation

When sound propagates over a distance, it changes in both level and frequency content. The manner in which noise reduces with distance depends on the following factors:

- ◆ **Geometric Spreading** - Sound from a small, localized source (i.e., a point source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates (or drops off) at a rate of six dBA for each doubling of distance. Highway noise is not a single, stationary point source of sound. The movement of the vehicles on a highway

makes the source of the sound appear to emanate from a line (i.e., a line source) rather than a point. This line source results in cylindrical spreading rather than the spherical spreading that results from a point source. The change in sound level from a line source is three dBA per doubling of distance.

- ◆ **Ground Absorption** - Most often, the noise path between the highway and the observer is very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is done for simplification only; for distances of less than 60 m (200 ft), prediction results based on this scheme are sufficiently accurate. For acoustically hard sites (i.e., those sites with a reflective surface, such as a parking lot or a smooth body of water, between the source and the receiver), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees, between the source and the receiver), an excess ground attenuation value of 1.5 dBA per doubling of distance is normally assumed. When added to the geometric spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dBA per doubling of distance for a line source and 7.5 dBA per doubling of distance for a point source.
- ◆ **Atmospheric Effects** - Research by Caltrans and others has shown that atmospheric conditions can have a significant effect on noise levels within 60 m (200 ft) of a highway. Wind has been shown to be the most important meteorological factor within approximately 150 m (500 ft) of the source, whereas vertical air temperature gradients are more important for greater distances. Other factors such as air temperature, humidity, and turbulence also have significant effects. Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lower noise levels. Increased sound levels can also occur as a result of temperature inversion conditions (i.e., increasing temperature with elevation).
- ◆ **Shielding by Natural and Human-Made Features** - A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by this shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dBA of noise reduction.

1.5 Methodology

When preparing an NSR, guidelines set by affected agencies must be followed. Acoustical terminology used for this NSR is documented in Appendix B. In analyzing noise levels, the FHWA Highway Traffic Noise Prediction methodology must be applied. Safety concerns must also be analyzed to determine the need for appropriate mitigation resulting from increased noise due to increased traffic and other evaluations such as the need for noise barriers and

other noise abatement improvements. Unless otherwise stated, all sound levels reported are in A-weighted decibels (dBA). A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards use A-weighting, as it provides a high degree of correlation with human annoyance and health effects.

1.5.1 California Environmental Quality Act

CEQA requires a strictly no-build versus build analysis to assess whether a project will have a noise impact. If a project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless such measures are not feasible.

1.5.2 Tulare County

The Health and Safety section of Tulare County's 2030 General Plan serves as the primary policy statement for the County for implementing policies to maintain and improve the noise environment in Tulare County. The Health and Safety section presents Goals and Objectives relative to planning for the noise environment within the County. Future noise/land use incompatibilities can be avoided or reduced with implementation of Tulare County's noise criteria and standards. Tulare County realizes that it may not always be possible to avoid constructing noise sensitive developments in existing noisy areas and therefore provides noise reduction strategies to be implemented in situations with potential noise/land use conflicts.

Table 1 shows Tulare County's Land Use Compatibility for Community Noise Environments. During preparation of this NSR, conformance of the project with the Land Use Compatibility for Community Noise Environments is used to evaluate potential noise impacts and provides criteria for environmental impact findings and conditions for project approval.

1.5.3 Study Methods and Procedures

Site Selection

Developed and undeveloped land uses in the project vicinity were identified through land use maps, aerial photography, and site inspection. Within each land use category, sensitive receptors were then identified. Land uses in the project vicinity include agricultural, single-family residences, and industrial/Office uses. The generalized land use data and location of particular sensitive receptors were the basis for the selection of the noise monitoring and analysis sites. A total of three (2) field receptor locations were measured during the site evaluation and represent a commercial land use as well as a residential land use in the project vicinity. These field receptor locations are shown in Figure 4. Figure 4 also shows additional modeled receptor locations that reflect locations of other sensitive receptor locations. Modeled receptors 3 - 6 represent outdoor areas of residential uses and receptor 7 represents a school land use.

Noise Level Measurement Program

Existing noise levels in the project vicinity were sampled during the PM peak hour because traffic counts conducted in the study area show a greater volume of traffic in the PM peak hour than the AM peak hour. All measurements were made using an Extech Type 2 sound level meter datalogger.

The following measurement procedure was utilized:

- ◆ Calibrate sound level meter.
- ◆ Set up sound level meter at a height of 1.5 m (5 ft).
- ◆ Commence noise monitoring.
- ◆ Collect site-specific data such as date, time, direction of traffic, and distance from sound level meter to the center of the roadway.
- ◆ Count passing vehicles for a period of 5 minutes. Vehicles were split into three categories: Heavy Trucks, Medium Trucks, and Automobiles. Traffic counts are shown in Table 2.
- ◆ Stop measurement after 5 minutes.
- ◆ Proceed to next monitoring site and repeat.

TABLE 1

Tulare County Land Use Compatibility for Community Noise Environments

Land Use Category	Community Noise Exposure- L_{dn} or CNEL (dB)						
	50	55	60	65	70	75	80
Residential - Low Density Single Family, Duplex, Mobile Homes							
Residential - Multi-Family							
Transient Lodging - Motels, Hotels							
Schools, Libraries, Churches, Hospitals, Nursing Homes							
Auditoriums, Concert Halls, Amphitheaters							
Sports Arenas, Outdoor Spectator Sports							
Playgrounds, Neighborhood Parks							
Golf Courses, Riding Stables, Water Recreation, Cemeteries							
Office Buildings, Business Commercial and Professional							
Industrial, Manufacturing, Utilities, Agriculture							
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

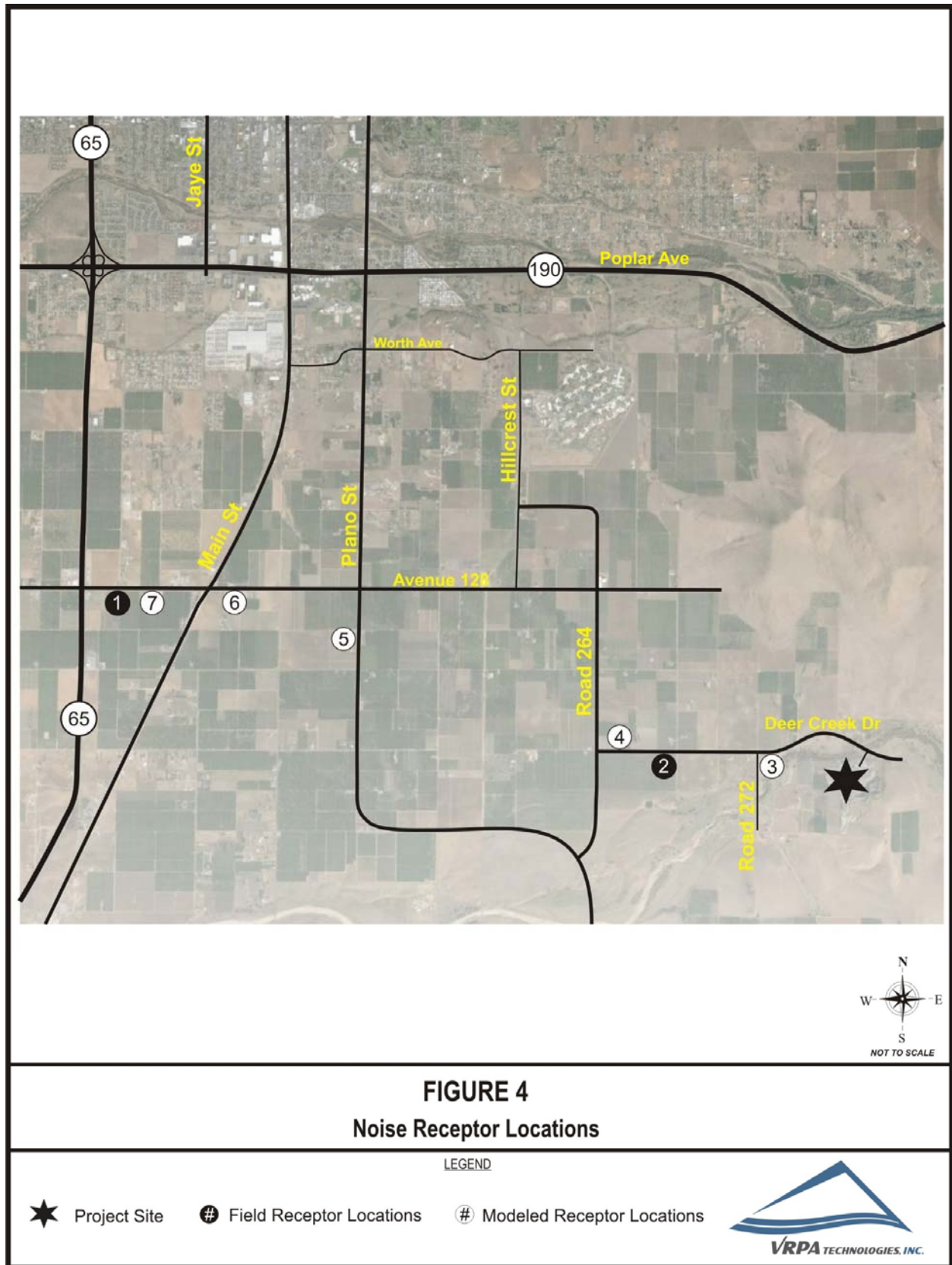


TABLE 2

Field Data/Traffic Counts

Receptor Location	Date of Count	Directional movement	5 minute count		
			Auto's	Medium Trucks	Large Trucks
1	8/28/2014	EB	8	1	1
		WB	10	1	0
2	8/28/2014	EB	1	0	0
		WB	2	0	0

2.0 Existing Conditions

2.1 Existing Noise Conditions

Existing traffic noise levels are established based on previously collected traffic data (Table 2) 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 L_{dn}/CNEL for single family residential and exterior noise exposure level of 65 to 70 L_{dn}/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.

Existing traffic noise levels were evaluated using TNM 2.5. Traffic volumes collected from the traffic report completed for this project and average vehicle speeds along Avenue 128, Plano Street, Road 264, and Deer Creek Drive were entered into the model to estimate noise levels at various receptors that would be affected by the Project.

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.

The locations for each field receptor location are described below in Table 3 and are geographically depicted in Figure 4.

TABLE 3
Existing Noise Levels

Receptor I.D. No.	Location	Type of Development	Existing Noise Level Leq(h) dBA
1	Commercial-MiniMart/Gas Station. Approximately 20 feet from Avenue 128 Centerline	Commercial	64.8
2	Aggricultural Residence. Approximately 150 feet from Deer Creek Drive Centerline	Residence	47.7

As shown in Table 3, the highest peak hour sound level recorded, 63.0 Leq(h) dBA, was taken along Avenue 128. When it comes to noise levels, the Ldn is determined to be within +/- 2 dBA of the peak hour Leq under normal traffic conditions based upon Caltrans' Traffic Analysis Noise Protocol. Therefore, none of the existing noise levels exceed Tulare County's Land Use Compatibility for Community Noise Environments.

Table 4 shows the 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.

TABLE 4
Existing Noise Levels for Roadway Segments

Roadway	Segment	Existing Noise Level Leq(h) dBA @ 80' Fom Roadway Centerline	Distance (Feet) to 60 Leq(h) dBA from Roadway Centerline
Deer Creek Drive	Between Road 272 and Road 264	54.2	39
Road 264	Between Deer Creek Drive and Avenue 116	52.3	33
Plano Street	Between Avenue 116 and Avenue 128	60.2	80
Avenue 128	Between Plano Street and SR 65	61.8	98

2.2 Existing Plus Project Noise Conditions

In order to calibrate the TNM 2.5 model, the existing counts (expanded to one hour), lane geometry, and any other pertinent existing conditions were added to the model. The noise level measurements taken in the Project 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 the Existing Plus Project and Future Year calculated noise levels to obtain the predicted noise levels for each study scenario. Table 5

shows the results of the comparison between the existing measured noise levels and the modeled noise levels.

Traffic volumes, truck mix, and vehicle speeds were used as inputs to the model for the Existing and Existing Plus Project modeled scenarios. Traffic volumes and truck mix were determined by the Traffic Impact Study (TIS) prepared for the Project. Table 5 shows the predicted noise levels at the two (2) measured sensitive receptors as a result of adding the Project. Results of the analysis show that none of the sensitive receptors will exceed Tulare County's Land Use Compatibility for Community Noise Environments for the Existing Plus Project scenario. TNM 2.5 printouts included are provided in Appendix C.

TABLE 5

Traffic Noise Impacts for Existing Conditions

Receptor I.D. No.	Existing Noise Level Leq(h) dBA	Existing Noise Level Modeled Leq(h) dBA	K - Factor (Measured - Modeled = K)	Existing Plus Project Noise Level Leq(h) dBA	Noise Increase (+) or Decrease (-)	Tulare County Noise Standard dBA Ldn	Impact
1	64.8	71.9	-7.1	65.3	0.5	70.0	None
2	47.7	49.0	-1.3	50.2	2.5	60.0	None

For the Existing Plus Project scenario, five (5) additional sensitive receptors were added to the model to evaluate the impacts to other sensitive receptors located within the Project study area. The results are identified in Table 6. Results of the analysis show that none of the sensitive receptors will exceed Tulare County's Land Use Compatibility for Community Noise Environments.

2.3 Existing Plus Project Plus Cumulative Noise Conditions

Traffic volumes, truck mix, and vehicle speeds were used as inputs to the model for the Existing Plus Project Plus Cumulative modeled scenarios. Traffic volumes and truck mix were determined by the Traffic Impact Study (TIS) prepared for the Project. Table 7 shows the predicted noise levels at all sensitive receptors as a result of adding the Project and traffic generated from the South County Detention Facility Project. Results of the analysis show that none of the sensitive receptors will exceed Tulare County's Land Use Compatibility for Community Noise Environments for the Existing Plus Project Plus Cumulative scenario. Table 8 shows the existing plus project plus cumulative 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.

TABLE 6

Traffic Noise Impacts for Existing Plus Project Conditions

Receptor I.D. No.	Type of Development	Existing Plus Project Noise Level Leq(h) dBA	Tulare County Noise Standard dBA Ldn	Impact
3	Residential	53.1	60.0	None
4	Residential	56.8	60.0	None
5	Residential	56.0	60.0	None
6	Residential	54.8	60.0	None
7	School	47.3	70.0	None

3.0 Future Year Conditions

The impacts of the Project were analyzed considering future traffic conditions, approximately twenty years after Project expansion operations have commenced, 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. Traffic conditions without the Project in 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 model for the Cumulative Year 2040 Without Project and the Cumulative Year 2040 Plus Project modeled scenarios. Traffic volumes and truck mix were determined by the Traffic Impact Study (TIS) prepared for the Project. Table 7 shows the predicted noise levels at the seven (7) sensitive receptors evaluated in this noise study. Results of the analysis show that none of the sensitive receptors will exceed Tulare County's Land Use Compatibility for Community Noise Environments for both the Year 2040 Without Project and the Cumulative Year 2040 Plus Project scenarios.

3.1 Exterior Noise Analysis

When the Project traffic is added to the background or existing noise levels, a slight increase in noise level may occur. The Project's traffic contributes approximately 10% of traffic that is anticipated in the Cumulative 2040 scenario. Table 7 shows that the greatest increase in noise levels at sensitive receptors as a result of the Project is 2.3 L_{eq} dB's. Tulare County's General Plan has determined that a Project will have a significant impact if it causes or contributes to noise levels that exceed Tulare County's Land Use Compatibility for Community Noise Environments for sensitive receptors. Therefore, the Projects impacts to sensitive receptors is considered less than significant.

TABLE 7

Traffic Noise Impacts for Existing Plus Project Plus Cumulative and Cumulative Year 2040 Without and Plus Project Conditions

Receptor I.D. No.	Existing Plus Project Plus Cumulative Noise Level $L_{eq}(h)$ dBA	Cumulative Year 2040 Without Project Noise Level $L_{eq}(h)$ dBA	Cumulative Year 2040 Plus Project Noise Level $L_{eq}(h)$ dBA	Noise Increase (+) or Decrease (-) ¹	Tulare County Noise Standard dBA Ldn	Impact
1	65.3	66.1	66.4	0.3	70.0	None
2	50.2	48.1	50.4	2.3	60.0	None
3	53.1	51.0	53.3	2.3	60.0	None
4	56.8	54.8	57.1	2.3	60.0	None
5	56.0	56.9	57.4	0.5	60.0	None
6	54.8	55.6	55.9	0.3	60.0	None
7	47.3	48.1	48.4	0.3	70.0	None

1: Comparison made between Cumulative Year 2040 Without Project and Cumulative Year 2040 Plus Project

Table 8 shows the Cumulative 2040 Without Project and Plus Project 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.

TABLE 8

Roadway Segment Noise Levels for Existing Plus Project, Existing Plus Project Plus Cumulative, and Cumulative Year 2040 Without and Plus Project Conditions

Roadway	Segment	Existing Plus Project		Existing Plus Project Plus Cumulative		Cumulative Year 2040 Without Project		Cumulative Year 2040 Plus Project	
		Noise Level Leq(h) dBA @ 80' From Roadway Centerlines	Distance (Feet) to 60 Leq(h) dBA from Roadway Centerline	Noise Level Leq(h) dBA @ 80' From Roadway Centerlines	Distance (Feet) to 60 Leq(h) dBA from Roadway Centerline	Noise Level Leq(h) dBA @ 80' From Roadway Centerlines	Distance (Feet) to 60 Leq(h) dBA from Roadway Centerline	Noise Level Leq(h) dBA @ 80' From Roadway Centerlines	Distance (Feet) to 60 Leq(h) dBA from Roadway Centerline
Deer Creek Drive	Between Road 272 and Road 264	56.7	55	56.7	55	54.5	42	56.8	55
Road 264	Between Deer Creek Drive and Avenue 116	55.7	49	55.7	49	52.5	30	55.8	49
Plano Street	Between Avenue 116 and Avenue 128	60.8	88	60.8	88	61.7	97	62.2	103
Avenue 128	Between Plano Street and SR 65	62.2	103	62.2	103	63.0	113	63.4	118

3.2 Project-Related On-Site Noise Generation

Noise sources identified on the Project site are related to surface mining activities, including loaders, excavators, service trucks, water trucks, and dumb trucks importing/hauling material. Table 9 shows the noise levels corresponding to the operation of the equipment that is typically used at the project site. There is a residential home located approximately 875 feet southeast of the project's operation/excavation area. It should be noted that the land located south, west, and southwest of the property is zoned AE-40, which is an exclusive zone for intensive agricultural uses and for those uses which are necessary and integral part of the agricultural operation. As shown in Table 1, Tulare County's Land Use Compatibility for Community Noise Environments identifies a noise standard of 75 L_{dn}/CNEL for agricultural land uses, which is the land use that applies to the residential homes located southeast of the project site.

Table 9 also shows the predicted noise generation of the individual on-site noise sources at the nearest residence. In order to determine the cumulative effect of the on-site noise sources, methodology found in Caltrans' Technical Noise Supplement (Appendix D) was used. Based on the decibel addition methodology found in Caltrans' Technical Noise Supplement, it was determined that the noise levels experienced at the nearest residence is approximately 68 dBA, if all equipment is operating at the same time. Therefore, on-site operations from the Project have a less than significant impact on the nearest residence southeast of the Property's boundary.

TABLE 9

Project Onsite Noise Emissions

Noise Source	Sound Levels Measured (dBA at 100 feet)	Sound Levels (dBA at nearest residence, approximately 875 feet south of Project boundary) ⁴
Excavation	67 ¹	49.2
Rock Drills	79 ²	61.3
Processing Plant	83 ³	65.3
Front-End Loader	74 ²	56.3
Trucks	78 ²	60.3

¹ Reference measurement data from "Woolstenhulme Ranch Noise Impact Assessment", Merced County, California.
Prepared by RGP Planning & Development Services, July 1999.

² Noise Control for Buildings and Manufacturing Plants (Bolt, Beranek and Newman, 1987).

³ Reference measurement data from "Noise Assessment for the Horowitz Quarry", Riverside County, California.
Prepared by Mestre Greve Associates, August 1990.

⁴ Determined from sound levels at 100 feet and noise attenuation due to distance

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. 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 proposed Project will expose workers to noise levels of 85 to 110 dBA based upon information provided in Table 9 above. 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.

4.0 CEQA Environmental Checklist

4.1 Noise

The following thresholds of significance are based on Appendix G of the 2008 CEQA Guidelines. The significance criteria established by Tulare County is relied upon to make the following determinations.

Would the project:

- ◆ Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Table 7 shows that the greatest increase in noise levels at sensitive receptors as a result of the Project is 2.3 L_{eq} dB's. Tulare County's General Plan has determined that a Project will have a significant impact if it causes or contributes to noise levels that exceed Tulare County's Land Use Compatibility for Community Noise Environments for sensitive receptors. Therefore, the Projects impacts to sensitive receptors is considered less than significant.

- ◆ Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

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 are shown in Table 10. 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.

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 residences include constructions activities, train operations, and street traffic. Table 11 provides some common sources of ground vibration and the relationship to human perception. This information comes from the Federal Transit Administration’s “Basic Ground-Bourne Vibration Concepts.”

TABLE 10

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 μ inch/second

TABLE 11

Typical Levels of Ground-Borne Vibration

Human/Structural Response	Velocity Level, VdB	Typical Events (50 ft. Setback)
Threshold, minor cosmetic damage fragile buildings	100	Blasting from construction projects
Difficulty with tasks such as reading a video or computer screen	90	Bulldozers and other heavy tracked construction equipment
Residential annoyance, infrequent events (e.g commuter rail)	80	Commuter rail, upper range
Residential annoyance, infrequent events (e.g rapid transit)	70	Rapid transit, upper range
Limit for vibration sensitive equipment. Approx. threshold for human perception of vibration	60	Commuter rail, typical
	50	Bus or truck over bump
		Rapid transit, typical
		Bus or truck, typical
		Typical background vibration

Despite the perceptibility threshold of about 65 VdB, human reaction to vibration is not significant unless the vibration exceeds 75 VdB according to the United States Department of Transportation.

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.

$$L_v(D) = L_v(25 \text{ ft}) - 20 \log (D/25)$$

The nearest residence is approximately 875 feet away from to the proposed Projects boundary. Using the highest vibration level shown in Table 10 (L_v 87) and the formula shown above, the anticipated vibration level at the nearest residence is 57 VdB. As a result, constructed related vibration is from the proposed Project is considered less than significant.

- ◆ A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Under Existing conditions, none of the sensitive receptor locations in both the With and Without Project scenarios exhibit predicted noise impacts that exceed Tulare County's Land Use Compatibility for Community Noise Environments. A change in the noise level of at least 5 dB is required before any noticeable change in community response would be expected. Table 5 shows that the sensitive receptors will increase by no more than 2.5 L_{eq} dB as a result of the Project. Therefore, impacts from the Project are anticipated to be less than significant.

- ◆ A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

There are no construction activities associated with the amendment to the Project's Permit that would generate an increase in ambient noise levels.

The Project's traffic contributes approximately 10% of traffic that is anticipated in the Cumulative 2040 scenario. Table 7 shows that the greatest increase in noise levels at sensitive receptors as a result of the Project is 2.3 L_{eq} dB's. Tulare County's General Plan has determined that a Project will have a significant impact if it causes or contributes to noise levels that exceed Tulare County's Land Use Compatibility for Community Noise Environments for sensitive receptors. Therefore, the Project's impacts to sensitive receptors is considered less than significant.

- ◆ For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The Project is not located within two miles of a public airport or public use airport.

- ◆ For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The Project is not located within the vicinity of a private airstrip.

APPENDIX A

Project's Current Conditions of Approval

BEFORE THE ZONING ADMINISTRATOR

COUNTY OF TULARE, STATE OF CALIFORNIA

IN THE MATTER OF SPECIAL USE PERMIT)
APPLICATION NO. PSP 01-055 (ZA))

DECISION NO. 2635

Decision of the Zoning Administrator of the County of Tulare to approve a Special Use Permit requested by Jaxon Enterprises, 1643 Tahoe Court, Redding, CA, 96003, to amend the hours of operation stated in the original Special Use Permit (PSP 77-07) and Surface Mining Permit (PMR 01-001) for the mine site located on Avenue 120 approximately 1 mile west of Road 268, 2 miles southeast of the City of Porterville.

The Zoning Administrator hereby determines the following findings were relevant in evaluating this application:

1. A joint application for a special use permit and surface mining permit amendment has been filed pursuant to the regulations contained in Section 16 of Ordinance No. 352, the Zoning Ordinance and the County Surface Mining Ordinance, Section 7716.
2. Under Board of Supervisors' Resolution No. 83-459, as amended, and Section 16 of the Tulare County Zoning Ordinance, the Zoning Administrator is authorized to approve or deny requests for amendments to surface mining permits and reclamation plans involving not more than 40 Acres of permitted excavation area or 50,000 cubic yards of material per year.
3. Staff has given notice of the Zoning Administrator's intention to consider the granting of a special use permit and surface mining permit amendment as provided in Section 16 of said Ordinance No. 352 and as provided in Section 65905 of the Government Code of the State of California.
4. Staff has performed necessary investigations, prepared a written report and recommended certain conditions of approval if this application is approved by the Zoning Administrator.
5. A public hearing was conducted on July 8, 2004, in the Commission Meeting Room of the Resource Management Agency Offices in order to receive public testimony on the proposed application.
6. The purpose of the special use permit is to modify the processing plant's permitted hours of operation to allow for the production and transportation of crushed rock asphalt to occur 24 hours a day, Monday through Friday.
7. All other conditions of approval from permits PMR 01-001 and PSP 77-70 will remain in effect.

8. The Environmental Assessment Officer has approved a Negative Declaration for public review for the project, indicating that the project will not have any significant environmental impacts.

The Zoning Administrator hereby finds there is no substantial evidence that the proposed Special Use Permit will have a significant effect on the environment and determines that the Negative Declaration for said use permit has been completed in compliance with the California Environmental Quality Act and the State Guidelines for the Implementation of the California Environmental Quality Act of 1970 and that the Zoning Administrator has reviewed and considered the information contained in the Negative Declaration for the proposed project together with any comments received during the public review process prior to taking action on the Special Use Permit.

NOW, THEREFORE, BE IT DETERMINED AS FOLLOWS:


The Zoning Administrator of the County of Tulare hereby approves Special Use Permit No. PSP 01-055 (ZA), an amendment to PMR 01-001, subject to the following conditions:

1. In addition to the following, the applicant shall comply with all conditions of approval as established in Special Use Permit PSP 77-70 and PMR 01-001, unless modified herein. In particular, conditions 2 and 3 shall supercede condition number 12 of PSP 77-70 and condition number 22 of PMR 01-001.
2. Regular mining hours of operations will remain Monday through Friday from 7am to 6pm. Rock crushing and processing, asphalt production and material hauling may occur at anytime from 7am Monday morning until 6pm Friday evening outside of those hours if necessitated by market demands or electrical grid concerns as long as those operations conform to conditions 3 through 8.
3. At no point will the applicant be permitted to conduct any operations (other than maintenance) on Saturdays or Sundays or exceed the total number of trucks specified in the Operational Condition number 21 of PMR 01-001.
4. Before beginning nighttime operations, the applicant will ensure that all new and existing light sources be directed downwards and away from neighboring properties.
5. Trucks traveling to and from the facility during nighttime hours will utilize low beams only, when transiting through residential areas.

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Zoning Administrator
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6. During operations, day or night, all vehicles traveling to and from the site on Avenue 120 will obey the following speed limits: 45 miles per hour maximum from the plant to Road 268 and 30 miles per hour from Road 268 to Road 264. Trucks will also traverse a one half-mile stretch of Roads 264 south intersection of Avenue 120 at 30 MPH or less.
7. The applicant will instruct drivers not to use compression brakes on the Avenue 120 and Road 264, by maintaining the lower rate of speeds described in condition 6.
8. The applicant will post signs at the truck exit of the quarry site and inform drivers in writing conditions 5 through 7.
9. In the event that nighttime operations exceed four consecutive periods of time, RMA staff is to be notified and informed as to the anticipated duration of time said operation would be continued.
10. The applicant shall provide a method of contact for residents to post truck noise or speed complaints. The applicant will take the appropriate actions, if needed to rectify the situation with the trucking firms and individual drivers that service the site.
11. The applicant will also provide to RMA staff by December 31 of each year, the percentage of all truck trips made between the hours of 6 pm to 7 am during that calendar year.

TULARE COUNTY ZONING ADMINISTRATOR



George E. Firney, Zoning Administrator

Date Approved: 7/21/04

78 971

RESOLUTION NO. 5017

APPLICATION NO. PSP 77-70

Office of Mine Reporting and
Reclamation Compliance

- b) Impact No. V - 5 - (generation of surface dust) can be mitigated through conditions of approval of the Special Use Permit by requiring oiled or paved roadways, speed control, wetting-down of the roadways, etc.
- c) Impact No. V - 6 - (emissions from asphalt-concrete operations) can be mitigated for the most part through a condition of approval on the use permit requiring that the operation meet the standards set by the Tulare County Air Pollution Control District.
- d) Impact No. V - 7 - (generation of additional truck traffic on local minor roads) can be partially mitigated through a condition of approval on the use permit requiring truck traffic to be routed through areas less sensitive to increased traffic.
- e) Impact No. V - 8 - (excavation within the Deer Creek channel and endangerment to the existing bridge) can be mitigated by conditions of approval on the use permit requiring that the applicant obtain necessary permits and meet standards for such an operation as established by the County Flood Control District and State Reclamation Board.
- f) Impact No. V - 9 - (adverse effect on water quality of Deer Creek) can be mitigated through conditions of approval on the use permit by requiring that the applicant obtain necessary permits and meet standards as established by the Regional Water Quality Control Board.
- g) Impact No. V - 11 - (negative aesthetic impact on the area) can be mitigated through conditions of approval by requiring the applicant to submit, as per State law, a reclamation plan and to meet other standards as contained in Board of Supervisors' Resolution No. 71-91.
- h) Impact No. V - 12 - (creation of safety hazards in the form of attractive nuisances) can be mitigated through conditions of approval by requiring the plant facilities and excavation areas to be securely and completely fenced.
- i) Impact No. V - 13 - (hazard to archeological resources) can be mitigated through a condition of approval on the use permit requiring that all operations are to cease, in the event any archeological resources are found in the course of the operation, and

WHEREAS, the Planning Commission determined the following findings were also relevant in evaluating this application:

1. The site is zoned A-1 (Agriculture). A rock crusher and distribution facility for rock, sand and gravel is allowed in the A-1 Zone, subject to the granting of a Special Use Permit.

2. The 1963 Land Use Element indicates the site is located in a mountainous area with no specific land use designations. The 1972 Open Space Plan designates the northern portion of the site for intensive agriculture, the southern portion for extensive agriculture and the portion along Deer Creek as a floodplain area. The 1974 Urban Boundaries Element indicates that the site lies outside of any Urban Area Boundary.
3. The General Plan also contains policies which recognize that extractive resources are necessary to the future growth and development of the County and that there is a need to provide for utilization of scarce natural resources in a manner compatible with other land uses. At the same time, however, it is also recognized that operations of this type must be conducted so that any disturbance to the surrounding environment is minimized.
4. A draft concept plan for Foothill Growth Management indicates that the site is outside of preliminary development corridors and is proposed for agriculture and related uses. The type of use proposed is generally compatible with agricultural areas when properly controlled.
5. The purpose of this application is to establish a rock crusher and distribution facility for rock, sand and gravel (extraction of rock, sand and gravel and the processing of construction materials and asphalt concrete).
6. Other than Deer Creek, which passes through the subject site, the site is used for grazing purposes. The terrain is irregular and hilly and typical of the foothill region of the County. All the facilities will be located on the south portion of the site south of the Deer Creek Bridge.

All surrounding properties are zoned A-1 and used principally for grazing purposes. There are also scattered residences in the area, an old magnesite mine, an old County roadcamp and some orchards.

Since 1971, four similar operations have been reviewed by the Planning Commission. None were denied by the Commission, however, the most recent one (heard in 1977) was subsequently denied by the Board of Supervisors.

A number of public agencies (County, State and Federal) were contacted regarding this proposal. None objected to the proposal, but most did recommend conditions to assure that the use would not become detrimental to the environment and surrounding area.
10. In 1971, the County Board of Supervisors adopted a Resolution 71-91 outlining procedures and standards applicable to this type of industry. One of the major elements of the extraction standards is the provision for a rehabilitation plan as a condition of approval. The standards also outline other requirements designed to ensure a compatible relationship between the environment and extractive industry.

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11. A number of people present at the hearing expressed concern about dust generated by the operation, truck traffic, effect on shallow wells in the area and hours of operation. The general consensus of these property owners was that they were not opposed to the proposal so long as these points of concern were properly addressed in the conditions of approval.
12. The draft EIR states that there are three alternatives to the proposed action: (a) no project, meaning that the site would continue to be used for grazing purposes; (b) site could be used for rural residential purposes; and (c) project could be developed on a smaller scale. The Planning Commission finds the project as proposed, if properly controlled, to be preferable to any of these alternatives.
13. State law requires that local zoning be consistent with adopted General Plans. The proposal can be found to be consistent with the General Plan in that policies contained in the plan encourage extractive industries in appropriate locations so long as operations are effectively conditioned to mitigate potential adverse environmental effects, and

WHEREAS, the Planning Commission, after considering all of the evidence presented, found that the establishment, maintenance, and operation of the use of building or land applied for will not, under the circumstances of the particular case be detrimental to the health, safety, and general welfare of persons residing or working in the neighborhood or to the general welfare of the County.

NOW, THEREFORE, BE IT RESOLVED AS FOLLOWS:

- A. This Commission also recommends that the Board of Supervisors find the subject Special Use Permit will have a significant environmental effect but should be approved because of the reasons as set forth in this resolution.
- B. This Commission hereby recommends to the Board of Supervisors that Special Use Permit Application No. PSP 77-70 be approved subject to the following conditions:
 1. The Site Improvement and Rehabilitation Standards numbers I, II, III, IV, V, VI, VII, VIII, IX, X, XI, XII, XIII, XVI and XVII as set forth in Board of Supervisors' Resolution No. 71-91 shall apply to this permit.

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- Resolution No. 101
Planning Commission
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2. All equipment for the conduct of the uses permitted shall be constructed, maintained and operated in such a manner, as far as reasonably practicable so as to eliminate noise or vibration which is injurious or annoying to persons living in the vicinity. Internal combustion engines shall be equipped at all times with exhaust mufflers in good working condition to control excessive or unusual noises. All operations shall comply with the noise level regulations as established by the State of California, Department of Industrial Relations, General Industrial Safety Orders contained in Article 105, Title 8, California Administrative Code 5095 - 5099 ("Standards for Occupational Noise Exposure").
 3. A fifty foot (50') setback area between the edge of the normal creek channel and any excavation site, other than the sand excavation site in the stream channel, shall be maintained.
 4. No stockpiling of excavated material shall be permitted within the setback areas established by Conditions Nos. 1 and 2.3
 5. Dedication of all of subject property lying within 30' north and south of the centerline of the right-of-way of Avenue 120.
 6. The applicant/property owner shall comply with all statements and representations made on the "Reclamation Plan" form submitted for compliance with Section 2772 of the Surface Mining and Reclamation Act of 1975.
 7. The washwater recycling pond to be located adjacent to Deer Creek shall be constructed so that it is protected from a 10 year 24 hour precipitation event (the 10-year flood) or waste discharge requirements shall be obtained from the Regional Water Quality Control Board in the form of a NPDES permit (National Pollution Discharge Elimination System).

If the operation includes any filling of or disposal of material into Deer Creek, a Section 404 permit (as required by the Federal Water Pollution Control Act Amendments of 1972) shall be obtained from the U.S. Army Corps of Engineers.

Compliance with the following State Department of Water Resources, Reclamation Board, requirements:

- a) An application for excavation shall be made to the State Reclamation Board through the Tulare County Flood Control Engineer.
- b) No excavation shall be allowed within 200' of any bridge.
- c) The excavation shall not permit the stream to shift and endanger any development or property downstream of the excavation. Since the sand excavation in the stream channel may endanger the existing bridge over Deer Creek, protective devices for the bridge shall be incorporated in the plan as required by the Tulare County Flood Control Engineer.

10. The industrial water well shall be plumbed with a valved, 2-1/2" I.D. (National Standard Thread) hose connection which shall be readily accessible for pumper connection in a fire situation.
11. Compliance with the following Tulare County Health Department requirements:
 - a) The applicant shall obtain authority to construct from the County Air Pollution Control District.
 - b) The well shall be drilled in compliance with the Tulare County Well Ordinance.
 - c) The chemical toilets shall be obtained from a firm licensed by the Tulare County Health Department.
12. Truck traffic to and from the site and plant operations shall be limited to week days only between the hours of 6:00 A.M. and 5:00 P.M., except hauling may be permitted on Saturdays in case of necessity, not to exceed 10 times per year.
13. In the event archaeological resources are discovered in the course of operations, all operations which may endanger such resources shall cease until the Planning Director can be notified and an investigation performed. The Planning Director shall determine an appropriate course of action to be taken by the operator after such investigation.
14. The following described route shall be used by haul trucks travelling to and from the site: Avenue 120 to Road 264; thence south on Road 264 to Avenue 116; thence west of Avenue 116 to Road 252; thence north of Road 252 to State Highway 190.
15. Unless otherwise indicated herein, development shall be in accordance with plans submitted (Planning Commission Exhibit "A").
16. Standardized conditions numbers 2 - 7 as set forth in Planning Commission Resolution No. 4840 shall apply to this application.

The foregoing resolution was adopted upon motion of Commissioner Shields, seconded by Commissioner Sullivan, at a regular meeting of the Planning Commission on the 8th day of March, 1978 by the following roll call vote:

AYES: Shields, Sullivan, Crain, Benson, Jensen, Chute

NOES: None

ABSTAIN: None

ABSENT: Cong

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TULARE COUNTY PLANNING COMMISSION

Eugene L. Smith
Eugene L. Smith, Secretary

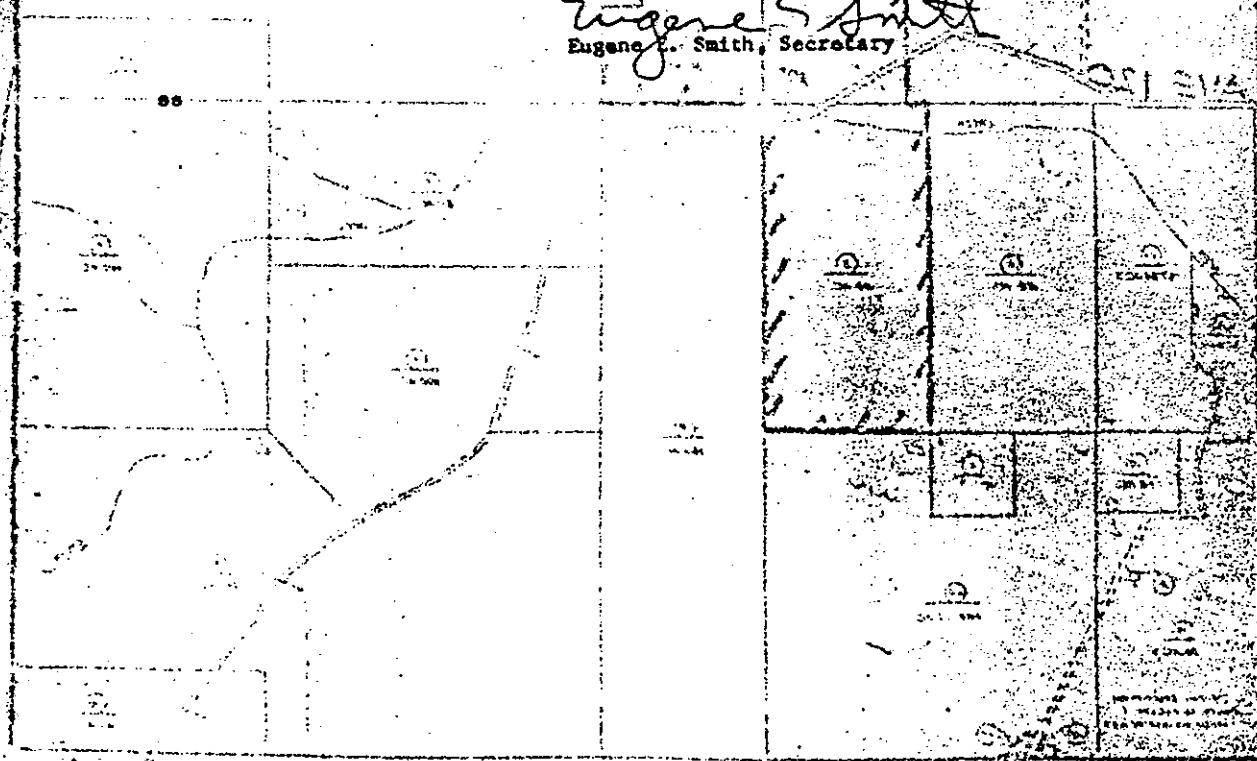


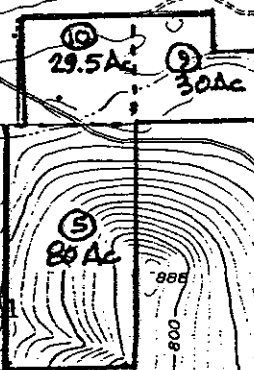
EXHIBIT B
PARCEL MAP
TO
TOTAL RECORD 1000

91-54-021

RVILLE

HOSPITAL

16 Tulare County
BSP 77-70



Deer

Creek

County Road Camp

Well

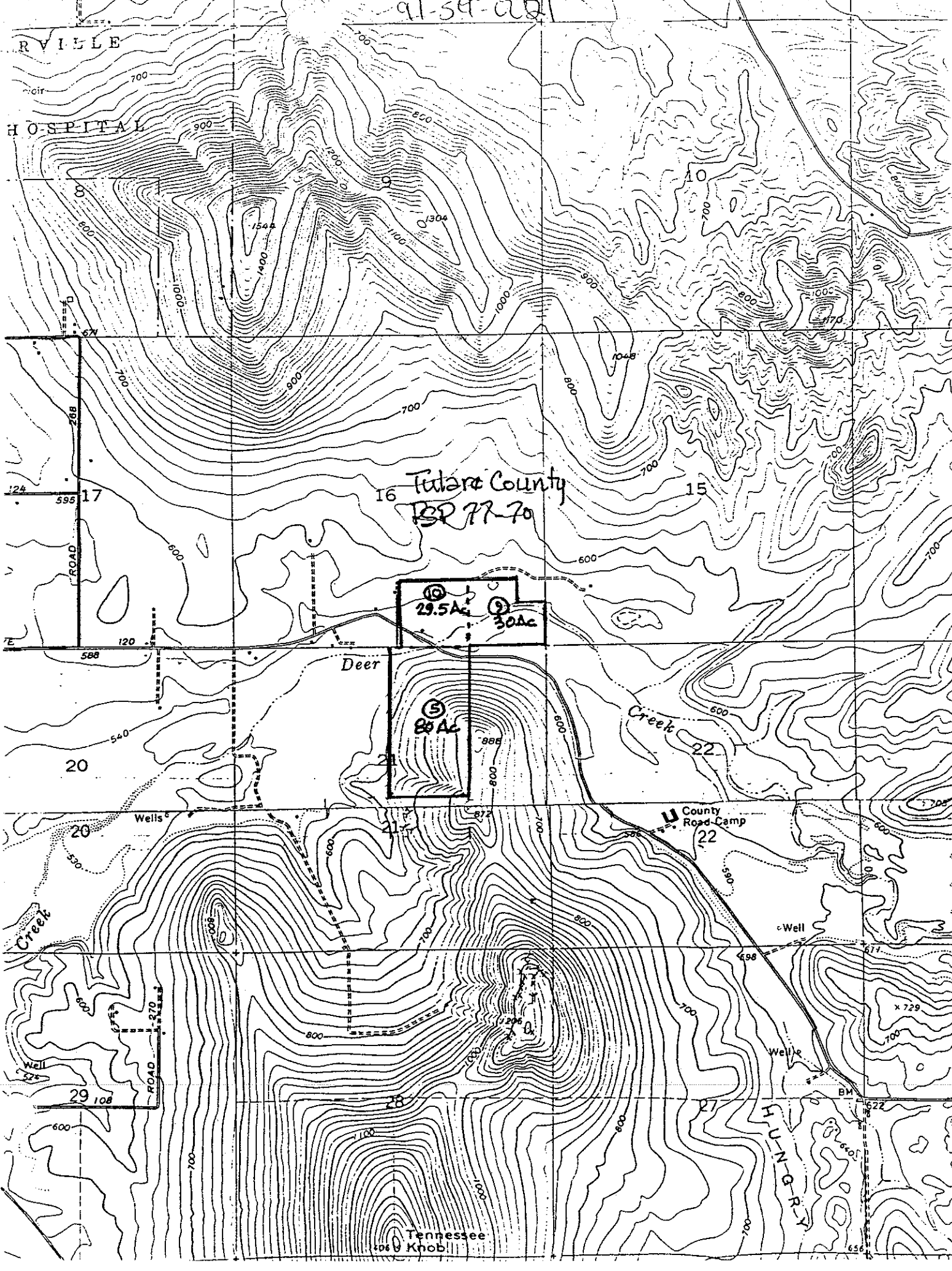
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HUNGRY

Tennessee Knob

ROAD
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595
17
120
588

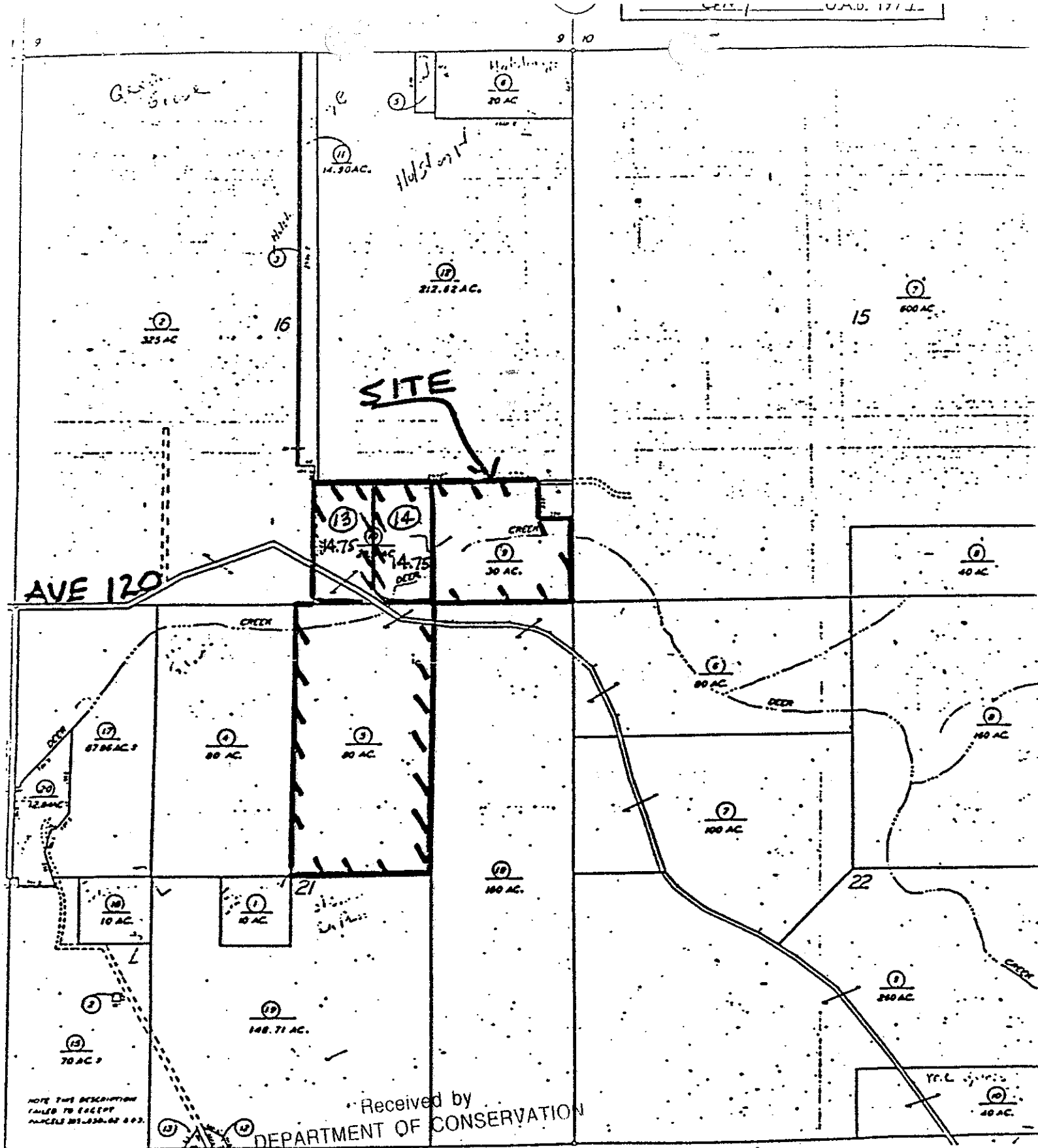
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330
Creek
29
108
ROAD
320



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AV

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118° 56' 50"



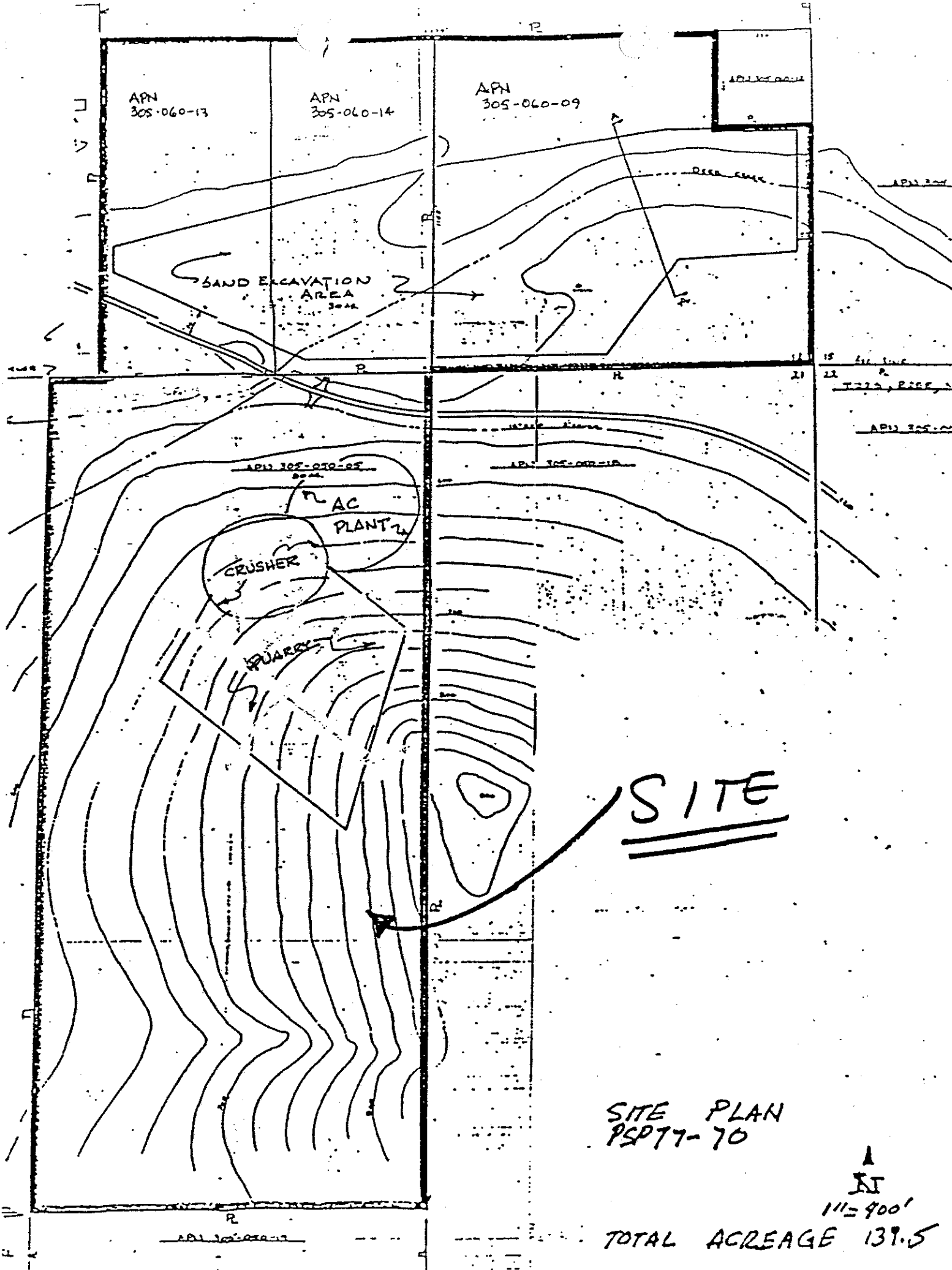
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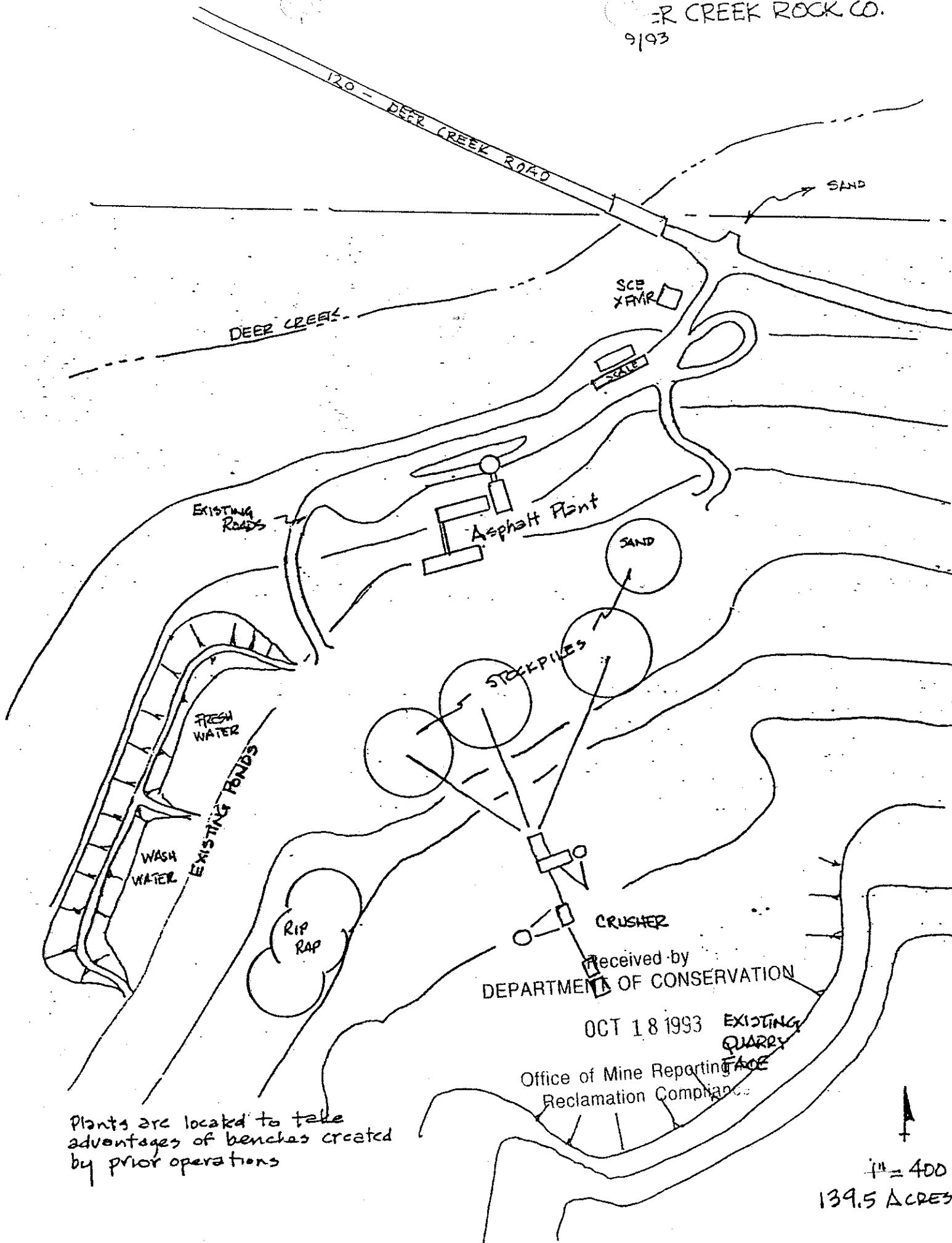
EXISTING ZONING & PARCEL MAP
PSP 71-70

TOTAL ACREAGE 1345

NOTE - ASSESSOR'S LOC
ASSESSOR'S FAC

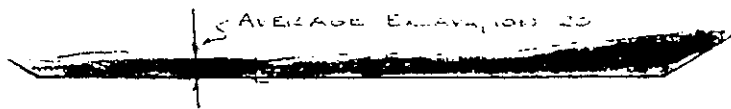


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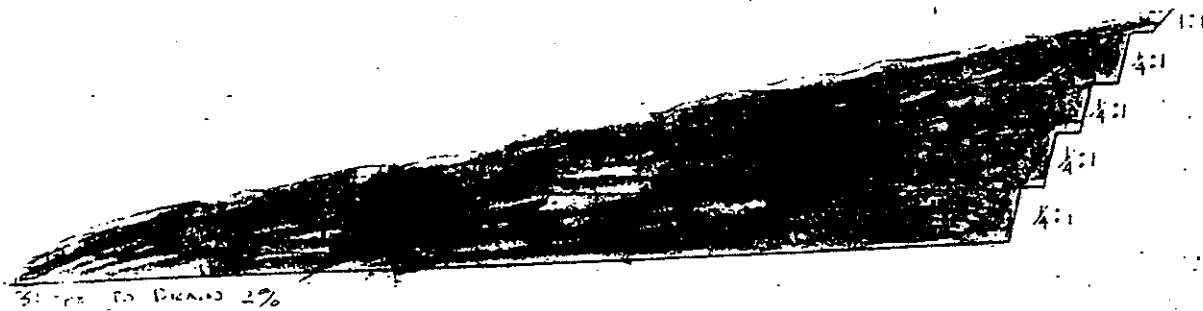


Plants are located to take advantages of benches created by prior operations

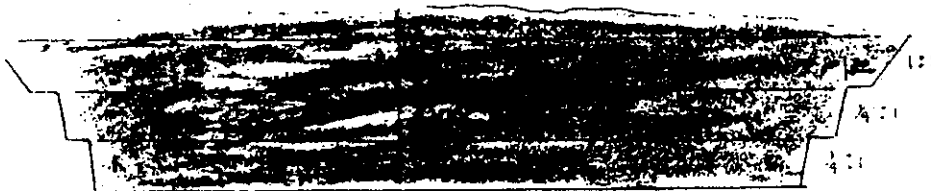
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139.5 ACRES



SECTION A-A
SAND EXCAVATION AREA
SCALE 1" = 10'



SECTION B-B
QUARRY EXCAVATION AREA
SCALE 1" = 10'



SECTION C-C
QUARRY EXCAVATION AREA
SCALE 1" = 10'

APPENDIX B

Acoustical Terminology

ACOUSTICAL TERMINOLOGY

The following terminology has been used for purposes of this NSR:

Ambient Noise Level:	The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.
CNEL:	Community Noise Equivalent Level. The average equivalent sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7 p.m. to 10p.m. and ten decibels to sound levels in the night before 7 a.m. and after 10 p.m.
Decibel, dBA:	A unit for 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 micropascals (20 micro-newtons per square meter).
DNL/L_{dn}:	Day/Night Average Sound Level. The average equivalent sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m.
L_{eq}:	Equivalent Sound Level. The sound level containing the same total energy as a time varying signal over a given sample period. L _{eq} is typically computed over 1, 8 and 24-hour sample periods.
L_{eq}(h):	The hourly value of L _{eq} .
L_{max}:	The maximum noise level recorded during a noise event
L_n:	The sound level exceeded "n" percent of the time during a sample interval (L ₉₀ , L ₅₀ , L ₁₀ , etc.). L ₁₀ equals the level exceeded 10 percent of the time.
L_n(h):	The hourly value of L _n .

Noise Exposure Contours: Lines drawn about a noise source indicating constant levels of noise exposure. CNEL and DNL contours are frequently utilized to describe community exposure to noise.

SEL or SENEL: Sound Exposure Level or Single Event Noise Exposure Level. The level of noise accumulated during a single noise event, such as an aircraft overflight, with reference to the duration of one second. More specifically, it is the time-integrated A-weighted squared sound pressure for a stated time interval or event, based on a reference pressure of 20 micropascals and the reference duration of one second

Sound Level: The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

Note: *CNEL and DNL represent daily levels of noise exposure averaged on an annual basis, while L_n represents the average noise exposure for a shorter time period, typically one hour.*

APPENDIX C

TNM 2.5 Sound Level Worksheets

Deer Creek Rock Co.

C:\TNM25\Program\Deer Creek Ex\Ex Plus

Deer Creek Rock Co.

C:\TNM25\Program\Deer Creek Ex\Ex Plus\Exis Plus Cum

Deer Creek Rock Co.

C:\TNM25\Program\Deer Creek Ex\Ex Plus\Year 2040

Deer Creek Rock Co.

C:\TNM25\Program\Deer Creek Ex\Ex Plus\Year 2040 Plus

APPENDIX D

Caltrans' Technical Noise Supplement

The above exercises can be further expanded to include other useful applications in highway noise. For instance, if one were to ask what the respective SPL increases would be along a highway if existing traffic were doubled, tripled and quadrupled (assuming that traffic mix, distribution, and speeds would not change), we could make a reasonable prediction using equation N-2135.1. In this case N would be the existing traffic (N=1), N=2 would be doubling, N=3 tripling, and N=4 quadrupling the existing traffic. Since the $10\log_{10}(N)$ term in eq. N-2135.1 represents the increase in SPL, we can solve N for N=2, N=3, and N=4. The results would respectively be: +3 dB, +4.8 dB, and +6 dB.

The question might also come up what the SPL decrease would be if the traffic would be reduced by a factor of two, three, or four. In this case $N = 1/2$, $N = 1/3$, and $N = 1/4$, respectively. Applying the $10\log_{10}(N)$ term for these values of N would result in -3 dB, -4.8 dB, and -6 dB, respectively.

The same problem may come up in a different form. For instance, if the traffic flow on a given facility is presently 5000 vehicles per hour (vph) and the present SPL is 65 dB at a given location next to the facility, what would the expected SPL be if future traffic increased to 8000 vph? Solution: $65 + 10\log_{10}(8000/5000) = 65 + 2 = 67$ dB.

The N value may thus represent an integer, a fraction, or a ratio. However, N must always be greater than 0! Taking the logarithm of 0 or a negative value is not possible.

Adding and Subtracting Unequal Noise Levels. If noise sources are not equal, or if equal noise sources are at different distances, the $10\log_{10}(N)$ term cannot be used. Instead, the SPL's have to be added or subtracted individually, using the SPL and relative energy relationship in section N-2134 (eq. N-2134.1). If the number of SPL's to be added is N, and $SPL_{(1)}$, $SPL_{(2)}$, $SPL_{(n)}$ represent the 1st, 2nd, and nth SPL, respectively, the addition is accomplished by:

$$SPL_{(Total)} = 10\log_{10}[10^{SPL_{(1)}/10} + 10^{SPL_{(2)}/10} + \dots + 10^{SPL_{(n)}/10}] \quad (\text{eq. N-2135.3}).$$

The above equation is the general equation for adding SPL's. The same equation may be used for subtraction also (simply change the "+" to "-" for the term to be subtracted. However, the result between the brackets must always be greater than 0!

For example, find the sum of the following sound levels: 82, 75, 88, 68, 79. Using eq.2135.3, the total SPL is:

$$SPL = 10 \log_{10} (10^{68/10} + 10^{75/10} + 10^{79/10} + 10^{82/10} + 10^{88/10}) = 89.6 \text{ dB}$$

Adding SPL's Using a Simple Table - When combining sound levels, the following table may be used as an approximation.

Table N-2135.1 Decibel Addition

When Two Decibel Values Differ By:	Add This Amount to the Higher Value:	Example:
0 or 1 dB	3 dB	$70+69 = 73$
2 or 3 dB	2 dB	$74+71 = 76$
4 to 9 dB	1 dB	$66+60 = 67$
10 dB or more	0 dB	$65+55 = 65$

This table yields results within ± 1 dB of the mathematically exact value and can easily be memorized. The table can also be used to add more than two SPL's. First, sort the list of values, from lowest to highest. Then, starting with the lowest values, combine the first two, add the result to the third value and continue until only the answer remains.

Example: find the sum of the sound levels used in the above example, using Table N-2135.1. First, rank the values from low to high:

68 dB
75 dB
79 dB
82 dB
88 dB
?? dB Total

Using table 2135.1 add the first two noise levels. Then add the result to the next noise level, etc.

- a. $68 + 75 = 76$,
- b. $76 + 79 = 81$,
- c. $81 + 82 = 85$,
- d. $85 + 88 = \mathbf{90\ dB}$ (For comparison, using eq.2135.3, the total SPL was 89.6 dB).

Two decibel addition rules are important. First, when adding a noise level with another approximately equal noise level, the total noise level rises 3 dB. For example doubling the traffic on a highway would result in an increase of 3 dB. Conversely, reducing traffic by one half, the noise level reduces by 3 dB. Second, when two noise levels are 10 dB or more apart, the lower value does not contribute significantly (< 0.5 dB) to the total noise level.

APPENDIX G



Deer Creek Rock Co., Inc.

Traffic Impact Study Report

Prepared for:

Tulare County
Resource Management Agency
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Deer Creek Rock Co., Inc. Traffic Impact Study

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Executive Summary

This Traffic Impact Study (TIS) has been prepared for the purpose of analyzing traffic conditions related to the proposed mining permit amendment for Deer Creek Rock Co., Inc. (Project) which seeks to increase production from 500,000 tons/year to 950,000 tons/year, affirm operating hours, increase truck trips from 100 to 188 per day, and allow for mining related activities on the 20 acre site that was acquired from Garden Groves. The proposed Project is located south of Avenue 120 (Deer Creek Drive) approximately 1/2 mile east of Road 272 along the south bank of Deer Creek.

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.

The Project proposes an amendment to the existing Surface Mining Permit to increase annual production from 500,000 to 950,000 tons/year, as permitted under PMR #'s 01-001 and 09-002 and PSP 01-055(ZA). The amendment is to make the PMRs consistent with each other. No lateral expansion of the approved mine footprint is proposed to occur. Both permits are proposed to allow for trucks hauling to not exceed 188 vehicle trips per day.

There will be one (1) access point 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.

This report includes analysis of the following intersections:

1. State Route (SR) 65 / Avenue 128
2. Plano Street / Avenue 128
3. Avenue 116 / Road 264
4. Deer Creek Drive / Road 264
5. Deer Creek Drive / Road 272
6. Deer Creek Drive / Project Access

This report includes analysis of the following 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

The study time periods include the weekday AM and PM peak hours determined between 7:00 and 9:00 AM and between 4:00 and 6:00 PM. The peak hours were analyzed for the following conditions:

- ◆ Existing 2014 Conditions
- ◆ Existing 2014 Plus Project Conditions
- ◆ Existing 2014 Plus Project Plus Cumulative Conditions
- ◆ Cumulative 2040 without Project Conditions
- ◆ Cumulative 2040 with Project Conditions

Generally-accepted traffic engineering principles and methods were employed to estimate the amount of traffic expected to be generated by the Project and to analyze the traffic conditions expected to exist in the future. The conclusion of this traffic impact study is that the existing road network is adequate to accommodate the proposed development through the year 2040 and no mitigation is recommended. The traffic impact analyses based on projections of cumulative and future traffic volumes through the year 2040 result in the conclusions and recommendations described below.

IMPACTS

Intersections

Results of the LOS intersection analysis along the street and highway system in the project area from Existing through the Cumulative Year 2040 Plus Project scenario are reflected in Table E-1. Results of the analysis show that none of the study intersections will fall below acceptable levels of service through the year 2040.

Segments

Results of the LOS segment analysis along the street and highway system in the project area from Existing through the Cumulative Year 2040 Plus Project scenario are reflected in Table E-2. Results of the analysis show that none of the roadway segments will fall below acceptable levels of service through the year 2040.

TABLE E-1
Intersection Operations

INTERSECTION	CONTROL	PEAK HOUR	EXISTING 2014		EXISTING PLUS PROJECT		EXISTING PLUS PROJECT PLUS CUMULATIVE		CUMULATIVE 2040 NO PROJECT		CUMULATIVE 2040 PLUS PROJECT	
			DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS
1. SR-65 / Avenue 128	Signalized	AM	11.1	B	12.2	B	12.2	B	10.9	B	11.8	B
		PM	19.6	B	21.7	C	21.7	C	19.6	B	21.7	C
2. Avenue 128 / Plano Street	All-Way Stop Sign	AM	8.2	A	8.4	A	8.4	A	8.4	A	8.6	A
		PM	8.9	A	9.2	A	9.2	A	9.4	A	9.8	A
3. Avenue 116 / Road 264	One-Way Stop Sign	AM	9.2	A	9.3	A	9.3	A	9.1	A	9.1	A
		PM	9.5	A	9.7	A	9.7	A	9.3	A	9.2	A
4. Deer Creek Drive / Road 264	One-Way Stop Sign	AM	9.1	A	9.2	A	9.2	A	8.6	A	9.1	A
		PM	9.3	A	9.4	A	9.4	A	9.1	A	9.1	A
5. Deer Creek Drive / Road 272	One-Way Stop Sign	AM	8.9	A	9.3	A	9.3	A	8.8	A	9.0	A
		PM	8.9	A	9.3	A	9.3	A	8.8	A	9.0	A
6. Deer Creek Drive / Project Access	One-Way Stop Sign	AM	9.0	A	9.3	A	9.3	A	8.9	A	9.0	A
		PM	8.8	A	9.1	A	9.1	A	8.7	A	8.9	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 E-2
Segment Operations

SEGMENT	DESCRIPTION	DIRECTION	PEAK HOUR	EXISTING 2014		EXISTING PLUS PROJECT		EXISTING PLUS PROJECT PLUS CUMULATIVE		CUMULATIVE 2040 NO PROJECT		CUMULATIVE 2040 PLUS PROJECT	
				VOLUME	LOS	VOLUME	LOS	VOLUME	LOS	VOLUME	LOS	VOLUME	LOS
1. Avenue 128: SR-65 to Plano Street	Two-lane Undivided	EB	AM	95	B	115	B	115	B	130	B	150	B
			PM	205	B	225	B	225	B	263	C	283	C
		WB	AM	151	B	171	B	171	B	175	B	195	B
			PM	165	B	185	B	185	B	233	B	253	C
2. Plano Street (Avenue 116): Avenue 128 to Road 264	Two-lane Undivided	NB	AM	100	B	120	B	120	B	136	B	156	B
			PM	135	B	155	B	155	B	195	B	215	B
		SB	AM	72	B	92	B	92	B	108	B	128	B
			PM	101	B	121	B	121	B	141	B	161	B
3. Road 264: Deer Creek Drive to Avenue 116	Two-Lane Undivided	NB	AM	24	B	47	B	47	B	25	B	48	B
			PM	20	B	43	B	43	B	21	B	44	B
		SB	AM	13	B	36	B	36	B	13	B	36	B
			PM	19	B	42	B	42	B	20	B	43	B
4. Deer Creek Drive: Road 264 to Road 272	Two-lane Undivided	EB	AM	29	B	52	B	52	B	31	B	54	B
			PM	26	B	49	B	49	B	28	B	51	B
		WB	AM	22	B	45	B	45	B	23	B	46	B
			PM	34	B	57	B	57	B	37	B	60	B
5. Deer Creek Drive: Road 272 to Project Access	Two-Lane Undivided	EB	AM	36	B	59	B	59	B	37	B	60	B
			PM	20	B	43	B	43	B	22	B	45	B
		WB	AM	33	B	56	B	56	B	34	B	57	B
			PM	32	B	55	B	55	B	32	B	55	B

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

MITIGATION

Since the intersection and segment analysis conducted for this traffic impact study resulted in acceptable levels of service for all scenarios, no mitigation is recommended.

This Traffic Impact Study (TIS) has been prepared for the purpose of analyzing traffic conditions related to the proposed mining permit amendment for Deer Creek Rock Co., Inc. (Project) which seeks to increase production from 500,000 tons/year to 950,000 tons/year, affirm operating hours, increase truck trips from 100 to 188 per day, and allow for mining related activities on the 20 acre site that was acquired from Garden Groves. The proposed Project is located south of Avenue 120 (Deer Creek Drive) approximately 1/2 mile east of Road 272 along the south bank of Deer Creek.

1.0 Introduction

1.1 Description of the Region/Project

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. Figures 1-1 and 1-2 show the location of the Project along with major roadways and highways and study intersections and segments.

The Project proposes an amendment to the existing Surface Mining Permit to increase annual production from 500,000 to 950,000 tons/year, as permitted under PMR #'s 01-001 and 09-002 and PSP 01-055(ZA). The amendment is to make the PMRs consistent with each other. No lateral expansion of the approved mine footprint is proposed to occur. Both permits are proposed to allow for trucks hauling to not exceed 188 vehicle trips per day.

1.1.1 Project Access

There will be one (1) access point 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.

1.1.2 Study Area

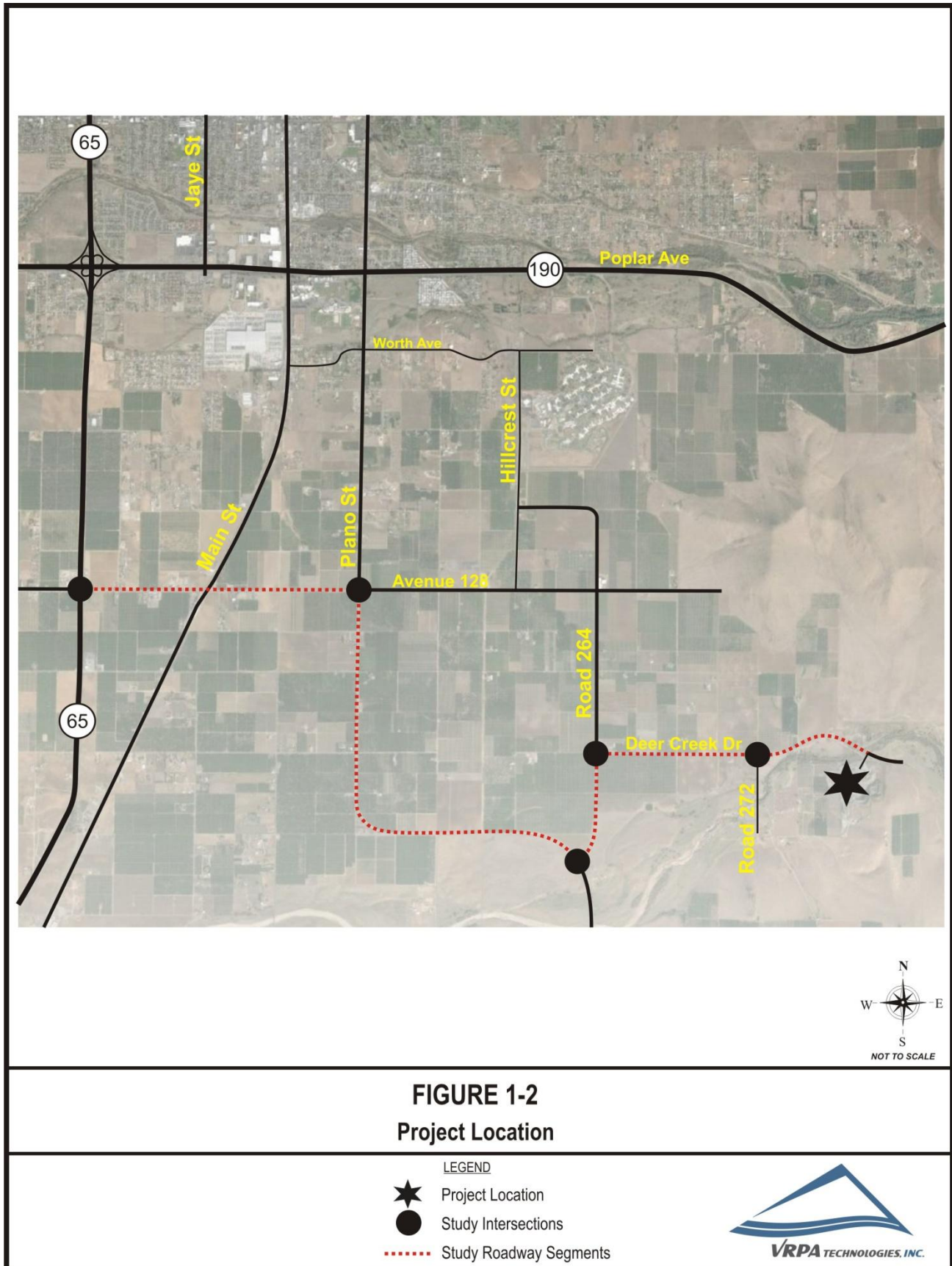
The following intersections and roadway segments included in this TIS include:

Intersections

- ◆ State Route (SR) 65 / Avenue 128
- ◆ Plano Street / Avenue 128
- ◆ Avenue 116 / Road 264
- ◆ Deer Creek Drive / Road 264
- ◆ Deer Creek Drive / Road 272
- ◆ Deer Creek Drive / Project Access







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

1.1.2 Study Scenarios

The TIS completed for the proposed Project includes level of service (LOS) analysis for the following traffic scenarios:

- ◆ Existing 2014 Conditions
- ◆ Existing 2014 Plus Project Conditions
- ◆ Existing 2014 Plus Project Plus Cumulative Conditions
- ◆ Cumulative 2040 without Project Conditions
- ◆ Cumulative 2040 with Project Conditions

1.2 Methodology

When preparing a TIS, guidelines set by affected agencies are followed. In analyzing street and intersection capacities the Level of Service (LOS) methodologies are applied. LOS standards are applied by transportation agencies to quantitatively assess a street and highway system's performance. In addition, safety concerns are analyzed to determine the need for appropriate mitigation resulting from increased traffic near sensitive uses, the need for dedicated ingress and egress access lanes to the project, and other evaluations such as the need for signalized intersections or other improvements.

Intersection Level of Service

Intersection LOS analysis was conducted using the Synchro traffic signal timing program. Levels of Service can be determined for both signalized and unsignalized intersections. One (1) of the existing study intersections is currently signalized, while five (5) are unsignalized.

Tables 1-1 and 1-2 indicate the ranges in the amounts of average delay for a vehicle at signalized and unsignalized intersections for the various levels of service ranging from LOS "A" to "F".

The signalized LOS standards applied to calculate intersection LOS are in accordance with the

current edition of the Highway Capacity Manual (HCM). Intersection turning movement counts and roadway geometrics used to develop LOS calculations were obtained from field review findings and count data provided from the traffic count sources identified in Section 2.1.

When an unsignalized intersection does not meet acceptable LOS standards, the investigation of the need for a traffic signal shall be evaluated. The California Manual on Uniform Traffic Control Devices for Streets and Highways dated January 13, 2012 (CMUTCD), introduces standards for determining the need for traffic signals. The CMUTCD indicates that the satisfaction of one or more traffic signal warrants does not in itself require the installation of a traffic signal. In addition to the warrant analysis, an engineering study of the current or expected traffic conditions should be conducted to determine whether the installation of a traffic signal is justified. The CMUTCD Peak Hour Warrant (Warrant 3) was used to determine if a traffic signal is warranted at unsignalized intersections that fall below current LOS standards.

Segment Level of Service

According to the HCM, LOS is categorized by two parameters of traffic: uninterrupted and interrupted flow. Uninterrupted flow facilities do not have fixed elements such as traffic signals that cause interruptions in traffic flow. Interrupted flow facilities do have fixed elements that cause an interruption in the flow of traffic, such as stop signs and signalized intersections along arterial roads. A roadway segment is defined as a stretch of roadway generally located between signalized or controlled intersections.

Segment LOS is important in order to understand whether the capacity of a roadway can accommodate future traffic volumes. Table 1-3 provides a definition of segment LOS. The performance criteria used for evaluating volumes and capacities on the road and highway system for this study were estimated using 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. Additional information is included in Appendix A.

1.3 Policies to Maintain Level of Service

An important goal is to maintain acceptable levels of service along the highway, street, and road network. To accomplish this, Tulare County 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 identifies a target LOS at the transition between LOS C and LOS D, according to information specified in the Caltrans, "[A Guide For Traffic Impact Studies](#)".

Given the LOS standards of the various agencies in the Project area, the goal of the Project is to provide LOS results that meet the minimum LOS D for all intersections and segments.

TABLE 1-1
Signalized Intersections
Level of Service Definitions
(Highway Capacity Manual)

LEVEL OF SERVICE	DEFINITION	AVERAGE TOTAL DELAY (sec/veh)
A	Describes operations with very low delay. This level of service occurs when there is no conflicting traffic for a minor street.	≤ 10.0
B	Describes operations with moderately low delay. This level generally occurs with a small amount of conflicting traffic causing higher levels of average delay.	≥ 10.0 and ≤ 20.0
C	Describes operations with average delays. These higher delays may result from a moderate amount of minor street traffic. Queues begin to get longer.	≥ 20.0 and ≤ 35.0
D	Describes a crowded operation, with below average delays. At level D, the influence of congestion becomes more noticeable. Longer delays may result from shorter gaps on the mainline and an increase of minor street traffic. The queues of vehicles are increasing.	≥ 35.0 and ≤ 55.0
E	Describes operations at or near capacity. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor gaps for the minor street to cross and large queues.	≥ 55.0 and ≤ 80.0
F	Describes operations that are at the failure point. This level, considered to be unacceptable to most drivers, often occurs with over-saturation, that is, when arrival flow rates exceed the capacity of the intersection. Insufficient gaps of suitable size exist to allow minor traffic to cross the intersection safely.	≥ 80.0

TABLE 1-2
Unsignalized Intersections
Level of Service Definitions
(Highway Capacity Manual)

LEVEL OF SERVICE	DEFINITION	AVERAGE TOTAL DELAY (sec/veh)
A	No delay for stop-controlled approaches.	≤ 10.0
B	Describes operations with minor delay.	≥ 10.0 and ≤ 15.0
C	Describes operations with moderate delays.	≥ 15.0 and ≤ 25.0
D	Describes operations with some delays.	≥ 25.0 and ≤ 35.0
E	Describes operations with high delays and long queues.	≥ 35.0 and ≤ 50.0
F	Describes operations with extreme congestion, with very high delays and long queues unacceptable to most drivers.	≥ 50.0

TABLE 1-3
Segment Level of Service Definitions
(Highway Capacity Manual)

LEVEL OF SERVICE	DEFINITION
A	Represents free flow. Individual vehicles are virtually unaffected by the presence of others in the traffic stream.
B	Is in the range of stable flow, but the presence of other vehicles in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.
C	Is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual vehicles becomes significantly affected by interactions with other vehicles in the traffic stream.
D	Is a crowded segment of roadway with a large number of vehicles restricting mobility and a stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.
E	Represents operating conditions at or near the level capacity. All speeds are reduced to a low, but relatively uniform value. Small increases in flow will cause breakdowns in traffic movement.
F	Is used to define forced or breakdown flow (stop-and-go gridlock). This condition exists when the amount of traffic approaches a point where the amount of traffic exceeds the amount that can travel to a destination. Operations within the queues are characterized by stop and go waves, and they are extremely unstable.

2.0 Existing Conditions

2.1 Existing Traffic Counts and Roadway Geometrics

The first step toward assessing Project traffic impacts is to assess existing traffic conditions. Existing AM and PM peak hour turning movements were collected at each study intersection by National Data and Surveying Services. Traffic counts were conducted for the peak hour periods of 7:00-9:00 AM and 4:00-6:00 PM for all key intersections in August 2014. All traffic counts were conducted on a Tuesday, Wednesday, or Thursday, however schools were not in session. To account for seasonal variances considering school traffic and other variables, existing traffic counts were increased by 24% to determine Existing 2014 traffic conditions. This percentage was determined by comparing the 2012 traffic volumes along SR-65 from the Caltrans website, increased by 2% per year, to the existing traffic counts collected along SR-65. Traffic count data worksheets are provided in Appendix B.

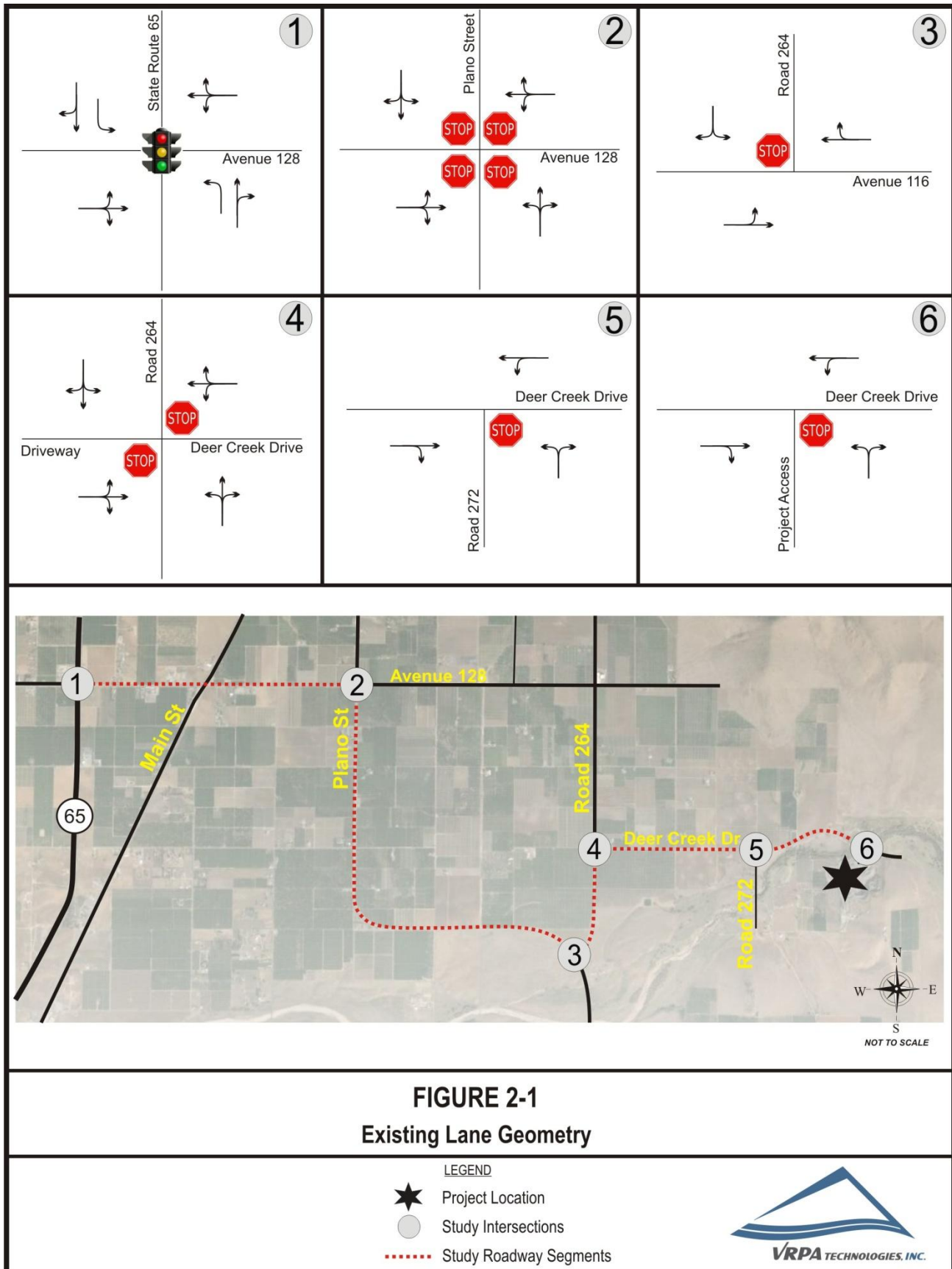
Existing lane geometry is shown in Figure 2-1. Existing 2014 AM and PM peak hour traffic volumes are shown in Figure 2-2.

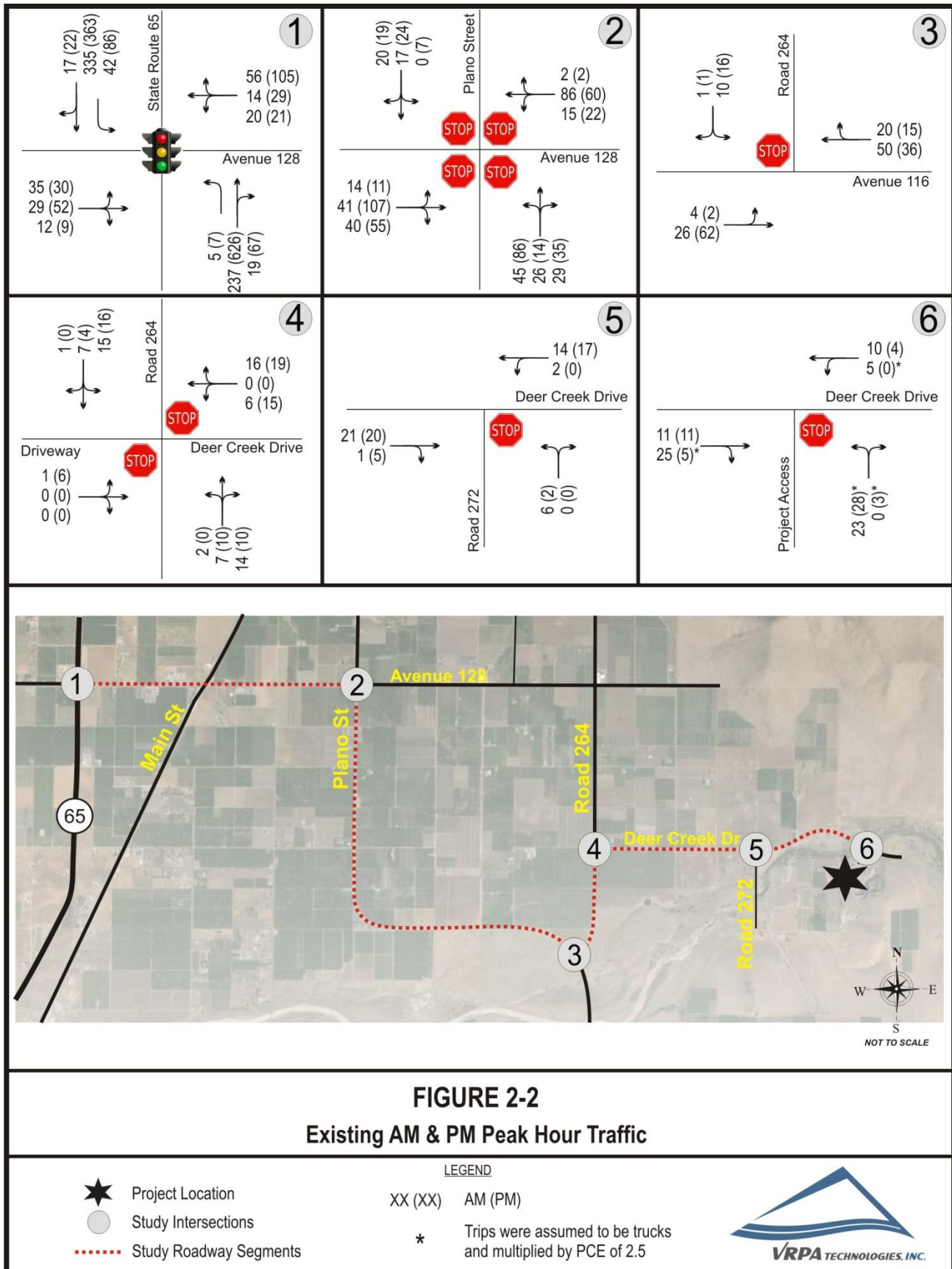
2.2 Existing Functional Roadway Classification System

Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the type of service they are intended to provide. Fundamental to this process is the recognition that individual streets and highways do not serve travel independently in any major way. Rather, most travel involves movement through a network of roads.

The current hierarchical system of roadways within the County of Tulare's sphere of influence consists of the following four (4) basic classifications:

- ◆ **Freeways** – provide for the ability to carry large traffic volumes at high speeds for long distances. Access points are fully controlled. Freeways connect points within the County and link the County to other parts of the State.
- ◆ **Arterials** – provide for mobility within the County and its cities, carrying through traffic on continuous routes and joining major traffic generators, freeways, and other arterials. Access to abutting private property and intersecting local streets shall generally be restricted.
 - **State Route 65** – currently exists as a two-lane undivided roadway with a posted speed limit of 65 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 in 2012.





- ◆ **Collectors** – provide for internal traffic movement within communities, and connect local roads to arterials. Direct access to abutting private property shall generally be permitted. While not specifically identified in the Circulation Element of the Tulare County General Plan Update, the following roadways are assumed to serve as collectors.
 - **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** – currently exists as a two-lane undivided roadway without bike lanes and without a posted speed limit through the study area.
 - **Road 264** – currently exists as a two-lane undivided roadway without bike lanes and without a posted speed limit through the study area.
 - **Deer Creek Drive** – currently exists as a two-lane undivided roadway without bike lanes and without a posted speed limit through the study area.
- ◆ **Local Streets** – provide direct access to abutting property and connect with other local roads, collectors, and arterials. Local roads are typically developed as two-lane undivided roadways. Access to abutting private property and intersecting streets shall be permitted.

2.3 Level of Service

Intersection Capacity Analysis

All intersection LOS analyses were estimated using Synchro Software. Various roadway geometrics, traffic volumes, and properties (signal timing, peak hour factors, etc) were input into the Synchro Software program in order to accurately determine the travel delay and LOS for each Study scenario. The intersection LOS and delays reported represent the Synchro outputs. Synchro assumptions, listed below, show the various Synchro inputs and methodologies used in the analysis.

- ◆ **LANE GEOMETRY**
 - Storage lengths for turn lanes for existing intersections were measured in the field and rounded to the nearest 25 feet.
- ◆ **TRAFFIC CONDITIONS**
 - The peak hour factor for Existing, Existing Plus Project, and Existing Plus Project Plus Cumulative (Near-Term) conditions were determined using existing counts based on approach of movement.
 - The peak hour factor for future scenarios is 0.92.
 - Roadway link speed limits were observed in the field and input into the Synchro network to determine roadway link speeds.
 - The Right Turn on Red parameter was set to 'Yes'.

- Heavy vehicle percentages were applied as follows and are based on the HCM default or Caltrans' truck data available on its website:
 - ◆ SR-65 – 9%
 - ◆ All other roadways – 3%

◆ SIGNAL TIMING PARAMETERS

- Signal phasing was based on a field review, minimum green and yellow times as well as pedestrian walk and don't walk times were estimated based on the California MUTCD methodology and all red times were estimated to be 1.0 seconds.
- Signal phasing remained constant throughout scenarios unless the project or any other planned improvements are specifically changing an intersection. Lead-Lag Optimize was "optimized" for all scenarios.
- Traffic signals were assumed to be "actuated and uncoordinated".
- All intersection cycle lengths and offsets were optimized using a cycle length range of 60-120 seconds.

Results of the analysis show that none of the study intersections are operating worse than the minimum level of service. Table 2-1 shows the intersection LOS for the existing conditions. Synchro Worksheets are provided in Appendix C.

Segment Analysis

Results of the AM and PM peak hour LOS segment analysis along the existing street and highway system in the project area are reflected in Table 2-2. Street segment capacity was determined using information shown in Table 2-3, which comes from the Modified Arterial Level of Service Tables included in Appendix A. Results of the analysis show that none of the study intersections are operating worse than the minimum level of service.

TABLE 2-1
Existing Intersection Operations

INTERSECTION	CONTROL	PEAK HOUR	EXISTING 2014	
			DELAY	LOS
1. SR-65 / Avenue 128	Signalized	AM	11.1	B
		PM	19.6	B
2. Avenue 128 / Plano Street	All-Way Stop Sign	AM	8.2	A
		PM	8.9	A
3. Avenue 116 / Road 264	One-Way Stop Sign	AM	9.2	A
		PM	9.5	A
4. Deer Creek Drive / Road 264	One-Way Stop Sign	AM	9.1	A
		PM	9.3	A
5. Deer Creek Drive / Road 272	One-Way Stop Sign	AM	8.9	A
		PM	8.9	A
6. Deer Creek Drive / Project Access	One-Way Stop Sign	AM	9.0	A
		PM	8.8	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 2-2
Existing Street Segment Operations

SEGMENT	DESCRIPTION	DIRECTION	PEAK HOUR	EXISTING 2014	
				VOLUME	LOS
1. Avenue 128: SR-65 to Plano Street	Two-lane Undivided	EB	AM	95	B
			PM	205	B
		WB	AM	151	B
			PM	165	B
2. Plano Street (Avenue 116): Avenue 128 to Road 264	Two-lane Undivided	NB	AM	100	B
			PM	135	B
		SB	AM	72	B
			PM	101	B
3. Road 264: Deer Creek Drive to Avenue 116	Two-Lane Undivided	NB	AM	24	B
			PM	20	B
		SB	AM	13	B
			PM	19	B
4. Deer Creek Drive: Road 264 to Road 272	Two-lane Undivided	EB	AM	29	B
			PM	26	B
		WB	AM	22	B
			PM	34	B
5. Deer Creek Drive: Road 272 to Project Access	Two-Lane Undivided	EB	AM	36	B
			PM	20	B
		WB	AM	33	B
			PM	32	B

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

TABLE 2-3
Peak Hour One-Way Volumes

LEVEL OF SERVICE						
LANES	DIVIDED	TYPE	B	C	D	E
1	Undivided	Uninterrupted Flow Highways	240	430	740	1,480
2	Divided	Uninterrupted Flow Highways	1,410	2,210	2,800	3,180
3	Divided	Uninterrupted Flow Highways	2,120	3,320	4,200	4,770

3.0 Traffic Impacts

This chapter provides an assessment of the traffic the Project is expected to generate and the impact of that traffic on the surrounding street system.

3.1 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. As shown in Table 3-1, the current mining permit allows operations of 500,000 tons/year which equates to the existing trip generation shown below. The Projects seeks to increase operations to 950,000 tons/year. Therefore, the Project trip generation applied in this analysis considers the net increase of trips associated with the increase in operations.

TABLE 3-1
Project Trip Generation

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	200	50:50	10	10	20	50:50	10	10	20
	Total	200		10	10	20		10	10	20
Proposed Surface Mining Operation	Deer Creek Rock Co., Inc. ²	375	50:50	19	19	38	50:50	19	19	38
	Total	375		19	19	38		19	19	38
	Net Increase	175		9	9	18		9	9	18

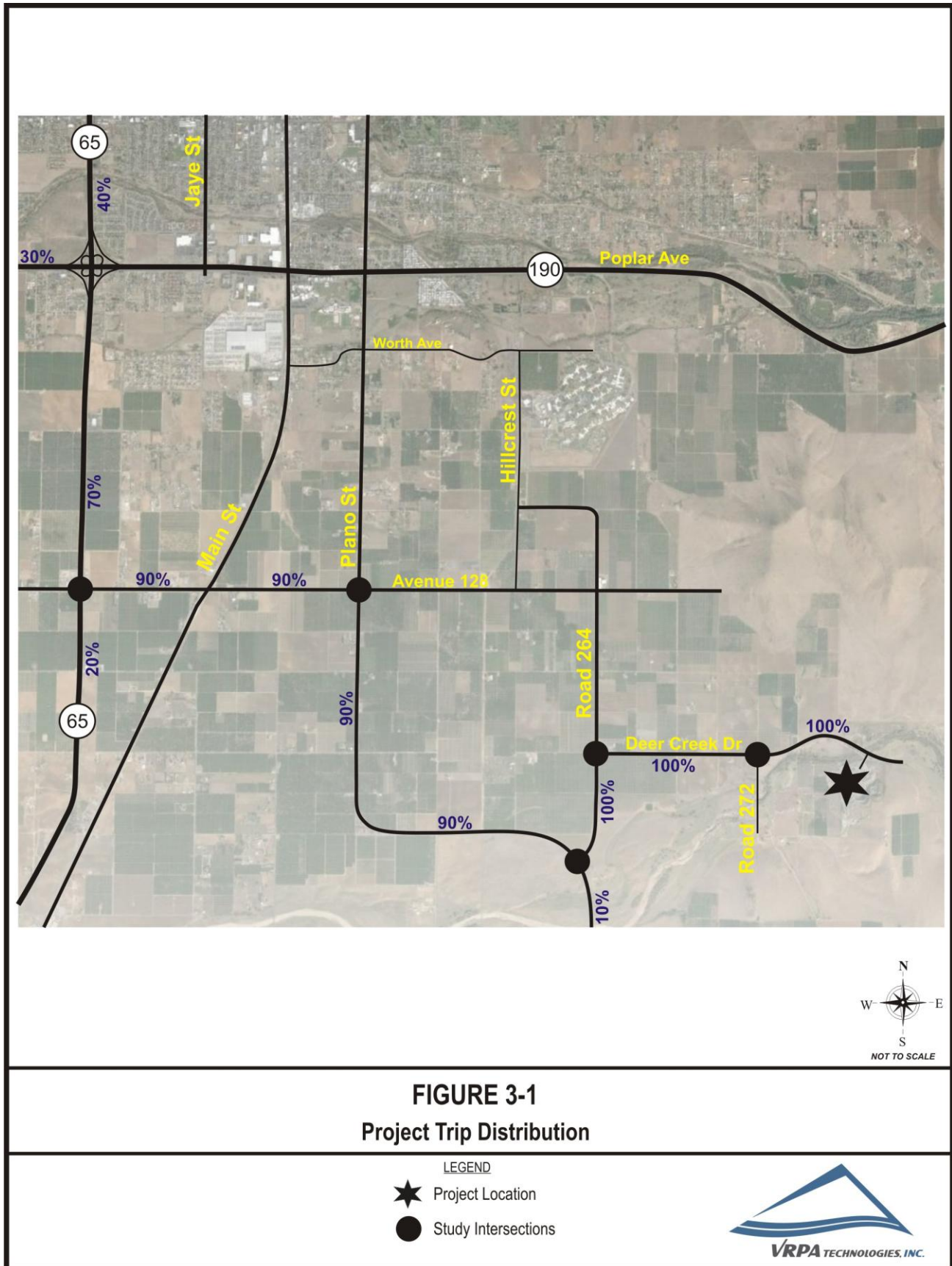
1 A "trip" is defined as a "one-way" trip.

2 Trip generation is consistent with information received from the Project representative as well as the previous Conditions of Approval.

3.2 Trip Distribution

Trip distribution for this Project was estimated and manually distributed based on engineering judgment as well as existing traffic patterns for current Project operations.

Trip distribution for all scenarios is shown in Figure 3-1.



3.3 Project Traffic

Project traffic as shown in Table 3-1 was distributed to the roadway system using the trip distribution percentages shown in Figure 3-1. A graphical representation of the resulting AM and PM peak hour Project trips used is shown in Figure 3-2.

The capacity analysis for all analysis scenarios was performed assuming a “Passenger Car Equivalent” (PCE) of 2.5:1 for all Project truck trips entering and exiting the facility, which is a conservative estimate while remaining consistent with the Highway Capacity Manual. The PCE’s are reflected in the figures (as appropriate) and segment operations tables included in this TIS report.

3.4 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 Figure 3-3.

3.5 Approved/Pending Project Traffic

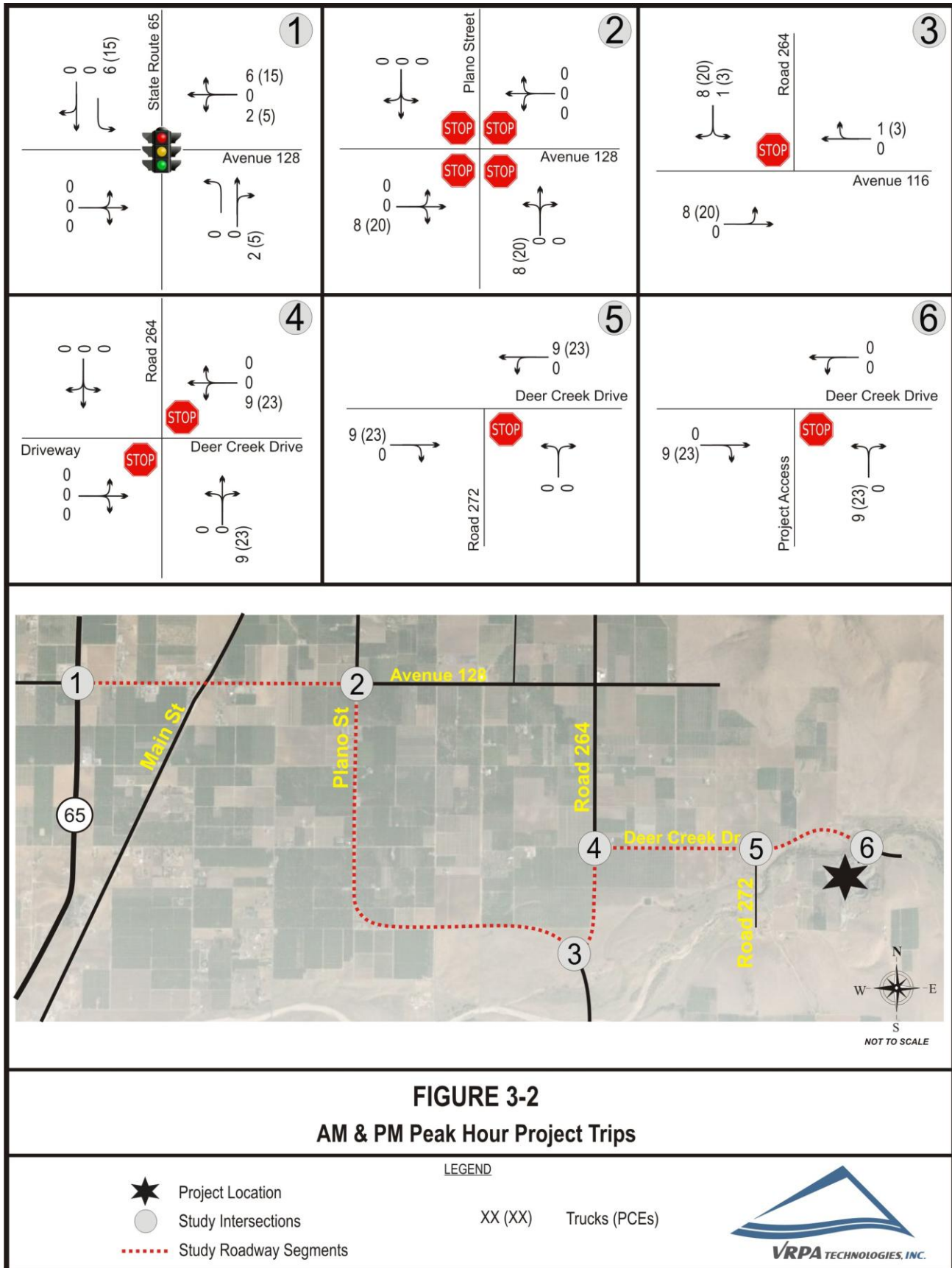
Traffic impact analyses typically require the analysis of approved or pending developments that have not yet been built in the vicinity of the Project in addition to the proposed Project. There is one (1) development in the Project’s vicinity that will add new trips to the intersections and roadway segments that are being studied in this TIS. Figure 3-4 shows the estimated traffic associated with the following development:

- ◆ **South County Detention Facility** - Consists of a new maximum security Type II detention facility with 250-cell double occupancy units (500 beds) and 14 special use beds for a total of 514 beds. Located on the northwest corner of Scranton Avenue and Newcomb Street which is partially within the City of Porterville and partially within Tulare County.

Trip generation and distribution information for this development was based on information found in the corresponding TIS report. Trip generation and distribution information or project specific information are provided in Appendix D.

3.6 Existing Plus Project Plus Cumulative Traffic Conditions

An Existing Plus Project Plus Cumulative Scenario was analyzed to include existing traffic plus traffic generated by the approved or pending project plus traffic generated by the Project. The resulting traffic is shown in Figure 3-5.



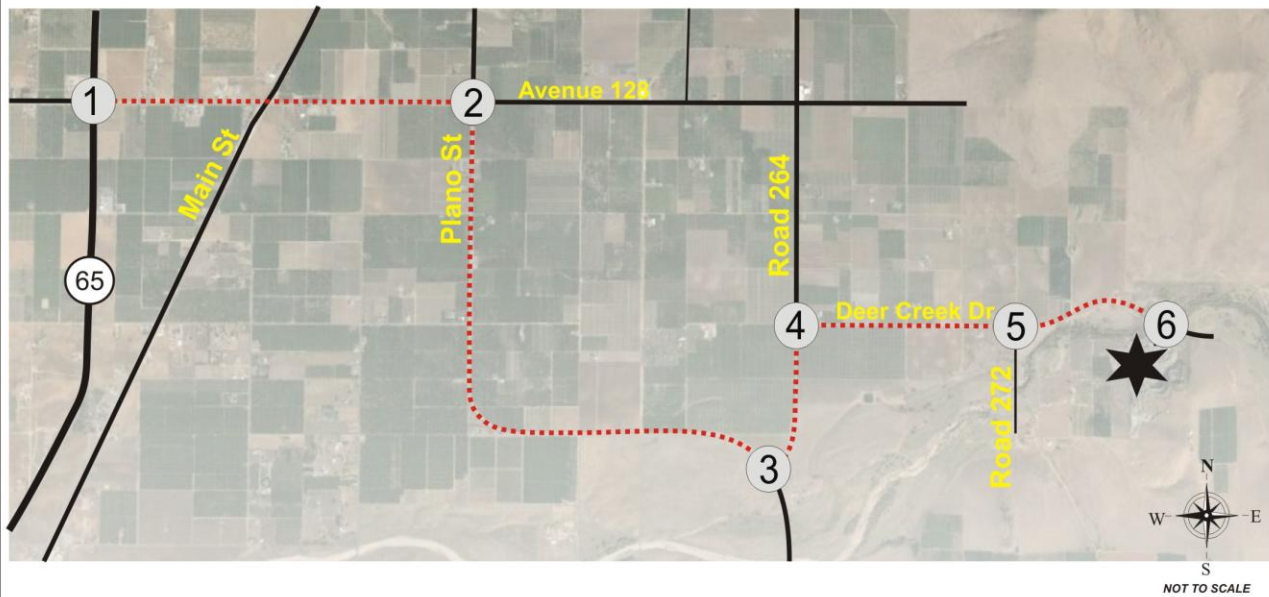
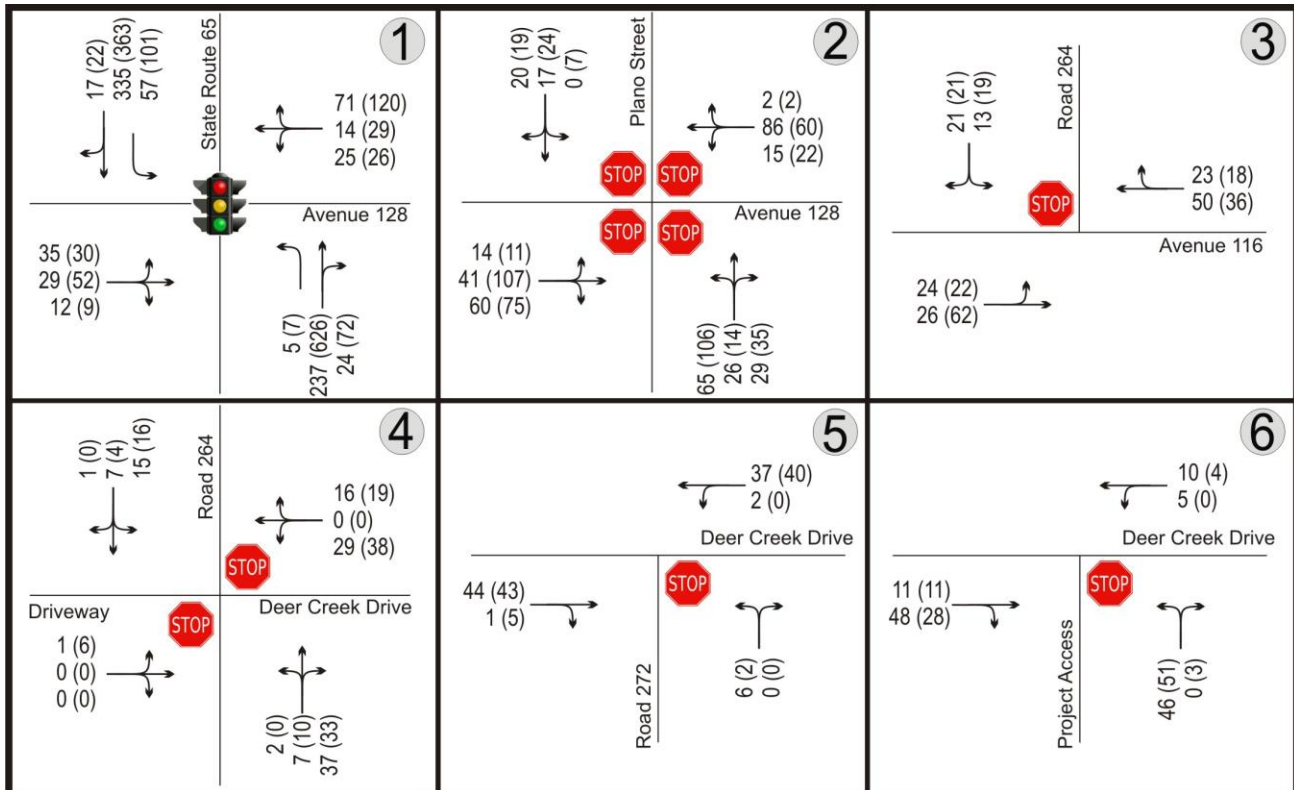
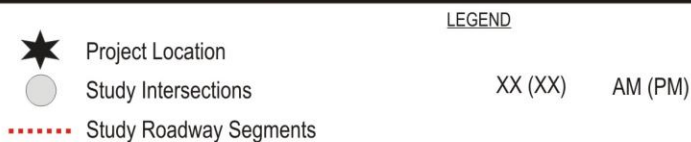
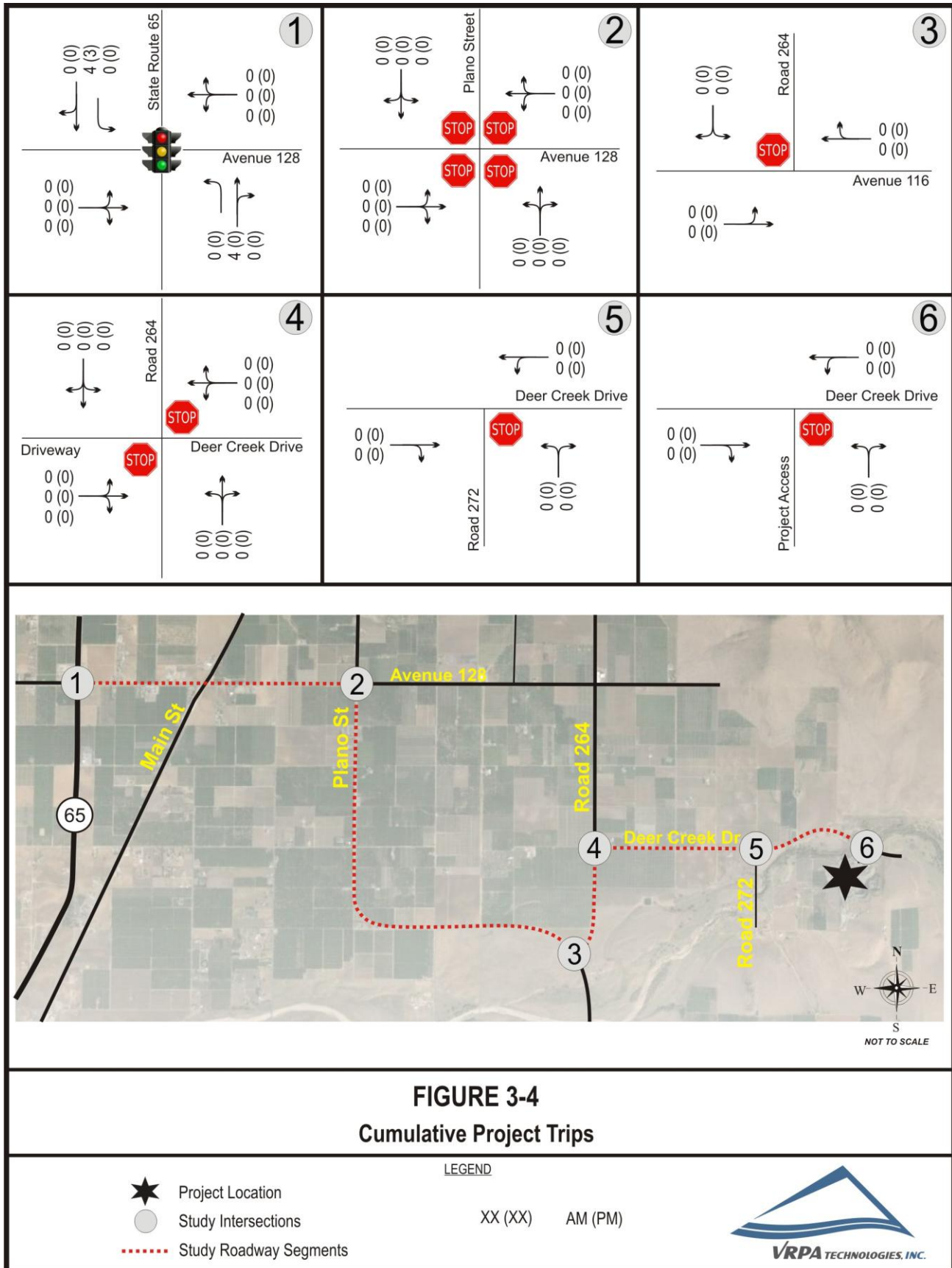
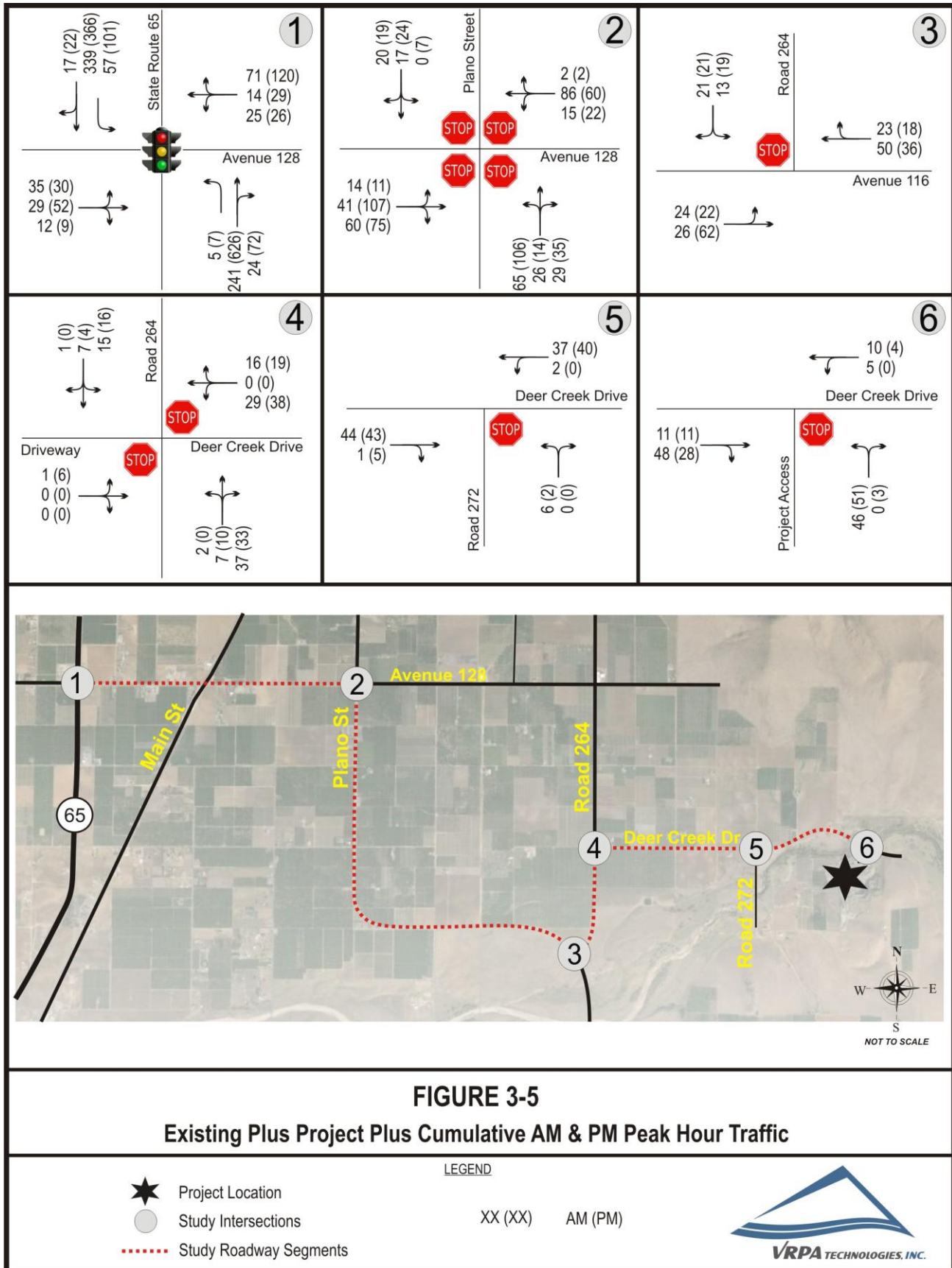


FIGURE 3-3
Existing Plus Project AM & PM Peak Hour Traffic







3.7 Cumulative 2040 No Project Traffic Conditions

The impacts of the Project were analyzed considering future traffic conditions in 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 the City of Porterville, City of Tulare, City of Visalia, and Tulare County. Traffic conditions without the Project in the Year 2040 were estimated using the Tulare County Association of Governments (TCAG) regional travel model. Future traffic forecasts along study area roadway segments were estimated by utilizing methodologies published by the Fresno Council of Governments (Fresno COG) using the TurnsW32 program. This process can be summarized as follows:

- ◆ The TCAG model for the year 2010 and 2040 was used to estimate the future traffic growth for study area roadway segments. The future growth was adjusted to account for the fact that the base model reflects year 2010, and not 2014, conditions.
- ◆ Existing AM and PM peak hour turning movements (adjusted for seasonality) and the adjusted 2040 roadway segment traffic growth forecasts were input to the TurnsW32 program and the program calculated 2040 AM and PM peak hour turning movements, as described in Fresno COG guidelines for determining future year turning movement forecasts (Incremental Method). In cases where model data was unavailable or the future turning movements were projected to be less than existing, the existing turning movement was increased by 10%.

Caltrans provided information on several roadway improvement projects in the study area:

- ◆ Construction of a roundabout at SR-190 and Road 284 (Reservation Road) – construction date of 2015
- ◆ Widening of SR-65 from 2 to 4 lanes between Avenue 120 and SR-65/SR-190 interchange – construction date of 2017

These roadway improvements were assumed in the Cumulative 2040 No Project and Cumulative 2040 Plus Project scenarios only.

For reference, the TCAG model outputs are provided in Appendix E and TurnsW32 worksheets are provided in Appendix F. Traffic conditions resulting from this scenario are shown in Figure 3-6.

3.8 Cumulative 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, were added to Cumulative 2040 No Project traffic volumes. This leads to the results shown in Figure 3-7.

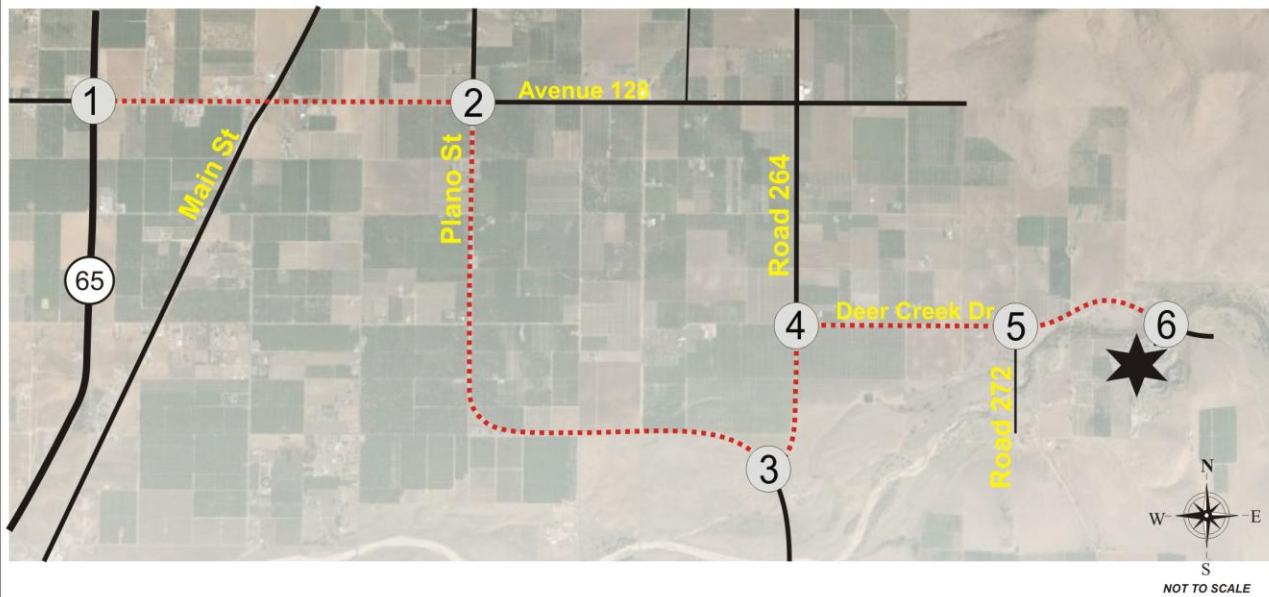
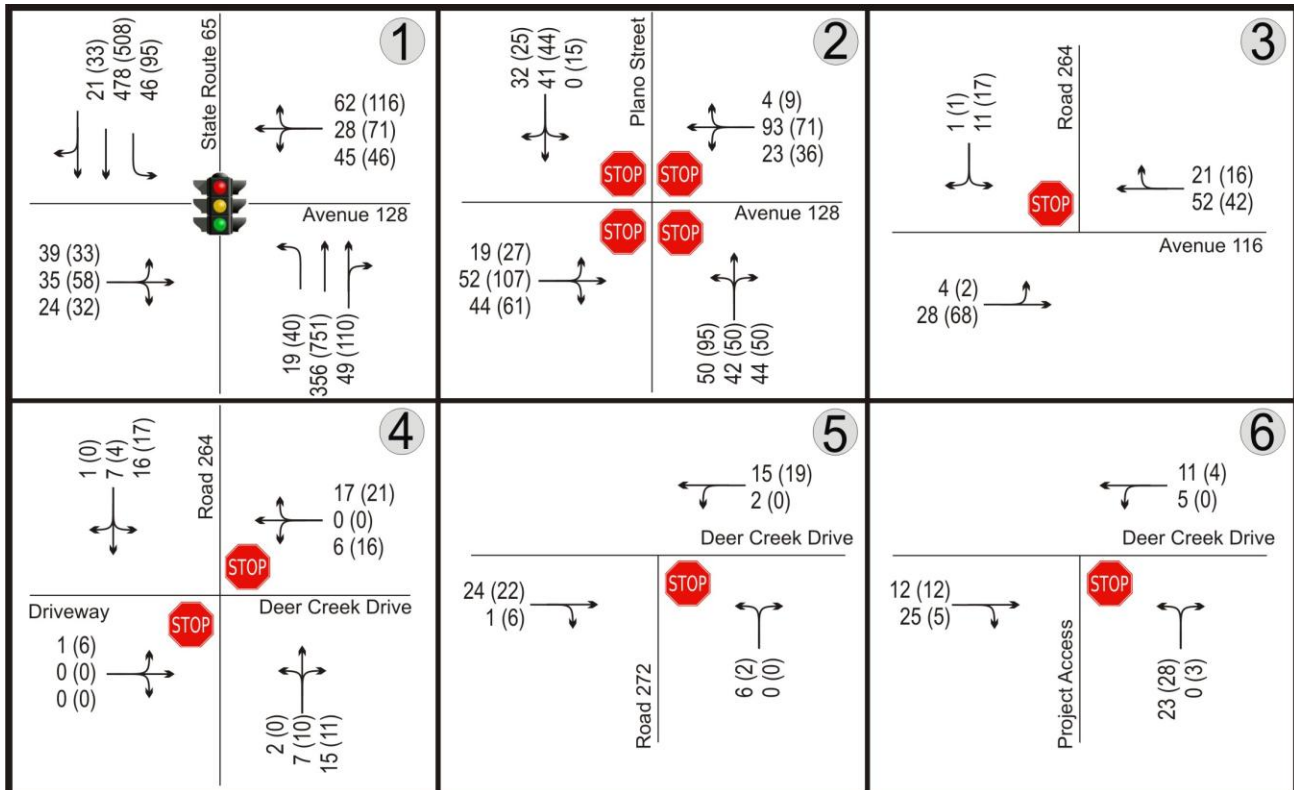


FIGURE 3-6

Cumulative 2040 No Project AM & PM Peak Hour Traffic

LEGEND

- ★ Project Location
- Study Intersections
- Study Roadway Segments

XX (XX) AM (PM)



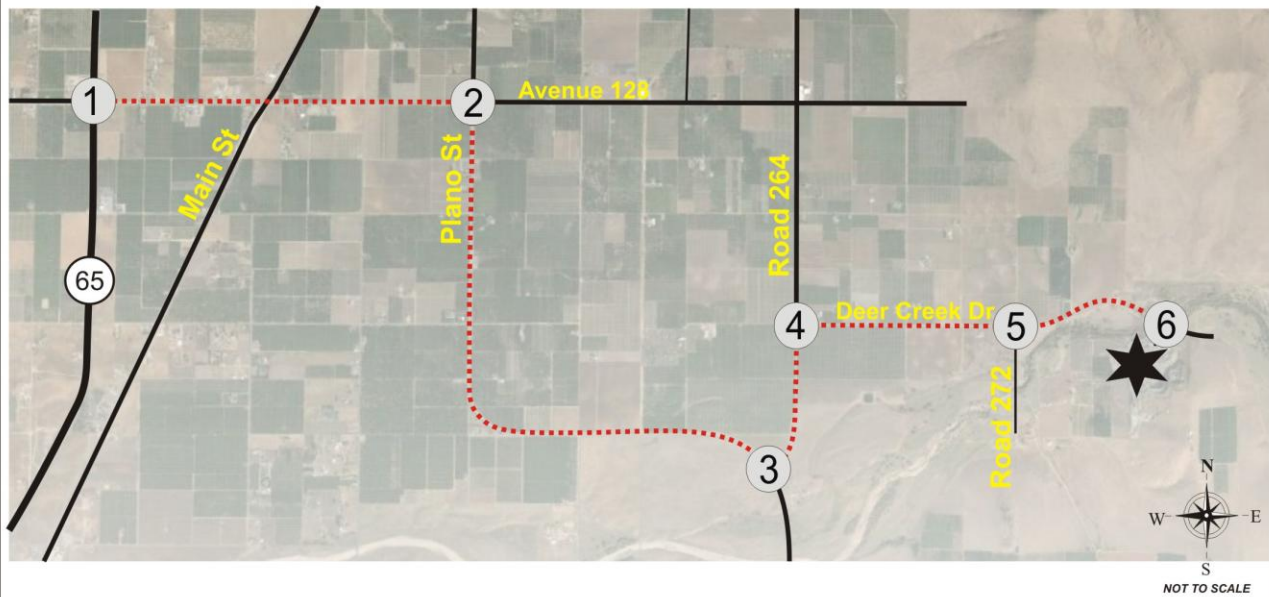
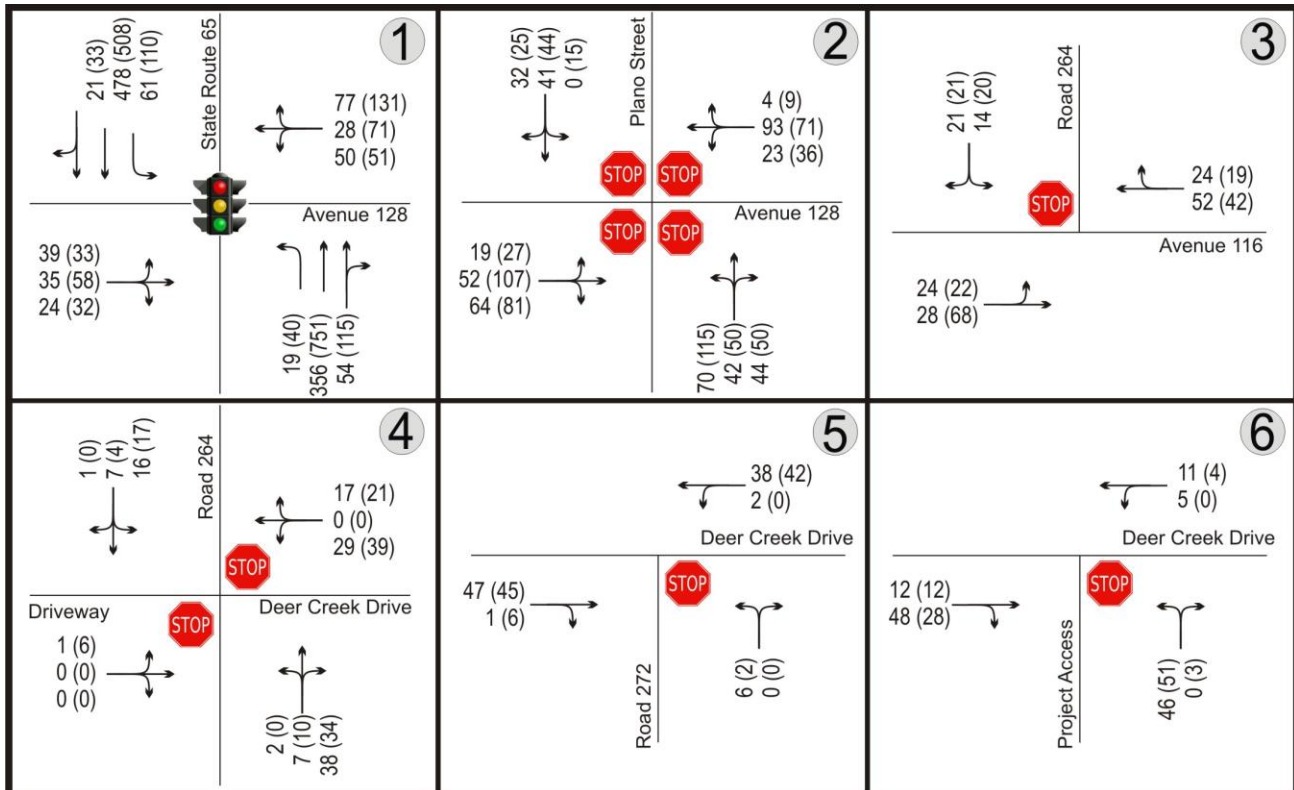


FIGURE 3-7
Cumulative 2040 Plus Project AM & PM Peak Hour Traffic



3.9 Impacts

INTERSECTION LOS

Table 3-2 shows intersections that are expected to fall short of desirable operating conditions for various scenarios. Results of the analysis show that none of the study intersections will fall below acceptable levels of service through the year 2040.

TABLE 3-2
Intersection Operations

INTERSECTION	CONTROL	PEAK HOUR	EXISTING 2014		EXISTING PLUS PROJECT		EXISTING PLUS PROJECT PLUS CUMULATIVE		CUMULATIVE 2040 NO PROJECT		CUMULATIVE 2040 PLUS PROJECT	
			DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS
1. SR-65 / Avenue 128	Signalized	AM	11.1	B	12.2	B	12.2	B	10.9	B	11.8	B
		PM	19.6	B	21.7	C	21.7	C	19.6	B	21.7	C
2. Avenue 128 / Plano Street	All-Way Stop Sign	AM	8.2	A	8.4	A	8.4	A	8.4	A	8.6	A
		PM	8.9	A	9.2	A	9.2	A	9.4	A	9.8	A
3. Avenue 116 / Road 264	One-Way Stop Sign	AM	9.2	A	9.3	A	9.3	A	9.1	A	9.1	A
		PM	9.5	A	9.7	A	9.7	A	9.3	A	9.2	A
4. Deer Creek Drive / Road 264	One-Way Stop Sign	AM	9.1	A	9.2	A	9.2	A	8.6	A	9.1	A
		PM	9.3	A	9.4	A	9.4	A	9.1	A	9.1	A
5. Deer Creek Drive / Road 272	One-Way Stop Sign	AM	8.9	A	9.3	A	9.3	A	8.8	A	9.0	A
		PM	8.9	A	9.3	A	9.3	A	8.8	A	9.0	A
6. Deer Creek Drive / Project Access	One-Way Stop Sign	AM	9.0	A	9.3	A	9.3	A	8.9	A	9.0	A
		PM	8.8	A	9.1	A	9.1	A	8.7	A	8.9	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.

SEGMENT LOS

Table 3-3 shows roadway segments that are expected to fall short of desirable operating conditions for various scenarios. Results of the analysis show that none of the roadway segments will fall below acceptable levels of service through the year 2040.

TABLE 3-3
Segment Operations

SEGMENT	DESCRIPTION	DIRECTION	PEAK HOUR	EXISTING 2014		EXISTING PLUS PROJECT		EXISTING PLUS PROJECT PLUS CUMULATIVE		CUMULATIVE 2040 NO PROJECT		CUMULATIVE 2040 PLUS PROJECT	
				VOLUME	LOS	VOLUME	LOS	VOLUME	LOS	VOLUME	LOS	VOLUME	LOS
1. Avenue 128: SR-65 to Plano Street	Two-lane Undivided	EB	AM	95	B	115	B	115	B	130	B	150	B
			PM	205	B	225	B	225	B	263	C	283	C
		WB	AM	151	B	171	B	171	B	175	B	195	B
			PM	165	B	185	B	185	B	233	B	253	C
2. Plano Street (Avenue 116): Avenue 128 to Road 264	Two-lane Undivided	NB	AM	100	B	120	B	120	B	136	B	156	B
			PM	135	B	155	B	155	B	195	B	215	B
		SB	AM	72	B	92	B	92	B	108	B	128	B
			PM	101	B	121	B	121	B	141	B	161	B
3. Road 264: Deer Creek Drive to Avenue 116	Two-Lane Undivided	NB	AM	24	B	47	B	47	B	25	B	48	B
			PM	20	B	43	B	43	B	21	B	44	B
		SB	AM	13	B	36	B	36	B	13	B	36	B
			PM	19	B	42	B	42	B	20	B	43	B
4. Deer Creek Drive: Road 264 to Road 272	Two-lane Undivided	EB	AM	29	B	52	B	52	B	31	B	54	B
			PM	26	B	49	B	49	B	28	B	51	B
		WB	AM	22	B	45	B	45	B	23	B	46	B
			PM	34	B	57	B	57	B	37	B	60	B
5. Deer Creek Drive: Road 272 to Project Access	Two-Lane Undivided	EB	AM	36	B	59	B	59	B	37	B	60	B
			PM	20	B	43	B	43	B	22	B	45	B
		WB	AM	33	B	56	B	56	B	34	B	57	B
			PM	32	B	55	B	55	B	32	B	55	B

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

Appendix A

Modified HCM-Based Tables (Florida Tables)

Generalized **Peak Hour Directional** Volumes for Florida's
TABLE 9 Rural Undeveloped Areas and Cities OR
Developed Areas Less Than 5,000 Population¹

10/4/10

Rural Undeveloped Areas					
FREEWAYS					
Lanes	B	C	D	E	
2	2,100	2,880	3,400	3,600	
3	3,200	4,320	5,100	5,560	
4	4,260	5,720	6,800	7,520	
Freeway Adjustments					
Auxiliary Lanes +1,000					
UNINTERRUPTED FLOW TWO-LANE HIGHWAYS					
Lanes	Median	B	C	D	E
1	Undivided	240	430	740	1,480
Passing Lane Adjustment					
Alter LOS B-D volumes in proportion to passing lane length to the highway segment length..					
UNINTERRUPTED FLOW MULTILANE HIGHWAYS					
Lanes	Median	B	C	D	E
2	Divided	1,410	2,210	2,800	3,180
3	Divided	2,120	3,320	4,200	4,770
ISOLATED STATE SIGNALIZED INTERSECTIONS					
Lanes	B	C	D	E	
1	**	260	560	660	
2	**	560	1,260	1,380	
3	**	860	1,940	2,080	
BICYCLE MODE ²					
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)					
Paved Shoulder/ Bicycle Lane					
Coverage	B	C	D	E	
0-49%	**	**	**	420	
50-84%	**	**	**	760	
85-100%	**	230	>230	***	

¹ Values shown are presented as hourly directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. To convert to annual average daily traffic volumes, these volumes must be divided by appropriate D and K factors. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model and Pedestrian LOS Model, respectively for the automobile/truck, bicycle, and pedestrian modes.

² Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

** Cannot be achieved using table input value defaults.

*** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Cities or Rural Developed Areas Less Than 5000					
FREEWAYS					
Lanes	B	C	D	E	
2	2,100	2,820	3,360	3,600	
3	3,100	4,220	5,040	5,560	
4	4,160	5,680	6,720	7,520	
Freeway Adjustments					
Auxiliary Lanes +1,000					
UNINTERRUPTED FLOW HIGHWAYS					
Lanes	Median	B	C	D	E
1	Undivided	420	780	1,100	1,400
2	Divided	1,300	2,040	2,630	3,000
3	Divided	1,950	3,060	3,950	4,500
Uninterrupted Flow Highway Adjustments					
Lanes	Median	Exclusive left lanes	Adjustment factors		
2	Divided	Yes	+5%		
Multi	Undivided	Yes	-5%		
Multi	Undivided	No	-25%		
STATE SIGNALIZED ARTERIALS					
Lanes	Median	B	C	D	E
1	Undivided	**	520	690	740
2	Divided	**	1,240	1,490	1,590
3	Divided	**	1,940	2,260	2,400
Non-State Signalized Roadway Adjustments					
(Alter corresponding volume by the indicated percent.)					
Major City/County Roadways - 10%					
Other Signalized Roadways - 35%					
State & Non-State Signalized Roadway Adjustments					
(Alter corresponding volume by the indicated percent.)					
Divided/Undivided & Turn Lane Adjustments					
Lanes	Median	Exclusive Left Turn Lanes	Exclusive Right Turn Lanes	Adjustment Factors	
2	Divided	Yes	No	+5%	
2	Undivided	No	No	-20%	
Multi	Undivided	Yes	No	-5%	
Multi	Undivided	No	No	-25%	
—	—	—	Yes	+ 5%	
BICYCLE MODE ²					
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)					
Paved Shoulder/ Bicycle Lane					
Coverage	B	C	D	E	
0-49%	**	150	390	>390	
50-84%	120	180	700	>700	
85-100%	210	>210	***	***	
PEDESTRIAN MODE ²					
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)					
Sidewalk					
Coverage	B	C	D	E	
0-49%	**	**	270	770	
50-84%	**	**	600	1000	
85-100%	**	610	1000	>1000	

Source:

Florida Department of Transportation
Systems Planning Office
605 Suwannee Street, MS 19
Tallahassee, FL 32399-0450

¹ Values shown are presented as hourly directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. To convert to annual average daily traffic volumes, these volumes must be divided by appropriate D and K factors. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model and Pedestrian LOS Model, respectively for the automobile/truck, bicycle, and pedestrian modes.

² Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

** Cannot be achieved using table input value defaults.

*** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:

Florida Department of Transportation
Systems Planning Office
605 Suwannee Street, MS 19
Tallahassee, FL 32399-0450

TABLE 9
(continued)

Generalized **Peak Hour Directional** Volumes for Florida's
Rural Undeveloped Areas and Cities OR
Developed Areas Less than 5,000 Population

9/4/09

INPUT VALUE ASSUMPTIONS		Uninterrupted Flow Facilities				Interrupted Flow Facilities					
		Freeways	Highways				Isolated Signalized Intersections	Arterials Class I		Bicycle Class I	
ROADWAY CHARACTERISTICS											
Area type (ru, rd)	ru/rd	ru	ru	rd	rd	ru	rd	rd	ru	rd	rd
Number of through lanes	2-4	1	2-3	1	2-3	1-3	1	2-3	1	1	1
Posted speed (mph)	70	55	65	50	55		45	45	55	45	45
Free flow speed (mph)	75	60	70	55	60		50	50	60	50	50
Aux, meter, or accel/decel ≥1500 (n,y)	n										
Median (n, nr, r)		n	r	n	r	n	n	r	n	n	n
Terrain (l,r)	l	l	l	l	l						
% no passing zone		20		60							
Exclusive left turn lanes/[impact] (n, y)		[n]	y	[n]	y	y	y	y	[n]	y	y
Exclusive right turn lanes (n, y)											
Paved shoulder/bicycle lane (n, y)									n,50%,y	n,50%,y	n,50%,y
Outside lane width											
Pavement condition											
Sidewalk (n, y)											
Sidewalk/roadway separation (a, t, w)											
Sidewalk protective barrier (n, y)											
Obstacle to bus stop (n, y)											
Facility length (mi)	14	10	10	5	5		2	2	4	2	2
Number of segments	4										
TRAFFIC CHARACTERISTICS											
Planning analysis hour factor (K)	0.103	0.098	0.098	0.100	0.100	0.098	0.097	0.097	0.098	0.097	0.097
Directional distribution factor (D)	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
Peak hour factor (PHF)	0.950	0.88	0.88	0.895	0.895	0.88	0.895	0.895	0.88	0.895	0.895
Base saturation flow rate (pcphpl)		1700	2300	1700	2200	1950	1950	1950	1950	1950	1950
Heavy vehicle percent	9.0	5.0	9.0	4.0	4.0	5.0	3.0	3.0	6.0	3.0	3.0
Local adjustment factor	0.90	1.00	0.86	1.00	0.93						
% left turns						12	12	12		12	12
% right turns						12	12	12	12	12	12
CONTROL CHARACTERISTICS											
Number of signals							4	4	2	4	4
Arrival type (1-6)						3	3	3	3	3	3
Signal type (a, s, p)						a	s	s	a	s	s
Cycle length (C)						60	90	90	60	90	90
Effective green ratio (g/C)						0.44	0.44	0.44	0.44	0.44	0.44
LEVEL OF SERVICE THRESHOLDS											
Level of Service	Freeways	Highway Segments				Isolated Intersections	Arterials	Bicycle	Pedestrian		
	Density	Two-Lane ru	Two-Lane rd	Multilane ru	Multilane rd	Other (Control delay)	Major City/Co.	Score	Score		
		%tsf	%ffs	ats	ats	ats	ats				
B	≤17	≤50	≥0.833	≤14	≤14	≤10 sec	> 34 mph	≤2.5	≤2.5		
C	≤24	≤65	>0.750	≤22	≤22	≤15 sec	> 27 mph	≤3.5	≤3.5		
D	≤31	≤80	>0.667	≤29	≤29	≤20 sec	> 21 mph	≤4.5	≤4.5		
E	≤39	>80	>0.583	≤34	≤34	≤40 sec	> 16 mph	≤5.5	≤5.5		

% tsf = Percent time spent following % ffs = Percent free flow speed ats = Average travel speed ru = Rural undeveloped rd = Rural developed

Appendix B

Traffic Count Data Sheets

ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

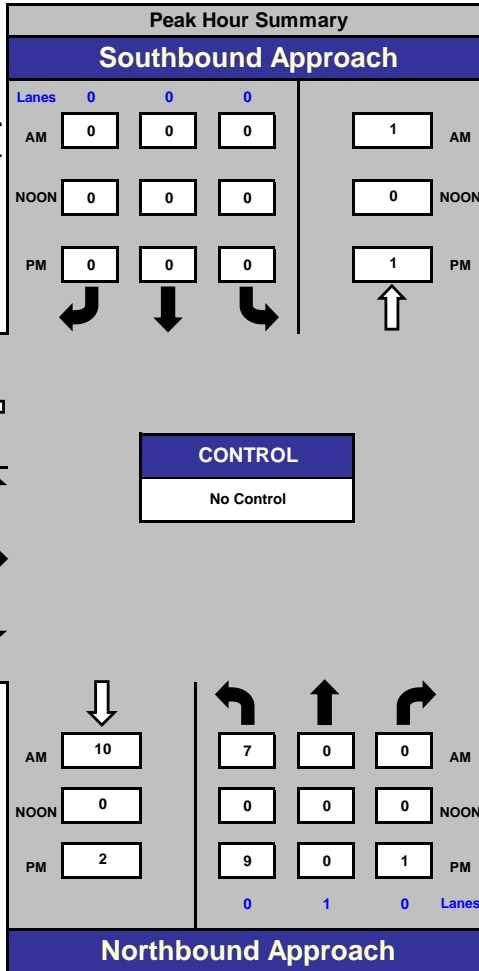
Entrance to Deer Creek Rock Company and Deer Creek Dr (Avenue 120) , Porterville

Date: 8/6/2014

Day: Wednesday



Entrance to Deer Creek
Rock Company



Project #: 14-8096-006

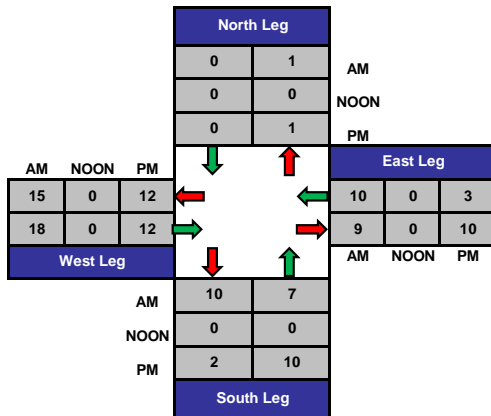
City: Porterville

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	415 PM

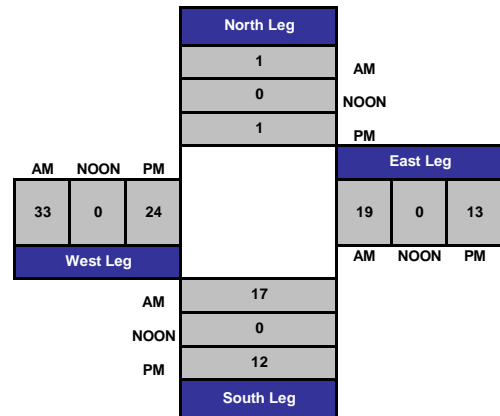
Deer Creek Dr (Avenue 120)

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-8096-006

Day: Wednesday

City: Porterville

Date: 8/6/2014

AM

NS/EW Streets:		Entrance to Deer Creek Rock Company			Entrance to Deer Creek Rock Company			Deer Creek Dr (Avenue 120)			Deer Creek Dr (Avenue 120)			
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:		NL 0	NT 1	NR 0	SL 0	ST 0	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
7:00 AM		0						0	1	3	0	0		4
7:15 AM		0						0	3	0	0	1		4
7:30 AM		3						0	2	3	0	1		9
7:45 AM		1						0	0	1	0	1		3
8:00 AM		2						1	3	2	0	0		8
8:15 AM		1						0	2	2	0	4		9
8:30 AM		3						0	3	1	1	2		10
8:45 AM		1						0	1	3	1	2		8
TOTAL VOLUMES :		NL 11	NT 0	NR 0	SL 0	ST 0	SR 0	EL 1	ET 15	ER 15	WL 2	WT 11	WR 0	TOTAL 55
APPROACH %'s :		100.00%	0.00%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	3.23%	48.39%	48.39%	15.38%	84.62%	0.00%	
PEAK HR START TIME :		800 AM												TOTAL
PEAK HR VOL :		7	0	0	0	0	0	1	9	8	2	8	0	35
PEAK HR FACTOR :		0.583			0.000			0.750			0.625			0.875

CONTROL : No Control

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-8096-006

Day: Wednesday

City: Porterville

Date: 8/6/2014

PM

NS/EW Streets:		Entrance to Deer Creek Rock Company			Entrance to Deer Creek Rock Company			Deer Creek Dr (Avenue 120)			Deer Creek Dr (Avenue 120)			
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:		NL 0	NT 1	NR 0	SL 0	ST 0	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
4:00 PM		0		0				0	2	1		0		3
4:15 PM		2		1				0	1	0		1		5
4:30 PM		3		0				0	1	0		1		5
4:45 PM		2		0				1	1	1		1		6
5:00 PM		2		0				0	6	1		0		9
5:15 PM		0		0				0	2	0		0		2
5:30 PM		2		0				0	1	0		2		5
5:45 PM		0		0				0	1	0		1		2
TOTAL VOLUMES :		NL 11	NT 0	NR 1	SL 0	ST 0	SR 0	EL 1	ET 15	ER 3	WL 0	WT 6	WR 0	TOTAL 37
APPROACH %'s :		91.67%	0.00%	8.33%	#DIV/0!	#DIV/0!	#DIV/0!	5.26%	78.95%	15.79%	0.00%	100.00%	0.00%	
PEAK HR START TIME :		415 PM												TOTAL
PEAK HR VOL :		9	0	1	0	0	0	1	9	2	0	3	0	25
PEAK HR FACTOR :		0.833			0.000			0.429			0.750			0.694

CONTROL : No Control

ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

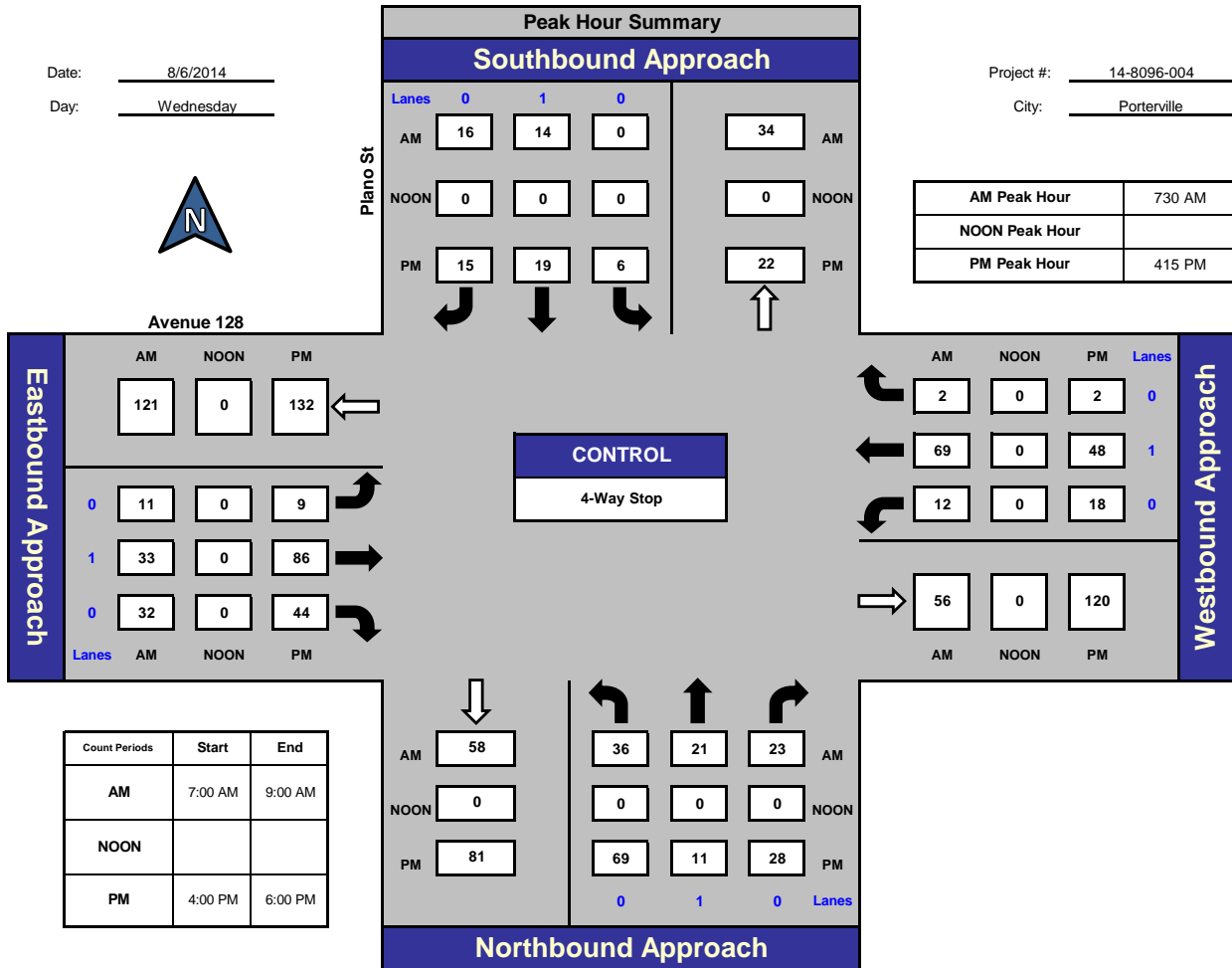
Plano St and Avenue 128, Porterville

Date: 8/6/2014

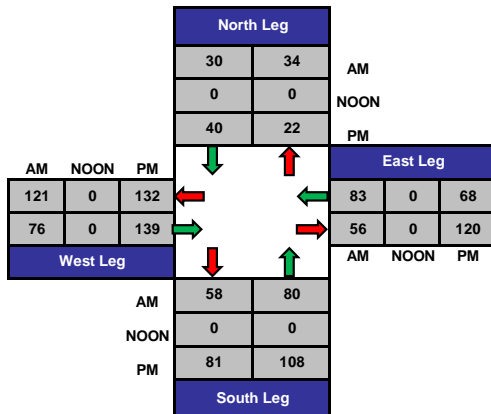
Day: Wednesday

Project #: 14-8096-004

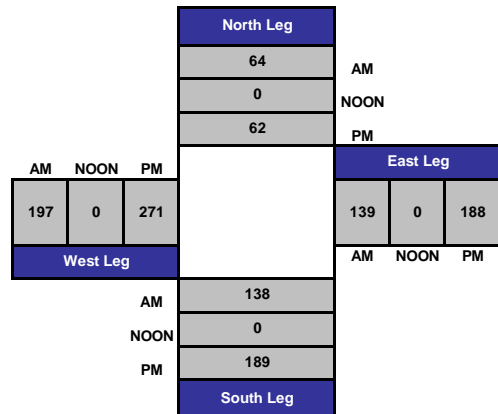
City: Porterville



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-8096-004

Day: Wednesday

City: Porterville

Date: 8/6/2014

AM

NS/EW Streets:		Plano St			Plano St			Avenue 128			Avenue 128			
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:		NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
7:00 AM		4	7	2	1	3	2	1	4	4	5	7	0	40
7:15 AM		6	8	1	2	3	6	4	7	10	4	16	0	67
7:30 AM		13	3	7	0	3	3	2	6	16	6	20	0	79
7:45 AM		9	7	5	0	2	3	4	11	5	3	23	0	72
8:00 AM		3	3	5	0	4	4	0	4	3	2	16	1	45
8:15 AM		11	8	6	0	5	6	5	12	8	1	10	1	73
8:30 AM		4	6	5	0	1	2	6	9	12	5	15	0	65
8:45 AM		7	2	6	0	4	1	3	17	6	3	10	1	60
TOTAL VOLUMES :		NL 57	NT 44	NR 37	SL 3	ST 25	SR 27	EL 25	ET 70	ER 64	WL 29	WT 117	WR 3	TOTAL 501
APPROACH %'s :		41.30%	31.88%	26.81%	5.45%	45.45%	49.09%	15.72%	44.03%	40.25%	19.46%	78.52%	2.01%	
PEAK HR START TIME :		730 AM												TOTAL
PEAK HR VOL :		36	21	23	0	14	16	11	33	32	12	69	2	269
PEAK HR FACTOR :		0.800			0.682			0.760			0.798			0.851

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-8096-004

Day: Wednesday

City: Porterville

Date: 8/6/2014

PM

NS/EW Streets:		Plano St			Plano St			Avenue 128			Avenue 128			
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:		NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
4:00 PM		18	3	5	0	3	7	5	16	12	5	17	0	91
4:15 PM		14	3	12	0	4	3	2	17	17	1	7	0	80
4:30 PM		20	3	5	2	5	6	4	15	7	7	14	1	89
4:45 PM		10	3	4	4	3	3	3	27	7	2	15	1	82
5:00 PM		25	2	7	0	7	3	0	27	13	8	12	0	104
5:15 PM		15	3	9	0	0	1	3	21	12	3	11	0	78
5:30 PM		19	7	2	0	2	1	2	11	16	2	18	0	80
5:45 PM		17	4	5	0	3	3	1	10	9	1	13	0	66
TOTAL VOLUMES :		138	28	49	6	27	27	20	144	93	29	107	2	670
APPROACH %'s :		64.19%	13.02%	22.79%	10.00%	45.00%	45.00%	7.78%	56.03%	36.19%	21.01%	77.54%	1.45%	
PEAK HR START TIME :		415 PM												TOTAL
PEAK HR VOL :		69	11	28	6	19	15	9	86	44	18	48	2	355
PEAK HR FACTOR :		0.794			0.769			0.869			0.773			0.853

CONTROL : 4-Way Stop

ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

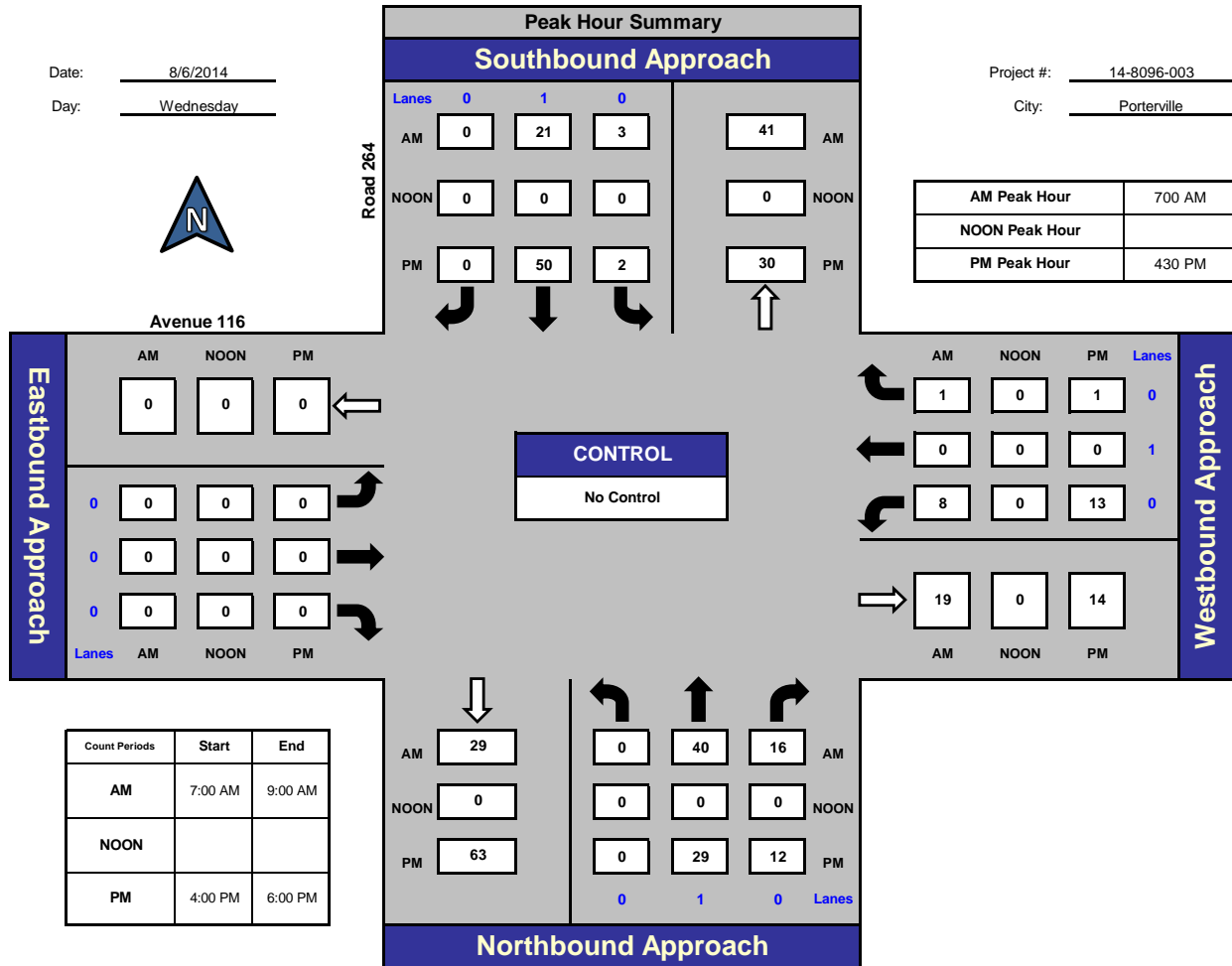
Road 264 and Avenue 116, Porterville

Date: 8/6/2014

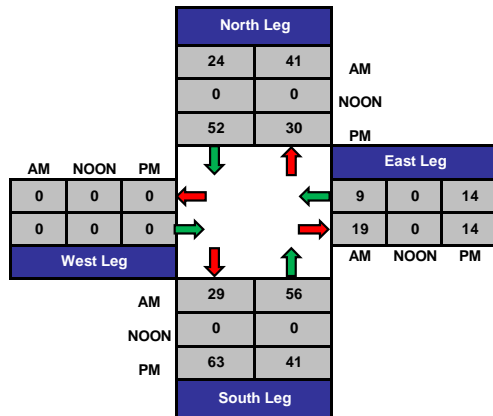
Day: Wednesday

Project #: 14-8096-003

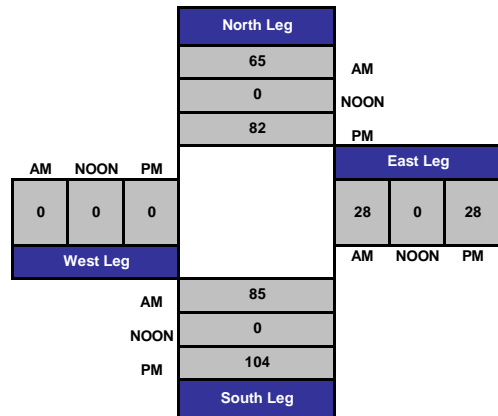
City: Porterville



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-8096-003

Day: Wednesday

City: Porterville

Date: 8/6/2014

AM

NS/EW Streets:		Road 264			Road 264			Avenue 116			Avenue 116			
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:		NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 0	ER 0	WL 0	WT 1	WR 0	TOTAL
7:00 AM			5	3	0	4					2		1	15
7:15 AM			10	7	0	4					3		0	24
7:30 AM			9	4	1	5					2		0	21
7:45 AM			16	2	2	8					1		0	29
8:00 AM			3	3	1	4					1		0	12
8:15 AM			5	3	0	12					2		1	23
8:30 AM			5	2	0	4					5		2	18
8:45 AM			6	3	0	9					3		0	21
TOTAL VOLUMES :		NL 0	NT 59	NR 27	SL 4	ST 50	SR 0	EL 0	ET 0	ER 0	WL 19	WT 0	WR 4	TOTAL 163
APPROACH %'s :		0.00%	68.60%	31.40%	7.41%	92.59%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	82.61%	0.00%	17.39%	
PEAK HR START TIME :		700 AM												TOTAL
PEAK HR VOL :		0	40	16	3	21	0	0	0	0	8	0	1	89
PEAK HR FACTOR :		0.778			0.600			0.000			0.750			0.767

CONTROL : No Control

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-8096-003

Day: Wednesday

City: Porterville

Date: 8/6/2014

PM

NS/EW Streets:		Road 264			Road 264			Avenue 116			Avenue 116			
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:		NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 0	ER 0	WL 0	WT 1	WR 0	TOTAL
4:00 PM			8	0	0	7					1		1	17
4:15 PM			3	3	0	9					2		0	17
4:30 PM			11	2	0	12					1		0	26
4:45 PM			5	5	0	7					9		1	27
5:00 PM			9	3	2	16					3		0	33
5:15 PM			4	2	0	15					0		0	21
5:30 PM			10	0	0	11					3		0	24
5:45 PM			11	1	0	10					2		0	24
TOTAL VOLUMES :		NL 0	NT 61	NR 16	SL 2	ST 87	SR 0	EL 0	ET 0	ER 0	WL 21	WT 0	WR 2	TOTAL 189
APPROACH %'s :		0.00%	79.22%	20.78%	2.25%	97.75%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	91.30%	0.00%	8.70%	
PEAK HR START TIME :		430 PM												TOTAL
PEAK HR VOL :		0	29	12	2	50	0	0	0	0	13	0	1	107
PEAK HR FACTOR :		0.788			0.722			0.000			0.350			0.811

CONTROL : No Control

ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

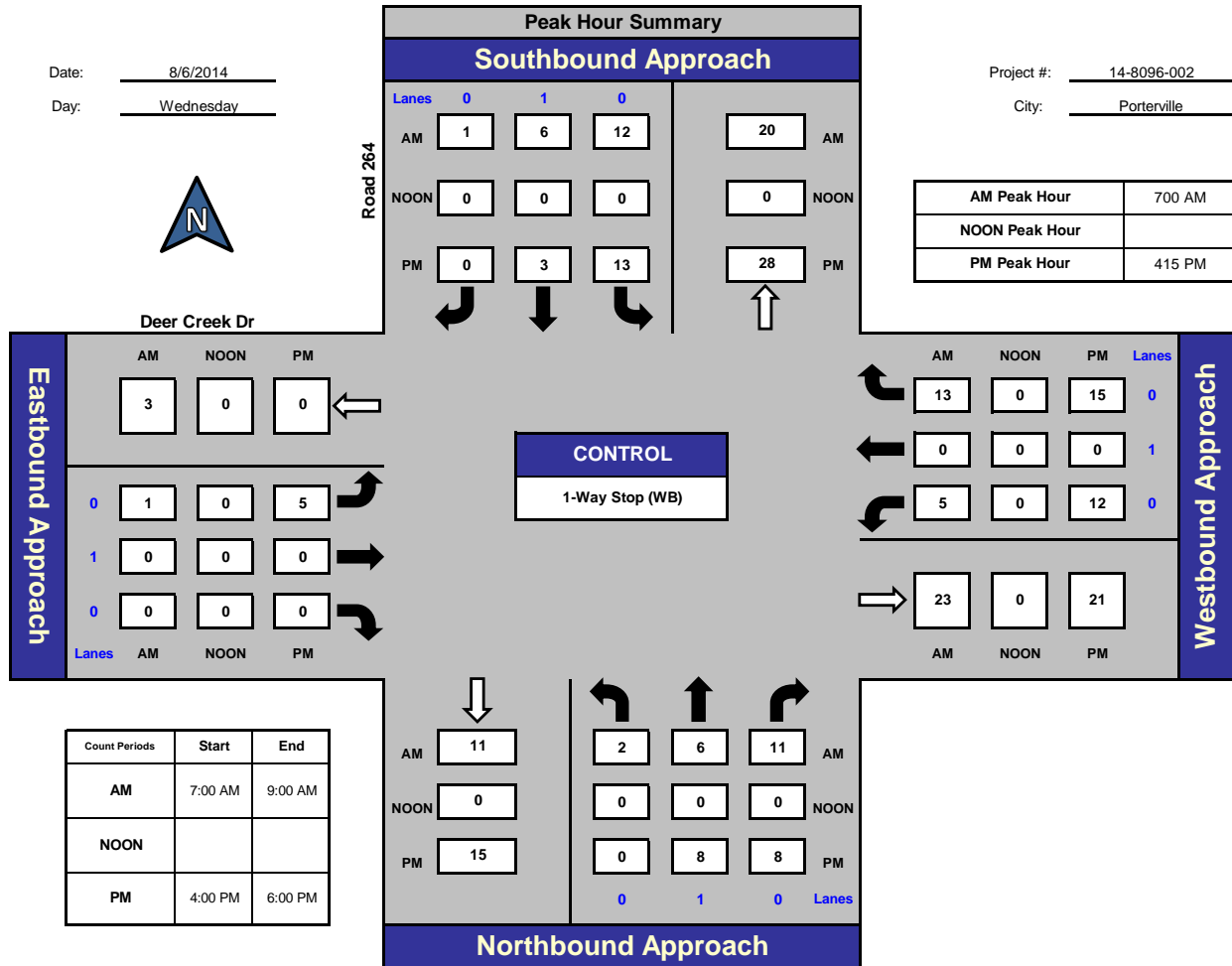
Road 264 and Deer Creek Dr., Porterville

Date: 8/6/2014

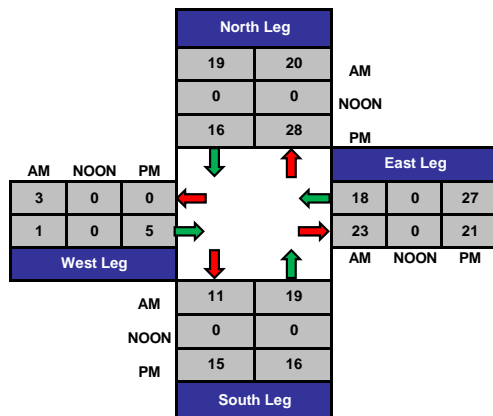
Day: Wednesday

Project #: 14-8096-002

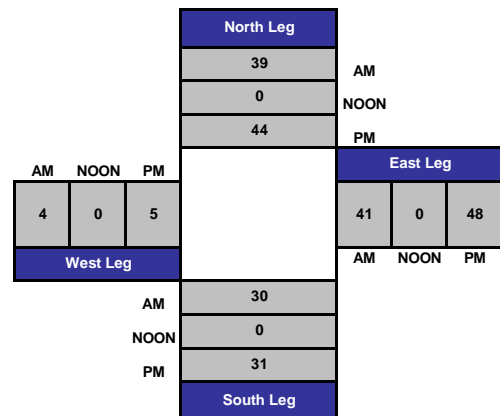
City: Porterville



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-8096-002

Day: Wednesday

City: Porterville

Date: 8/6/2014

AM

NS/EW Streets:		Road 264			Road 264			Deer Creek Dr			Deer Creek Dr			
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:		NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
7:00 AM		0	0	3	3	1	0	0			2		2	11
7:15 AM		2	1	2	2	3	0	0			0		6	16
7:30 AM		0	2	4	3	2	0	0			2		3	16
7:45 AM		0	3	2	4	0	1	1			1		2	14
8:00 AM		0	0	4	1	1	0	2			1		1	10
8:15 AM		0	0	3	1	0	0	1			3		2	10
8:30 AM		0	1	1	5	2	0	0			6		0	15
8:45 AM		0	1	2	3	1	0	0			1		1	9
TOTAL VOLUMES :		NL 2	NT 8	NR 21	SL 22	ST 10	SR 1	EL 4	ET 0	ER 0	WL 16	WT 0	WR 17	TOTAL 101
APPROACH %'s :		6.45%	25.81%	67.74%	66.67%	30.30%	3.03%	100.00%	0.00%	0.00%	48.48%	0.00%	51.52%	
PEAK HR START TIME :		700 AM												TOTAL
PEAK HR VOL :		2	6	11	12	6	1	1	0	0	5	0	13	57
PEAK HR FACTOR :		0.792			0.950			0.250			0.750			0.891

CONTROL : 1-Way Stop (WB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-8096-002

Day: Wednesday

City: Porterville

Date: 8/6/2014

PM

NS/EW Streets:		Road 264			Road 264			Deer Creek Dr			Deer Creek Dr			
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:		NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
4:00 PM			0	0	4	1	0	0			2		1	8
4:15 PM			0	2	0	1	0	1			1		1	6
4:30 PM			3	0	5	1	0	3			3		8	23
4:45 PM			4	1	4	1	0	0			5		2	17
5:00 PM			1	5	4	0	0	1			3		4	18
5:15 PM			1	1	0	0	0	0			0		0	2
5:30 PM			0	0	4	1	1	0			2		2	10
5:45 PM			0	1	3	1	0	1			1		0	7
TOTAL VOLUMES :		NL 0	NT 9	NR 10	SL 24	ST 6	SR 1	EL 6	ET 0	ER 0	WL 17	WT 0	WR 18	TOTAL 91
APPROACH %'s :		0.00%	47.37%	52.63%	77.42%	19.35%	3.23%	100.00%	0.00%	0.00%	48.57%	0.00%	51.43%	
PEAK HR START TIME :		415 PM												TOTAL
PEAK HR VOL :		0	8	8	13	3	0	5	0	0	12	0	15	64
PEAK HR FACTOR :		0.667			0.667			0.417			0.614			0.696

CONTROL : 1-Way Stop (WB)

ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

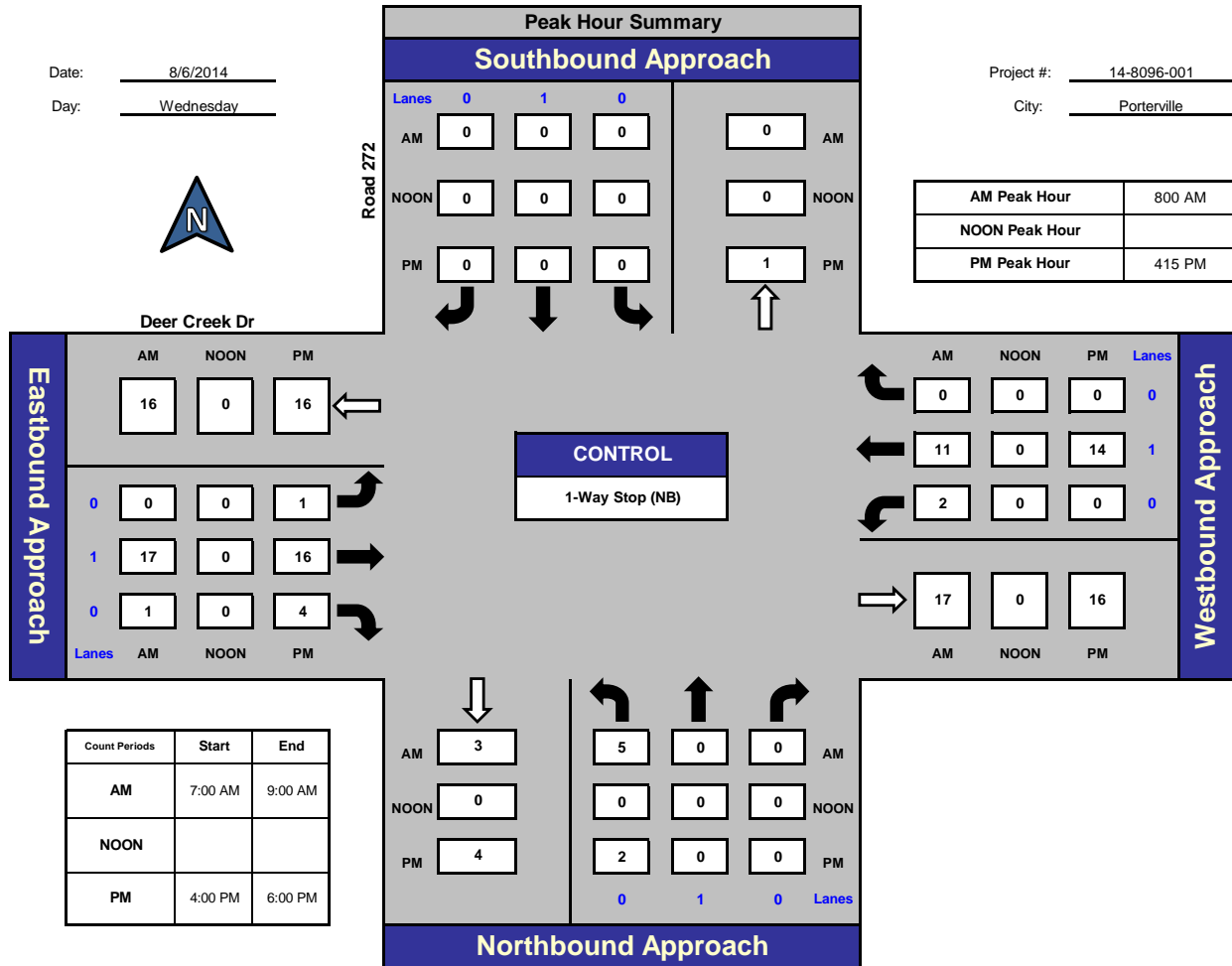
Road 272 and Deer Creek Dr., Porterville

Date: 8/6/2014

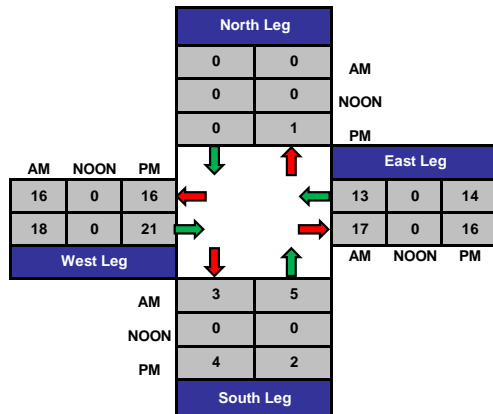
Day: Wednesday

Project #: 14-8096-001

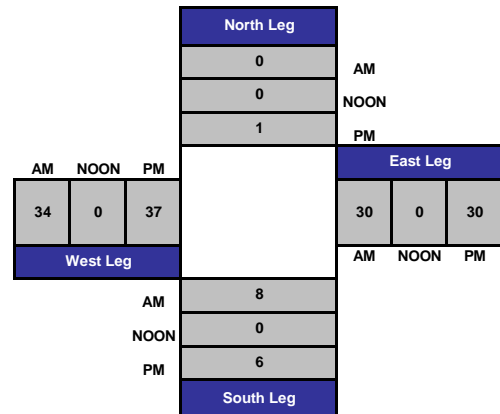
City: Porterville



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-8096-001

Day: Wednesday

City: Porterville

Date: 8/6/2014

AM

NS/EW Streets:		Road 272			Road 272			Deer Creek Dr			Deer Creek Dr			
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:		NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
7:00 AM		0							3	1	0	1		5
7:15 AM		3							4	1	0	2		10
7:30 AM		0							6	0	0	3		9
7:45 AM		0							1	0	0	2		3
8:00 AM		0							6	0	1	2		9
8:15 AM		2							3	1	0	3		9
8:30 AM		1							3	0	1	5		10
8:45 AM		2							5	0	0	1		8
TOTAL VOLUMES :		8	0	0	0	0	0	0	31	3	2	19	0	63
APPROACH %'s :		100.00%	0.00%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	91.18%	8.82%	9.52%	90.48%	0.00%	
PEAK HR START TIME :		800 AM												TOTAL
PEAK HR VOL :		5	0	0	0	0	0	0	17	1	2	11	0	36
PEAK HR FACTOR :		0.625			0.000			0.750			0.542			0.900

CONTROL : 1-Way Stop (NB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-8096-001

Day: Wednesday

City: Porterville

Date: 8/6/2014

PM

NS/EW Streets:		Road 272			Road 272			Deer Creek Dr			Deer Creek Dr			
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:		NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
4:00 PM		1						0	3	0		3		7
4:15 PM		0						0	2	0		3		5
4:30 PM		2						0	3	2		6		13
4:45 PM		0						1	4	1		3		9
5:00 PM		0						0	7	1		2		10
5:15 PM		0						0	1	0		0		1
5:30 PM		0						0	1	3		5		9
5:45 PM		0						0	2	0		1		3
TOTAL VOLUMES :		3	0	0	0	0	0	1	23	7	0	23	0	57
APPROACH %'s :		100.00%	0.00%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	3.23%	74.19%	22.58%	0.00%	100.00%	0.00%	
PEAK HR START TIME :		415 PM												TOTAL
PEAK HR VOL :		2	0	0	0	0	0	1	16	4	0	14	0	37
PEAK HR FACTOR :		0.250			0.000			0.656			0.583			0.712

CONTROL : 1-Way Stop (NB)

ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

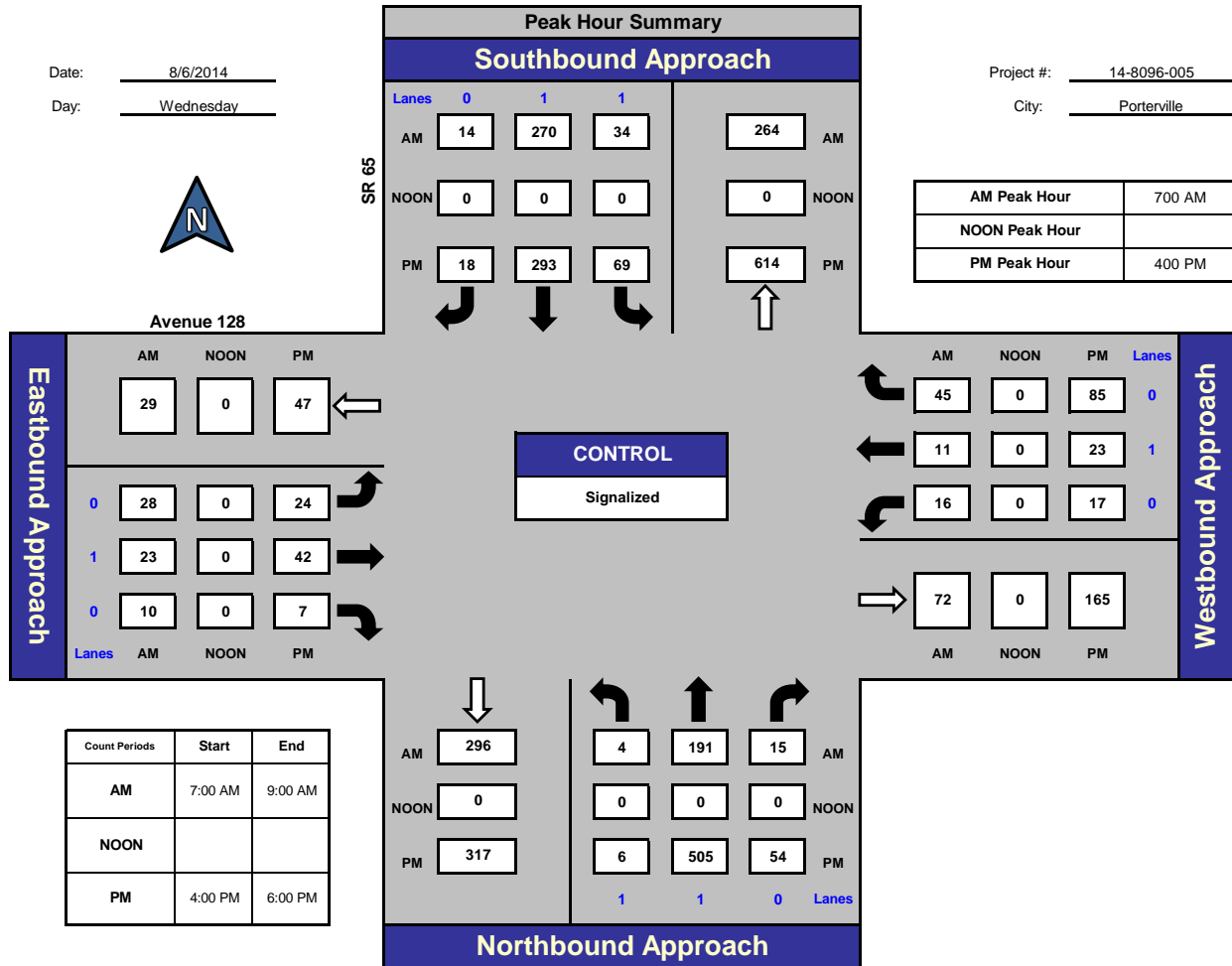
SR 65 and Avenue 128, Porterville

Date: 8/6/2014

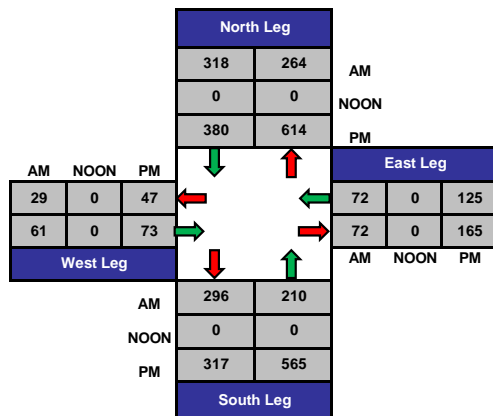
Day: Wednesday

Project #: 14-8096-005

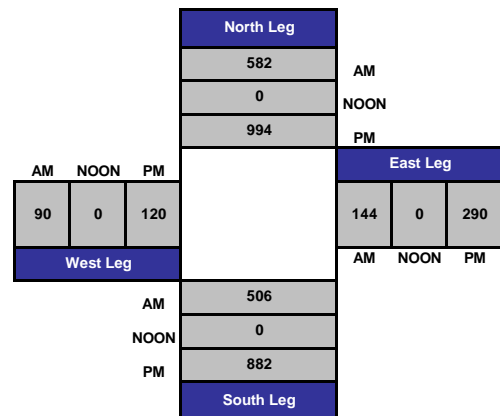
City: Porterville



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-8096-005

Day: Wednesday

City: Porterville

Date: 8/6/2014

AM

NS/EW Streets:		SR 65			SR 65			Avenue 128			Avenue 128			
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:		NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
7:00 AM		0	48	4	7	82	3	10	5	0	3	4	11	177
7:15 AM		0	49	0	11	73	5	7	4	6	7	3	9	174
7:30 AM		0	53	7	8	53	3	3	4	3	6	1	16	157
7:45 AM		4	41	4	8	62	3	8	10	1	0	3	9	153
8:00 AM		1	38	2	3	26	4	8	6	0	0	6	5	99
8:15 AM		1	53	4	8	62	2	1	4	1	2	5	11	154
8:30 AM		0	67	2	13	47	3	2	4	4	1	8	6	157
8:45 AM		1	57	3	8	61	3	7	6	1	9	5	5	166
TOTAL VOLUMES :		NL 7	NT 406	NR 26	SL 66	ST 466	SR 26	EL 46	ET 43	ER 16	WL 28	WT 35	WR 72	TOTAL 1237
APPROACH %'s :		1.59%	92.48%	5.92%	11.83%	83.51%	4.66%	43.81%	40.95%	15.24%	20.74%	25.93%	53.33%	
PEAK HR START TIME :		700 AM												TOTAL
PEAK HR VOL :		4	191	15	34	270	14	28	23	10	16	11	45	661
PEAK HR FACTOR :		0.875			0.864			0.803			0.783			0.934

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-8096-001

Day: Wednesday

City: Porterville

Date: 8/6/2014

PM

NS/EW Streets:		Road 272			Road 272			Deer Creek Dr			Deer Creek Dr			
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:		NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
4:00 PM		1						0	3	0		3		7
4:15 PM		0						0	2	0		3		5
4:30 PM		2						0	3	2		6		13
4:45 PM		0						1	4	1		3		9
5:00 PM		0						0	7	1		2		10
5:15 PM		0						0	1	0		0		1
5:30 PM		0						0	1	3		5		9
5:45 PM		0						0	2	0		1		3
TOTAL VOLUMES :		3	0	0	0	0	0	1	23	7	0	23	0	57
APPROACH %'s :		100.00%	0.00%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	3.23%	74.19%	22.58%	0.00%	100.00%	0.00%	
PEAK HR START TIME :		415 PM												TOTAL
PEAK HR VOL :		2	0	0	0	0	0	1	16	4	0	14	0	37
PEAK HR FACTOR :		0.250			0.000			0.656			0.583			0.712

CONTROL : 1-Way Stop (NB)

ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

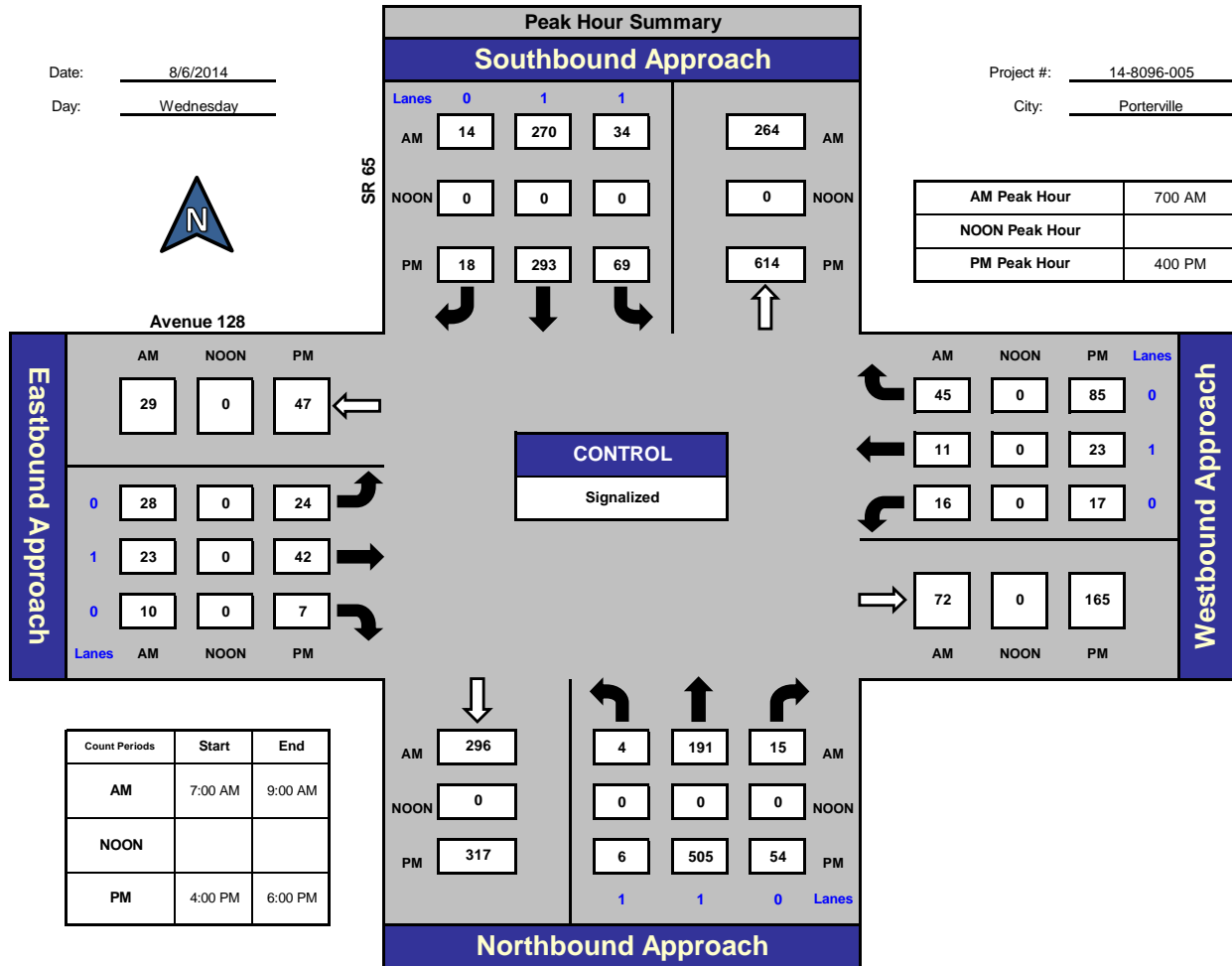
SR 65 and Avenue 128, Porterville

Date: 8/6/2014

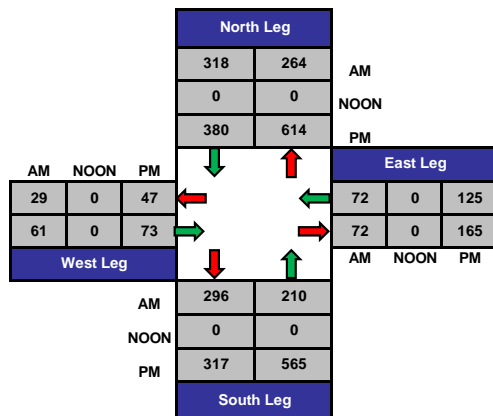
Day: Wednesday

Project #: 14-8096-005

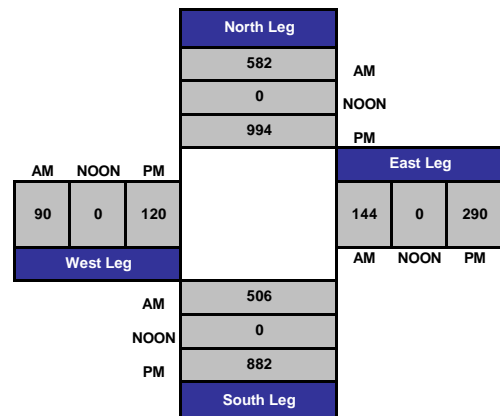
City: Porterville



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-8096-005

Day: Wednesday

City: Porterville

Date: 8/6/2014

AM

NS/EW Streets:		SR 65			SR 65			Avenue 128			Avenue 128			
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:		NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
7:00 AM		0	48	4	7	82	3	10	5	0	3	4	11	177
7:15 AM		0	49	0	11	73	5	7	4	6	7	3	9	174
7:30 AM		0	53	7	8	53	3	3	4	3	6	1	16	157
7:45 AM		4	41	4	8	62	3	8	10	1	0	3	9	153
8:00 AM		1	38	2	3	26	4	8	6	0	0	6	5	99
8:15 AM		1	53	4	8	62	2	1	4	1	2	5	11	154
8:30 AM		0	67	2	13	47	3	2	4	4	1	8	6	157
8:45 AM		1	57	3	8	61	3	7	6	1	9	5	5	166
TOTAL VOLUMES :		NL 7	NT 406	NR 26	SL 66	ST 466	SR 26	EL 46	ET 43	ER 16	WL 28	WT 35	WR 72	TOTAL 1237
APPROACH %'s :		1.59%	92.48%	5.92%	11.83%	83.51%	4.66%	43.81%	40.95%	15.24%	20.74%	25.93%	53.33%	
PEAK HR START TIME :		700 AM												TOTAL
PEAK HR VOL :		4	191	15	34	270	14	28	23	10	16	11	45	661
PEAK HR FACTOR :		0.875			0.864			0.803			0.783			0.934

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 14-8096-005

Day: Wednesday

City: Porterville

Date: 8/6/2014

PM

NS/EW Streets:		SR 65			SR 65			Avenue 128			Avenue 128			
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:		NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
4:00 PM		2	131	15	18	66	3	8	9	4	2	7	17	282
4:15 PM		1	146	18	17	88	4	4	10	2	7	5	25	327
4:30 PM		3	122	13	13	69	8	8	8	1	4	7	21	277
4:45 PM		0	106	8	21	70	3	4	15	0	4	4	22	257
5:00 PM		0	104	14	12	59	7	2	7	0	7	6	24	242
5:15 PM		0	109	8	24	66	2	3	6	2	3	7	17	247
5:30 PM		1	91	6	17	75	4	8	10	2	6	8	11	239
5:45 PM		2	106	8	16	75	4	4	3	2	11	4	8	243
TOTAL VOLUMES :		NL 9	NT 915	NR 90	SL 138	ST 568	SR 35	EL 41	ET 68	ER 13	WL 44	WT 48	WR 145	TOTAL 2114
APPROACH %'s :		0.89%	90.24%	8.88%	18.62%	76.65%	4.72%	33.61%	55.74%	10.66%	18.57%	20.25%	61.18%	
PEAK HR START TIME :		400 PM												TOTAL
PEAK HR VOL :		6	505	54	69	293	18	24	42	7	17	23	85	1143
PEAK HR FACTOR :		0.856			0.872			0.869			0.845			0.874

CONTROL : Signalized



















Appendix C

Synchro 8 Worksheets

HCM 2010 Signalized Intersection Summary

3: SR-65 & Avenue 128

8/20/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	35	29	12	20	14	56	5	237	19	42	335	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1743	1743	1900	1743	1743	1900
Adj Flow Rate, veh/h	44	36	15	26	18	72	6	269	22	49	390	20
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.80	0.80	0.80	0.78	0.78	0.78	0.88	0.88	0.88	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	9	9	9	9	9	9
Cap, veh/h	180	96	33	118	44	130	53	870	71	160	1006	52
Arrive On Green	0.13	0.13	0.11	0.13	0.13	0.11	0.03	0.55	0.53	0.10	0.61	0.59
Sat Flow, veh/h	623	742	256	271	341	1003	1660	1590	130	1660	1644	84
Grp Volume(v), veh/h	95	0	0	116	0	0	6	0	291	49	0	410
Grp Sat Flow(s),veh/h/ln	1622	0	0	1615	0	0	1660	0	1720	1660	0	1728
Q Serve(g_s), s	0.0	0.0	0.0	0.8	0.0	0.0	0.2	0.0	4.9	1.5	0.0	6.4
Cycle Q Clear(g_c), s	2.7	0.0	0.0	3.4	0.0	0.0	0.2	0.0	4.9	1.5	0.0	6.4
Prop In Lane	0.46		0.16	0.22		0.62	1.00		0.08	1.00		0.05
Lane Grp Cap(c), veh/h	310	0	0	293	0	0	53	0	941	160	0	1058
V/C Ratio(X)	0.31	0.00	0.00	0.40	0.00	0.00	0.11	0.00	0.31	0.31	0.00	0.39
Avail Cap(c_a), veh/h	1107	0	0	1112	0	0	282	0	941	282	0	1058
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.3	0.0	0.0	21.8	0.0	0.0	24.9	0.0	6.6	22.3	0.0	5.2
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.9	0.0	0.0	1.0	0.0	0.9	1.1	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	1.7	0.0	0.0	0.1	0.0	2.5	0.7	0.0	3.3
LnGrp Delay(d),s/veh	21.8	0.0	0.0	22.7	0.0	0.0	25.9	0.0	7.4	23.4	0.0	6.3
LnGrp LOS	C			C			C		A	C		A
Approach Vol, veh/h	95			116			297			459		
Approach Delay, s/veh	21.8			22.7			7.8			8.1		
Approach LOS	C			C			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.1	33.0		10.9	5.7	36.4		10.9				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	28.0		34.0	8.0	28.0		34.0				
Max Q Clear Time (g_c+I1), s	3.5	6.9		4.7	2.2	8.4		5.4				
Green Ext Time (p_c), s	0.0	2.5		0.7	0.0	2.5		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay	11.1											
HCM 2010 LOS	B											

Intersection												
Intersection Delay, s/veh	8.2											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	14	41	40	0	15	86	2	0	45	26	29
Peak Hour Factor	0.92	0.76	0.76	0.76	0.92	0.80	0.80	0.80	0.92	0.80	0.80	0.80
Heavy Vehicles, %	2	3	3	3	2	3	3	3	2	3	3	3
Mvmt Flow	0	18	54	53	0	19	107	2	0	56	32	36
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.1	8.4	8.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	45%	15%	15%	0%
Vol Thru, %	26%	43%	83%	46%
Vol Right, %	29%	42%	2%	54%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	95	103	37
LT Vol	26	41	86	17
Through Vol	29	40	2	20
RT Vol	45	14	15	0
Lane Flow Rate	125	125	129	54
Geometry Grp	1	1	1	1
Degree of Util (X)	0.156	0.149	0.162	0.066
Departure Headway (Hd)	4.503	4.287	4.516	4.348
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	798	838	796	824
Service Time	2.525	2.307	2.537	2.372
HCM Lane V/C Ratio	0.157	0.149	0.162	0.066
HCM Control Delay	8.4	8.1	8.4	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.5	0.6	0.2

Intersection
Intersection Delay, s/veh
Intersection LOS

Movement	SBL	SBL	SBT	SBR
Vol, veh/h	0	0	17	20
Peak Hour Factor	0.92	0.68	0.68	0.68
Heavy Vehicles, %	2	3	3	3
Mvmt Flow	0	0	25	29
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.7
HCM LOS	A

Lane

Intersection				
Int Delay, s/veh		1.2		
Movement	WBR	SBL	SBR	SEL
Vol, veh/h	50	10	1	26
Conflicting Peds, #/hr	0	0	0	0
Sign Control	Free	Stop	Stop	Free
RT Channelized	-	-	None	None
Storage Length	-	0	-	-
Veh in Median Storage, #	0	0	-	0
Grade, %	0	0	-	0
Peak Hour Factor	78	75	75	60
Heavy Vehicles, %	3	3	3	3
Mvmt Flow	64	13	1	43
Major/Minor	Major2	Minor2	Major1	
Conflicting Flow All	0	134	77	90
Stage 1	-	77	-	-
Stage 2	-	57	-	-
Critical Hdwy	-	6.43	6.23	4.13
Critical Hdwy Stg 1	-	5.43	-	-
Critical Hdwy Stg 2	-	5.43	-	-
Follow-up Hdwy	-	3.527	3.327	2.227
Pot Cap-1 Maneuver	-	857	981	1499
Stage 1	-	943	-	-
Stage 2	-	963	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	853	981	1499
Mov Cap-2 Maneuver	-	853	-	-
Stage 1	-	943	-	-
Stage 2	-	958	-	-
Approach	WB	SB	SE	
HCM Control Delay, s	0	9.2	1	
HCM LOS	A			
Minor Lane/Major Mvmt	WBR	WBR2	SEL2	SBLn1
Capacity (veh/h)	-	-	1499	863
HCM Lane V/C Ratio	-	-	0.004	0.017
HCM Control Delay (s)	-	-	7.4	9.2
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1

Intersection									
Int Delay, s/veh	4.9								
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	1	0	0	6	0	16	2	7	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	75	75	75	79	79	79
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3
Mvmt Flow	4	0	0	8	0	21	3	9	18
Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	72	71	8	62	63	18	8	0	0
Stage 1	39	39	-	23	23	-	-	-	-
Stage 2	33	32	-	39	40	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-
Pot Cap-1 Maneuver	917	818	1071	930	826	1058	1606	-	-
Stage 1	973	860	-	993	874	-	-	-	-
Stage 2	981	866	-	973	860	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	890	808	1071	922	816	1058	1606	-	-
Mov Cap-2 Maneuver	890	808	-	922	816	-	-	-	-
Stage 1	971	851	-	991	872	-	-	-	-
Stage 2	959	864	-	963	851	-	-	-	-
Approach	EB			WB			NB		
HCM Control Delay, s	9.1			8.6			0.6		
HCM LOS	A			A					
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR	
Capacity (veh/h)	1606	-	-	890	1017	1580	-	-	
HCM Lane V/C Ratio	0.002	-	-	0.004	0.029	0.01	-	-	
HCM Control Delay (s)	7.2	0	-	9.1	8.6	7.3	0	-	
HCM Lane LOS	A	A	-	A	A	A	A	-	
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-	

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	15	7	1
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	95	95	95
Heavy Vehicles, %	3	3	3
Mvmt Flow	16	7	1

Major/Minor	Major2		
Conflicting Flow All	27	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.13	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.227	-	-
Pot Cap-1 Maneuver	1580	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1580	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	4.8
HCM LOS	

Minor Lane/Major Mvmt

Intersection							
Int Delay, s/veh	1.6						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Vol, veh/h	21	1	2	14	6	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	75	75	54	54	63	63	
Heavy Vehicles, %	3	3	3	3	3	3	
Mvmt Flow	28	1	4	26	10	0	
Major/Minor	Major1		Major2		Minor1		
Conflicting Flow All	0	0	29	0	62	29	
Stage 1	-	-	-	-	29	-	
Stage 2	-	-	-	-	33	-	
Critical Hdwy	-	-	4.13	-	6.43	6.23	
Critical Hdwy Stg 1	-	-	-	-	5.43	-	
Critical Hdwy Stg 2	-	-	-	-	5.43	-	
Follow-up Hdwy	-	-	2.227	-	3.527	3.327	
Pot Cap-1 Maneuver	-	-	1578	-	942	1043	
Stage 1	-	-	-	-	991	-	
Stage 2	-	-	-	-	987	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	-	-	1578	-	939	1043	
Mov Cap-2 Maneuver	-	-	-	-	939	-	
Stage 1	-	-	-	-	991	-	
Stage 2	-	-	-	-	984	-	
Approach	EB		WB		NB		
HCM Control Delay, s	0		0.9		8.9		
HCM LOS					A		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT		
Capacity (veh/h)	939	-	-	1578	-		
HCM Lane V/C Ratio	0.01	-	-	0.002	-		
HCM Control Delay (s)	8.9	-	-	7.3	0		
HCM Lane LOS	A	-	-	A	A		
HCM 95th %tile Q(veh)	0	-	-	0	-		



















HCM 2010 TWSC
15: Project Access & Deer Creek Drive

8/20/2014

Intersection							
Int Delay, s/veh	3.7						
Movement	NBL	NBR	SET	SER	NWL	NWT	
Vol, veh/h	23	0	11	25	5	10	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	-	-	-	-	-	
Veh in Median Storage, #	0	-	0	-	-	0	
Grade, %	0	-	0	-	-	0	
Peak Hour Factor	58	58	75	75	63	63	
Heavy Vehicles, %	3	3	3	3	3	3	
Mvmt Flow	40	0	15	33	8	16	
Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	63	31	0	0	48	0	
Stage 1	31	-	-	-	-	-	
Stage 2	32	-	-	-	-	-	
Critical Hdwy	6.43	6.23	-	-	4.13	-	
Critical Hdwy Stg 1	5.43	-	-	-	-	-	
Critical Hdwy Stg 2	5.43	-	-	-	-	-	
Follow-up Hdwy	3.527	3.327	-	-	2.227	-	
Pot Cap-1 Maneuver	941	1040	-	-	1553	-	
Stage 1	989	-	-	-	-	-	
Stage 2	988	-	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	936	1040	-	-	1553	-	
Mov Cap-2 Maneuver	936	-	-	-	-	-	
Stage 1	989	-	-	-	-	-	
Stage 2	983	-	-	-	-	-	
Approach	NB		SE		NW		
HCM Control Delay, s	9		0		2.4		
HCM LOS	A						
Minor Lane/Major Mvmt	NBLn1	NWL	NWT	SET	SER		
Capacity (veh/h)	936	1553	-	-	-		
HCM Lane V/C Ratio	0.042	0.005	-	-	-		
HCM Control Delay (s)	9	7.3	0	-	-		
HCM Lane LOS	A	A	A	-	-		
HCM 95th %tile Q(veh)	0.1	0	-	-	-		

HCM 2010 Signalized Intersection Summary 3: SR-65 & Avenue 128

8/20/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	30	52	9	21	29	105	7	626	67	86	363	22
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1743	1743	1900	1743	1743	1900
Adj Flow Rate, veh/h	34	60	10	25	34	124	8	728	78	99	417	25
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.87	0.87	0.87	0.85	0.85	0.85	0.86	0.86	0.86	0.87	0.87	0.87
Percent Heavy Veh, %	3	3	3	3	3	3	9	9	9	9	9	9
Cap, veh/h	110	165	23	72	59	170	47	924	99	165	1088	65
Arrive On Green	0.16	0.16	0.14	0.16	0.16	0.14	0.03	0.60	0.59	0.10	0.67	0.66
Sat Flow, veh/h	327	1049	146	140	375	1082	1660	1548	166	1660	1628	98
Grp Volume(v), veh/h	104	0	0	183	0	0	8	0	806	99	0	442
Grp Sat Flow(s),veh/h/ln	1522	0	0	1597	0	0	1660	0	1714	1660	0	1726
Q Serve(g_s), s	0.0	0.0	0.0	4.4	0.0	0.0	0.4	0.0	29.4	4.7	0.0	9.4
Cycle Q Clear(g_c), s	4.4	0.0	0.0	8.9	0.0	0.0	0.4	0.0	29.4	4.7	0.0	9.4
Prop In Lane	0.33		0.10	0.14		0.68	1.00		0.10	1.00		0.06
Lane Grp Cap(c), veh/h	297	0	0	301	0	0	47	0	1023	165	0	1153
V/C Ratio(X)	0.35	0.00	0.00	0.61	0.00	0.00	0.17	0.00	0.79	0.60	0.00	0.38
Avail Cap(c_a), veh/h	716	0	0	724	0	0	182	0	1023	182	0	1153
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.0	0.0	0.0	33.2	0.0	0.0	38.9	0.0	12.6	35.4	0.0	6.1
Incr Delay (d2), s/veh	0.7	0.0	0.0	2.0	0.0	0.0	1.7	0.0	6.1	4.5	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	4.1	0.0	0.0	0.2	0.0	15.4	2.4	0.0	4.7
LnGrp Delay(d),s/veh	31.7	0.0	0.0	35.2	0.0	0.0	40.6	0.0	18.7	39.9	0.0	7.1
LnGrp LOS	C			D			D		B	D		A
Approach Vol, veh/h	104			183			814			541		
Approach Delay, s/veh	31.7			35.2			18.9			13.1		
Approach LOS	C			D			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.2	53.0		16.9	6.3	58.8		16.9				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	48.0		34.0	8.0	48.0		34.0				
Max Q Clear Time (g_c+I1), s	6.7	31.4		6.4	2.4	11.4		10.9				
Green Ext Time (p_c), s	0.0	5.1		1.0	0.0	6.0		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	19.6											
HCM 2010 LOS	B											

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	11	107	55	0	22	60	2	0	86	14	35
Peak Hour Factor	0.92	0.87	0.87	0.87	0.92	0.77	0.77	0.77	0.92	0.79	0.79	0.79
Heavy Vehicles, %	2	3	3	3	2	3	3	3	2	3	3	3
Mvmt Flow	0	13	123	63	0	29	78	3	0	109	18	44
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9	8.6	9.1
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	64%	6%	26%	14%
Vol Thru, %	10%	62%	71%	48%
Vol Right, %	26%	32%	2%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	173	84	50
LT Vol	14	107	60	24
Through Vol	35	55	2	19
RT Vol	86	11	22	7
Lane Flow Rate	171	199	109	65
Geometry Grp	1	1	1	1
Degree of Util (X)	0.224	0.247	0.145	0.084
Departure Headway (Hd)	4.716	4.471	4.785	4.68
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	760	801	748	763
Service Time	2.754	2.506	2.824	2.726
HCM Lane V/C Ratio	0.225	0.248	0.146	0.085
HCM Control Delay	9.1	9	8.6	8.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	1	0.5	0.3

Intersection
Intersection Delay, s/veh
Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	7	24	19
Peak Hour Factor	0.92	0.77	0.77	0.77
Heavy Vehicles, %	2	3	3	3
Mvmt Flow	0	9	31	25
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.2
HCM LOS	A

Lane

Intersection	
Int Delay, s/veh	2.4

Movement	WBR	SBL	SBR	SEL
Vol, veh/h	36	16	1	62
Conflicting Peds, #/hr	0	0	0	0
Sign Control	Free	Stop	Stop	Free
RT Channelized	-	-	None	None
Storage Length	-	0	-	-
Veh in Median Storage, #	0	0	-	0
Grade, %	0	0	-	0
Peak Hour Factor	79	35	35	72
Heavy Vehicles, %	3	3	3	3
Mvmt Flow	46	46	3	86

Major/Minor	Major2	Minor2	Major1
Conflicting Flow All	0	147	55
Stage 1	-	55	-
Stage 2	-	92	-
Critical Hdwy	-	6.43	6.23
Critical Hdwy Stg 1	-	5.43	-
Critical Hdwy Stg 2	-	5.43	-
Follow-up Hdwy	-	3.527	3.327
Pot Cap-1 Maneuver	-	843	1009
Stage 1	-	965	-
Stage 2	-	929	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	841	1009
Mov Cap-2 Maneuver	-	841	-
Stage 1	-	965	-
Stage 2	-	927	-

Approach	WB	SB	SE
HCM Control Delay, s	0	9.5	0.2
HCM LOS		A	

Minor Lane/Major Mvmt	WBR	WBR2	SEL2	SEL	SBLn1
Capacity (veh/h)	-	-	1531	-	849
HCM Lane V/C Ratio	-	-	0.002	-	0.057
HCM Control Delay (s)	-	-	7.4	0	9.5
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	-	0.2

Intersection									
Int Delay, s/veh	6.2								
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	6	0	0	15	0	19	0	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	42	42	42	61	61	61	67	67	67
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3
Mvmt Flow	14	0	0	25	0	31	0	15	15
Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	92	84	6	76	76	22	6	0	0
Stage 1	54	54	-	22	22	-	-	-	-
Stage 2	38	30	-	54	54	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-
Pot Cap-1 Maneuver	890	804	1074	911	812	1052	1608	-	-
Stage 1	956	848	-	994	875	-	-	-	-
Stage 2	975	868	-	956	848	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	854	792	1074	901	800	1052	1608	-	-
Mov Cap-2 Maneuver	854	792	-	901	800	-	-	-	-
Stage 1	956	835	-	994	875	-	-	-	-
Stage 2	946	868	-	942	835	-	-	-	-
Approach	EB			WB			NB		
HCM Control Delay, s	9.3			8.9			0		
HCM LOS	A			A					
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR	
Capacity (veh/h)	1608	-	-	854	980	1576	-	-	
HCM Lane V/C Ratio	-	-	-	0.017	0.057	0.015	-	-	
HCM Control Delay (s)	0	-	-	9.3	8.9	7.3	0	-	
HCM Lane LOS	A	-	-	A	A	A	A	-	
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-	

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	16	4	0
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	67	67	67
Heavy Vehicles, %	3	3	3
Mvmt Flow	24	6	0

Major/Minor	Major2		
Conflicting Flow All	30	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.13	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.227	-	-
Pot Cap-1 Maneuver	1576	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1576	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	5.9
HCM LOS	

Minor Lane/Major Mvmt



















Intersection							
Int Delay, s/veh	0.9						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Vol, veh/h	20	5	0	17	2	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	66	66	58	58	25	25	
Heavy Vehicles, %	3	3	3	3	3	3	
Mvmt Flow	30	8	0	29	8	0	
Major/Minor	Major1		Major2		Minor1		
Conflicting Flow All	0	0	38	0	63	34	
Stage 1	-	-	-	-	34	-	
Stage 2	-	-	-	-	29	-	
Critical Hdwy	-	-	4.13	-	6.43	6.23	
Critical Hdwy Stg 1	-	-	-	-	5.43	-	
Critical Hdwy Stg 2	-	-	-	-	5.43	-	
Follow-up Hdwy	-	-	2.227	-	3.527	3.327	
Pot Cap-1 Maneuver	-	-	1566	-	941	1036	
Stage 1	-	-	-	-	986	-	
Stage 2	-	-	-	-	991	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	-	-	1566	-	941	1036	
Mov Cap-2 Maneuver	-	-	-	-	941	-	
Stage 1	-	-	-	-	986	-	
Stage 2	-	-	-	-	991	-	
Approach	EB		WB		NB		
HCM Control Delay, s	0		0		8.9		
HCM LOS					A		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT		
Capacity (veh/h)	941	-	-	1566	-		
HCM Lane V/C Ratio	0.009	-	-	-	-		
HCM Control Delay (s)	8.9	-	-	0	-		
HCM Lane LOS	A	-	-	A	-		
HCM 95th %tile Q(veh)	0	-	-	0	-		

Intersection							
Int Delay, s/veh	4.1						
Movement	NBL	NBR	SET	SER	NWL	NWT	
Vol, veh/h	28	3	11	5	0	4	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	-	-	-	-	-	
Veh in Median Storage, #	0	-	0	-	-	0	
Grade, %	0	-	0	-	-	0	
Peak Hour Factor	83	83	43	43	75	75	
Heavy Vehicles, %	3	3	3	3	3	3	
Mvmt Flow	34	4	26	12	0	5	
Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	36	31	0	0	37	0	
Stage 1	31	-	-	-	-	-	
Stage 2	5	-	-	-	-	-	
Critical Hdwy	6.43	6.23	-	-	4.13	-	
Critical Hdwy Stg 1	5.43	-	-	-	-	-	
Critical Hdwy Stg 2	5.43	-	-	-	-	-	
Follow-up Hdwy	3.527	3.327	-	-	2.227	-	
Pot Cap-1 Maneuver	974	1040	-	-	1567	-	
Stage 1	989	-	-	-	-	-	
Stage 2	1016	-	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	974	1040	-	-	1567	-	
Mov Cap-2 Maneuver	974	-	-	-	-	-	
Stage 1	989	-	-	-	-	-	
Stage 2	1016	-	-	-	-	-	
Approach	NB		SE		NW		
HCM Control Delay, s	8.8		0		0		
HCM LOS	A						
Minor Lane/Major Mvmt	NBLn1	NWL	NWT	SET	SER		
Capacity (veh/h)	980	1567	-	-	-		
HCM Lane V/C Ratio	0.038	-	-	-	-		
HCM Control Delay (s)	8.8	0	-	-	-		
HCM Lane LOS	A	A	-	-	-		
HCM 95th %tile Q(veh)	0.1	0	-	-	-		

HCM 2010 Signalized Intersection Summary

3: SR-65 & Avenue 128

8/20/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	35	29	12	25	14	71	5	237	24	57	335	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1743	1743	1900	1743	1743	1900
Adj Flow Rate, veh/h	44	36	15	32	18	91	6	269	27	66	390	20
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.80	0.80	0.80	0.78	0.78	0.78	0.88	0.88	0.88	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	9	9	9	9	9	9
Cap, veh/h	179	113	37	119	44	151	51	819	82	183	995	51
Arrive On Green	0.15	0.15	0.13	0.15	0.15	0.13	0.03	0.53	0.51	0.11	0.61	0.59
Sat Flow, veh/h	567	768	250	264	301	1028	1660	1559	156	1660	1644	84
Grp Volume(v), veh/h	95	0	0	141	0	0	6	0	296	66	0	410
Grp Sat Flow(s), veh/h/ln	1586	0	0	1593	0	0	1660	0	1716	1660	0	1728
Q Serve(g_s), s	0.0	0.0	0.0	1.7	0.0	0.0	0.2	0.0	5.5	2.0	0.0	6.8
Cycle Q Clear(g_c), s	2.8	0.0	0.0	4.5	0.0	0.0	0.2	0.0	5.5	2.0	0.0	6.8
Prop In Lane	0.46		0.16	0.23		0.65	1.00		0.09	1.00		0.05
Lane Grp Cap(c), veh/h	328	0	0	314	0	0	51	0	902	183	0	1046
V/C Ratio(X)	0.29	0.00	0.00	0.45	0.00	0.00	0.12	0.00	0.33	0.36	0.00	0.39
Avail Cap(c_a), veh/h	1054	0	0	1063	0	0	271	0	902	271	0	1046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.3	0.0	0.0	22.3	0.0	0.0	26.0	0.0	7.5	22.7	0.0	5.7
Incr Delay (d2), s/veh	0.5	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.2	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	2.1	0.0	0.0	0.1	0.0	2.8	1.0	0.0	3.5
LnGrp Delay(d),s/veh	21.8	0.0	0.0	23.3	0.0	0.0	27.0	0.0	8.5	23.9	0.0	6.8
LnGrp LOS	C			C			C		A	C		A
Approach Vol, veh/h	95			141			302			476		
Approach Delay, s/veh	21.8			23.3			8.9			9.1		
Approach LOS	C			C			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	33.0		12.1	5.7	37.4		12.1				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	28.0		34.0	8.0	28.0		34.0				
Max Q Clear Time (g_c+I), s	4.0	7.5		4.8	2.2	8.8		6.5				
Green Ext Time (p_c), s	0.0	2.5		0.8	0.0	2.5		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				12.2								
HCM 2010 LOS				B								

Intersection												
Intersection Delay, s/veh	8.4											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	14	41	60	0	15	86	2	0	65	26	29
Peak Hour Factor	0.92	0.76	0.76	0.76	0.92	0.80	0.80	0.80	0.92	0.80	0.80	0.80
Heavy Vehicles, %	2	3	3	3	2	3	3	3	2	3	3	3
Mvmt Flow	0	18	54	79	0	19	107	2	0	81	32	36
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.3	8.6	8.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	54%	12%	15%	0%
Vol Thru, %	22%	36%	83%	46%
Vol Right, %	24%	52%	2%	54%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	115	103	37
LT Vol	26	41	86	17
Through Vol	29	60	2	20
RT Vol	65	14	15	0
Lane Flow Rate	150	151	129	54
Geometry Grp	1	1	1	1
Degree of Util (X)	0.192	0.18	0.165	0.067
Departure Headway (Hd)	4.61	4.292	4.614	4.442
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	779	835	778	805
Service Time	2.638	2.318	2.64	2.474
HCM Lane V/C Ratio	0.193	0.181	0.166	0.067
HCM Control Delay	8.7	8.3	8.6	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.7	0.6	0.2

Intersection
Intersection Delay, s/veh
Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	17	20
Peak Hour Factor	0.92	0.68	0.68	0.68
Heavy Vehicles, %	2	3	3	3
Mvmt Flow	0	0	25	29
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.8
HCM LOS	A

Lane

Intersection					
Int Delay, s/veh	3.2				
Movement	WBR	SBL	SBR	SEL	
Vol, veh/h	50	13	21	26	
Conflicting Peds, #/hr	0	0	0	0	
Sign Control	Free	Stop	Stop	Free	
RT Channelized	-	-	None	None	
Storage Length	-	0	-	-	
Veh in Median Storage, #	0	0	-	0	
Grade, %	0	0	-	0	
Peak Hour Factor	78	75	75	60	
Heavy Vehicles, %	3	3	3	3	
Mvmt Flow	64	17	28	43	
Major/Minor	Major2	Minor2	Major1		
Conflicting Flow All	0	202	79	94	
Stage 1	-	79	-	-	
Stage 2	-	123	-	-	
Critical Hdwy	-	6.43	6.23	4.13	
Critical Hdwy Stg 1	-	5.43	-	-	
Critical Hdwy Stg 2	-	5.43	-	-	
Follow-up Hdwy	-	3.527	3.327	2.227	
Pot Cap-1 Maneuver	-	784	979	1494	
Stage 1	-	942	-	-	
Stage 2	-	900	-	-	
Platoon blocked, %	-	-	-	-	
Mov Cap-1 Maneuver	-	763	979	1494	
Mov Cap-2 Maneuver	-	763	-	-	
Stage 1	-	942	-	-	
Stage 2	-	876	-	-	
Approach	WB	SB	SE		
HCM Control Delay, s	0	9.3	3.6		
HCM LOS	A				
Minor Lane/Major Mvmt	WBR	WBR2	SEL2	SEL	SBLn1
Capacity (veh/h)	-	-	1494	-	883
HCM Lane V/C Ratio	-	-	0.027	-	0.051
HCM Control Delay (s)	-	-	7.5	0	9.3
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0.2

Intersection									
Int Delay, s/veh	4.9								

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	1	0	0	29	0	16	2	7	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	75	75	75	79	79	79
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3
Mvmt Flow	4	0	0	39	0	21	3	9	47

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	87	100	8	76	77	32	8	0	0
Stage 1	39	39	-	37	37	-	-	-	-
Stage 2	48	61	-	39	40	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-
Pot Cap-1 Maneuver	896	788	1071	911	811	1039	1606	-	-
Stage 1	973	860	-	976	862	-	-	-	-
Stage 2	963	842	-	973	860	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	870	779	1071	903	801	1039	1606	-	-
Mov Cap-2 Maneuver	870	779	-	903	801	-	-	-	-
Stage 1	971	851	-	974	860	-	-	-	-
Stage 2	941	840	-	963	851	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	9.2	9.1	0.3
HCM LOS	A	A	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1606	-	-	870	947	1542	-	-
HCM Lane V/C Ratio	0.002	-	-	0.005	0.063	0.01	-	-
HCM Control Delay (s)	7.2	0	-	9.2	9.1	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	15	7	1
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	95	95	95
Heavy Vehicles, %	3	3	3
Mvmt Flow	16	7	1

Major/Minor	Major2		
Conflicting Flow All	56	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.13	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.227	-	-
Pot Cap-1 Maneuver	1542	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1542	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	4.8
HCM LOS	

Minor Lane/Major Mvmt

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	44	1	2	37	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	54	54	63	63
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	59	1	4	69	10	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	60	0	135	59
Stage 1	-	-	-	-	59	-
Stage 2	-	-	-	-	76	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1537	-	856	1004
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	944	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1537	-	853	1004
Mov Cap-2 Maneuver	-	-	-	-	853	-
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	941	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	853	-	-	1537	-
HCM Lane V/C Ratio	0.011	-	-	0.002	-
HCM Control Delay (s)	9.3	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	4.4

Movement	NBL	NBR	SET	SER	NWL	NWT
Vol, veh/h	46	0	11	48	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	58	58	75	75	63	63
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	79	0	15	64	8	16

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	79	47	0
Stage 1	47	-	-
Stage 2	32	-	-
Critical Hdwy	6.43	6.23	4.13
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.43	-	-
Follow-up Hdwy	3.527	3.327	2.227
Pot Cap-1 Maneuver	921	1019	1513
Stage 1	973	-	-
Stage 2	988	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	916	1019	1513
Mov Cap-2 Maneuver	916	-	-
Stage 1	973	-	-
Stage 2	983	-	-



















Approach	NB	SE	NW
HCM Control Delay, s	9.3	0	2.5
HCM LOS	A	-	-

Minor Lane/Major Mvmt	NBLn1	NWL	NWT	SET	SER
Capacity (veh/h)	916	1513	-	-	-
HCM Lane V/C Ratio	0.087	0.005	-	-	-
HCM Control Delay (s)	9.3	7.4	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.3	0	-	-	-

HCM 2010 Signalized Intersection Summary

3: SR-65 & Avenue 128

8/20/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	30	52	9	26	29	120	7	626	72	101	363	22
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1743	1743	1900	1743	1743	1900
Adj Flow Rate, veh/h	34	60	10	31	34	141	8	728	84	116	417	25
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.87	0.87	0.87	0.85	0.85	0.85	0.86	0.86	0.86	0.87	0.87	0.87
Percent Heavy Veh, %	3	3	3	3	3	3	9	9	9	9	9	9
Cap, veh/h	111	171	24	77	59	186	47	897	103	168	1070	64
Arrive On Green	0.17	0.17	0.16	0.17	0.17	0.16	0.03	0.58	0.57	0.10	0.66	0.65
Sat Flow, veh/h	316	1000	140	159	342	1087	1660	1535	177	1660	1628	98
Grp Volume(v), veh/h	104	0	0	206	0	0	8	0	812	116	0	442
Grp Sat Flow(s), veh/h/ln	1456	0	0	1588	0	0	1660	0	1712	1660	0	1726
Q Serve(g_s), s	0.0	0.0	0.0	5.7	0.0	0.0	0.4	0.0	31.5	5.7	0.0	9.9
Cycle Q Clear(g_c), s	4.4	0.0	0.0	10.3	0.0	0.0	0.4	0.0	31.5	5.7	0.0	9.9
Prop In Lane	0.33		0.10	0.15		0.68	1.00		0.10	1.00		0.06
Lane Grp Cap(c), veh/h	307	0	0	322	0	0	47	0	1000	168	0	1134
V/C Ratio(X)	0.34	0.00	0.00	0.64	0.00	0.00	0.17	0.00	0.81	0.69	0.00	0.39
Avail Cap(c_a), veh/h	686	0	0	706	0	0	178	0	1000	178	0	1134
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.6	0.0	0.0	33.3	0.0	0.0	39.8	0.0	13.8	36.4	0.0	6.6
Incr Delay (d2), s/veh	0.6	0.0	0.0	2.1	0.0	0.0	1.7	0.0	7.1	10.2	0.0	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	2.2	0.0	0.0	4.7	0.0	0.0	0.2	0.0	16.7	3.1	0.0	5.0
LnGrp Delay(d), s/veh	31.2	0.0	0.0	35.4	0.0	0.0	41.5	0.0	21.0	46.6	0.0	7.6
LnGrp LOS	C			D			D		C	D		A
Approach Vol, veh/h	104			206			820			558		
Approach Delay, s/veh	31.2			35.4			21.2			15.7		
Approach LOS	C			D			C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.5	53.0		18.4	6.4	59.1		18.4				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	48.0		34.0	8.0	48.0		34.0				
Max Q Clear Time (g_c+I1), s	7.7	33.5		6.4	2.4	11.9		12.3				
Green Ext Time (p_c), s	0.0	4.8		1.1	0.0	6.1		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay	21.7											
HCM 2010 LOS	C											

Intersection												
Intersection Delay, s/veh	9.2											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	11	107	75	0	22	60	2	0	106	14	35
Peak Hour Factor	0.92	0.87	0.87	0.87	0.92	0.77	0.77	0.77	0.92	0.79	0.79	0.79
Heavy Vehicles, %	2	3	3	3	2	3	3	3	2	3	3	3
Mvmt Flow	0	13	123	86	0	29	78	3	0	134	18	44
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.3	8.8	9.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	68%	6%	26%	14%
Vol Thru, %	9%	55%	71%	48%
Vol Right, %	23%	39%	2%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	193	84	50
LT Vol	14	107	60	24
Through Vol	35	75	2	19
RT Vol	106	11	22	7
Lane Flow Rate	196	222	109	65
Geometry Grp	1	1	1	1
Degree of Util (X)	0.262	0.277	0.148	0.086
Departure Headway (Hd)	4.802	4.5	4.885	4.774
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	746	796	731	746
Service Time	2.848	2.543	2.935	2.831
HCM Lane V/C Ratio	0.263	0.279	0.149	0.087
HCM Control Delay	9.6	9.3	8.8	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	1.1	0.5	0.3

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	7	24	19
Peak Hour Factor	0.92	0.77	0.77	0.77
Heavy Vehicles, %	2	3	3	3
Mvmt Flow	0	9	31	25
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.3
HCM LOS	A

Lane

Intersection	
Int Delay, s/veh	4.4

Movement	WBR	SBL	SBR	SEL
Vol, veh/h	36	19	21	62
Conflicting Peds, #/hr	0	0	0	0
Sign Control	Free	Stop	Stop	Free
RT Channelized	-	-	None	None
Storage Length	-	0	-	-
Veh in Median Storage, #	0	0	-	0
Grade, %	0	0	-	0
Peak Hour Factor	79	35	35	72
Heavy Vehicles, %	3	3	3	3
Mvmt Flow	46	54	60	86

Major/Minor	Major2	Minor2	Major1
Conflicting Flow All	0	204	57
Stage 1	-	57	-
Stage 2	-	147	-
Critical Hdwy	-	6.43	6.23
Critical Hdwy Stg 1	-	5.43	-
Critical Hdwy Stg 2	-	5.43	-
Follow-up Hdwy	-	3.527	3.327
Pot Cap-1 Maneuver	-	782	1006
Stage 1	-	963	-
Stage 2	-	878	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	766	1006
Mov Cap-2 Maneuver	-	766	-
Stage 1	-	963	-
Stage 2	-	860	-

Approach	WB	SB	SE
HCM Control Delay, s	0	9.7	1.9
HCM LOS		A	

Minor Lane/Major Mvmt	WBR	WBR2	SEL2	SEL	SBLn1
Capacity (veh/h)	-	-	1527	-	876
HCM Lane V/C Ratio	-	-	0.02	-	0.13
HCM Control Delay (s)	-	-	7.4	0	9.7
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0.4

Intersection									
Int Delay, s/veh	5.9								

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	6	0	0	38	0	19	0	10	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	42	42	42	61	61	61	67	67	67
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3
Mvmt Flow	14	0	0	62	0	31	0	15	49

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	109	118	6	94	94	40	6	0	0
Stage 1	54	54	-	40	40	-	-	-	-
Stage 2	55	64	-	54	54	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-
Pot Cap-1 Maneuver	867	770	1074	887	794	1028	1608	-	-
Stage 1	956	848	-	972	860	-	-	-	-
Stage 2	955	840	-	956	848	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	830	758	1074	876	781	1028	1608	-	-
Mov Cap-2 Maneuver	830	758	-	876	781	-	-	-	-
Stage 1	956	834	-	972	860	-	-	-	-
Stage 2	926	840	-	941	834	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	9.4	9.4	0
HCM LOS	A	A	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1608	-	-	830	921	1532	-	-
HCM Lane V/C Ratio	-	-	-	0.017	0.101	0.016	-	-
HCM Control Delay (s)	0	-	-	9.4	9.4	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

Intersection			
Int Delay, s/veh			
Movement	SBL	SBT	SBR
Vol, veh/h	16	4	0
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	67	67	67
Heavy Vehicles, %	3	3	3
Mvmt Flow	24	6	0
Major/Minor	Major2		
Conflicting Flow All	64	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.13	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.227	-	-
Pot Cap-1 Maneuver	1532	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1532	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Approach	SB		
HCM Control Delay, s	5.9		
HCM LOS			
Minor Lane/Major Mvmt			

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	43	5	0	40	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	66	66	58	58	25	25
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	65	8	0	69	8	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	73	138
Stage 1	-	-	69
Stage 2	-	-	69
Critical Hdwy	-	4.13	6.43
Critical Hdwy Stg 1	-	-	5.43
Critical Hdwy Stg 2	-	-	5.43
Follow-up Hdwy	-	2.227	3.527
Pot Cap-1 Maneuver	-	1520	853
Stage 1	-	-	951
Stage 2	-	-	951
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1520	853
Mov Cap-2 Maneuver	-	-	853
Stage 1	-	-	951
Stage 2	-	-	951

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	853	-	-	1520	-
HCM Lane V/C Ratio	0.009	-	-	-	-
HCM Control Delay (s)	9.3	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	3.7

Movement	NBL	NBR	SET	SER	NWL	NWT
Vol, veh/h	51	3	11	28	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	43	43	75	75
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	61	4	26	65	0	5

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	63	58	91
Stage 1	58	-	-
Stage 2	5	-	-
Critical Hdwy	6.43	6.23	4.13
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.43	-	-
Follow-up Hdwy	3.527	3.327	2.227
Pot Cap-1 Maneuver	941	1005	1498
Stage 1	962	-	-
Stage 2	1016	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	941	1005	1498
Mov Cap-2 Maneuver	941	-	-
Stage 1	962	-	-
Stage 2	1016	-	-



















Approach	NB	SE	NW
HCM Control Delay, s	9.1	0	0
HCM LOS	A	-	-

Minor Lane/Major Mvmt	NBLn1	NWL	NWT	SET	SER
Capacity (veh/h)	944	1498	-	-	-
HCM Lane V/C Ratio	0.069	-	-	-	-
HCM Control Delay (s)	9.1	0	-	-	-
HCM Lane LOS	A	A	-	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

HCM 2010 Signalized Intersection Summary

3: SR-65 & Avenue 128

8/20/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	35	29	12	25	14	71	5	241	24	57	339	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1743	1743	1900	1743	1743	1900
Adj Flow Rate, veh/h	44	36	15	32	18	91	6	274	27	66	394	20
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.80	0.80	0.80	0.78	0.78	0.78	0.88	0.88	0.88	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3	9	9	9	9	9	9
Cap, veh/h	179	113	37	119	44	151	51	821	81	183	995	51
Arrive On Green	0.15	0.15	0.13	0.15	0.15	0.13	0.03	0.53	0.51	0.11	0.61	0.59
Sat Flow, veh/h	567	768	250	264	301	1028	1660	1562	154	1660	1645	83
Grp Volume(v), veh/h	95	0	0	141	0	0	6	0	301	66	0	414
Grp Sat Flow(s),veh/h/ln	1586	0	0	1593	0	0	1660	0	1716	1660	0	1728
Q Serve(g_s), s	0.0	0.0	0.0	1.7	0.0	0.0	0.2	0.0	5.6	2.0	0.0	6.9
Cycle Q Clear(g_c), s	2.8	0.0	0.0	4.5	0.0	0.0	0.2	0.0	5.6	2.0	0.0	6.9
Prop In Lane	0.46		0.16	0.23		0.65	1.00		0.09	1.00		0.05
Lane Grp Cap(c), veh/h	328	0	0	314	0	0	51	0	902	183	0	1046
V/C Ratio(X)	0.29	0.00	0.00	0.45	0.00	0.00	0.12	0.00	0.33	0.36	0.00	0.40
Avail Cap(c_a), veh/h	1054	0	0	1063	0	0	271	0	902	271	0	1046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.3	0.0	0.0	22.3	0.0	0.0	26.0	0.0	7.6	22.7	0.0	5.7
Incr Delay (d2), s/veh	0.5	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.2	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	2.1	0.0	0.0	0.1	0.0	2.8	1.0	0.0	3.6
LnGrp Delay(d),s/veh	21.8	0.0	0.0	23.3	0.0	0.0	27.0	0.0	8.6	23.9	0.0	6.8
LnGrp LOS	C			C			C		A	C		A
Approach Vol, veh/h	95			141			307			480		
Approach Delay, s/veh	21.8			23.3			8.9			9.2		
Approach LOS	C			C			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	33.0		12.1	5.7	37.4		12.1				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	28.0		34.0	8.0	28.0		34.0				
Max Q Clear Time (g_c+l1), s	4.0	7.6		4.8	2.2	8.9		6.5				
Green Ext Time (p_c), s	0.0	2.6		0.8	0.0	2.5		0.8				

Intersection Summary

HCM 2010 Ctrl Delay 12.2
 HCM 2010 LOS B

Intersection												
Intersection Delay, s/veh	8.4											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	14	41	60	0	15	86	2	0	65	26	29
Peak Hour Factor	0.92	0.76	0.76	0.76	0.92	0.80	0.80	0.80	0.92	0.80	0.80	0.80
Heavy Vehicles, %	2	3	3	3	2	3	3	3	2	3	3	3
Mvmt Flow	0	18	54	79	0	19	107	2	0	81	32	36
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.3	8.6	8.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	54%	12%	15%	0%
Vol Thru, %	22%	36%	83%	46%
Vol Right, %	24%	52%	2%	54%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	115	103	37
LT Vol	26	41	86	17
Through Vol	29	60	2	20
RT Vol	65	14	15	0
Lane Flow Rate	150	151	129	54
Geometry Grp	1	1	1	1
Degree of Util (X)	0.192	0.18	0.165	0.067
Departure Headway (Hd)	4.61	4.292	4.614	4.442
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	779	835	778	805
Service Time	2.638	2.318	2.64	2.474
HCM Lane V/C Ratio	0.193	0.181	0.166	0.067
HCM Control Delay	8.7	8.3	8.6	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.7	0.6	0.2

Intersection
Intersection Delay, s/veh
Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	17	20
Peak Hour Factor	0.92	0.68	0.68	0.68
Heavy Vehicles, %	2	3	3	3
Mvmt Flow	0	0	25	29
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.8
HCM LOS	A

Lane

Intersection	
Int Delay, s/veh	3.2

Movement	WBR	SBL	SBR	SEL
Vol, veh/h	50	13	21	26
Conflicting Peds, #/hr	0	0	0	0
Sign Control	Free	Stop	Stop	Free
RT Channelized	-	-	None	None
Storage Length	-	0	-	-
Veh in Median Storage, #	0	0	-	0
Grade, %	0	0	-	0
Peak Hour Factor	78	75	75	60
Heavy Vehicles, %	3	3	3	3
Mvmt Flow	64	17	28	43

Major/Minor	Major2	Minor2	Major1
Conflicting Flow All	0	202	79
Stage 1	-	79	-
Stage 2	-	123	-
Critical Hdwy	-	6.43	6.23
Critical Hdwy Stg 1	-	5.43	-
Critical Hdwy Stg 2	-	5.43	-
Follow-up Hdwy	-	3.527	3.327
Pot Cap-1 Maneuver	-	784	979
Stage 1	-	942	-
Stage 2	-	900	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	763	979
Mov Cap-2 Maneuver	-	763	-
Stage 1	-	942	-
Stage 2	-	876	-

Approach	WB	SB	SE
HCM Control Delay, s	0	9.3	3.6
HCM LOS	-	A	-

Minor Lane/Major Mvmt	WBR	WBR2	SEL2	SEL	SBLn1
Capacity (veh/h)	-	-	1494	-	883
HCM Lane V/C Ratio	-	-	0.027	-	0.051
HCM Control Delay (s)	-	-	7.5	0	9.3
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0.2

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	1	0	0	29	0	16	2	7	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	75	75	75	79	79	79
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3
Mvmt Flow	4	0	0	39	0	21	3	9	47

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	87	100	8	76	77	32	8	0	0
Stage 1	39	39	-	37	37	-	-	-	-
Stage 2	48	61	-	39	40	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-
Pot Cap-1 Maneuver	896	788	1071	911	811	1039	1606	-	-
Stage 1	973	860	-	976	862	-	-	-	-
Stage 2	963	842	-	973	860	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	870	779	1071	903	801	1039	1606	-	-
Mov Cap-2 Maneuver	870	779	-	903	801	-	-	-	-
Stage 1	971	851	-	974	860	-	-	-	-
Stage 2	941	840	-	963	851	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	9.2	9.1	0.3
HCM LOS	A	A	-

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1606	-	-	870	947	1542	-	-
HCM Lane V/C Ratio	0.002	-	-	0.005	0.063	0.01	-	-
HCM Control Delay (s)	7.2	0	-	9.2	9.1	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	15	7	1
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	95	95	95
Heavy Vehicles, %	3	3	3
Mvmt Flow	16	7	1

Major/Minor	Major2		
Conflicting Flow All	56	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.13	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.227	-	-
Pot Cap-1 Maneuver	1542	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1542	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	4.8
HCM LOS	

Minor Lane/Major Mvmt

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	44	1	2	37	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	54	54	63	63
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	59	1	4	69	10	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	60	135	59
Stage 1	-	-	59	-
Stage 2	-	-	76	-
Critical Hdwy	-	4.13	6.43	6.23
Critical Hdwy Stg 1	-	-	5.43	-
Critical Hdwy Stg 2	-	-	5.43	-
Follow-up Hdwy	-	2.227	3.527	3.327
Pot Cap-1 Maneuver	-	1537	856	1004
Stage 1	-	-	961	-
Stage 2	-	-	944	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	1537	853	1004
Mov Cap-2 Maneuver	-	-	853	-
Stage 1	-	-	961	-
Stage 2	-	-	941	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	853	-	-	1537	-
HCM Lane V/C Ratio	0.011	-	-	0.002	-
HCM Control Delay (s)	9.3	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	4.4

Movement	NBL	NBR	SET	SER	NWL	NWT
Vol, veh/h	46	0	11	48	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	58	58	75	75	63	63
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	79	0	15	64	8	16

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	79	47	0
Stage 1	47	-	-
Stage 2	32	-	-
Critical Hdwy	6.43	6.23	4.13
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.43	-	-
Follow-up Hdwy	3.527	3.327	2.227
Pot Cap-1 Maneuver	921	1019	1513
Stage 1	973	-	-
Stage 2	988	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	916	1019	1513
Mov Cap-2 Maneuver	916	-	-
Stage 1	973	-	-
Stage 2	983	-	-




















Approach	NB	SE	NW
HCM Control Delay, s	9.3	0	2.5
HCM LOS	A	-	-

Minor Lane/Major Mvmt	NBLn1	NWL	NWT	SET	SER
Capacity (veh/h)	916	1513	-	-	-
HCM Lane V/C Ratio	0.087	0.005	-	-	-
HCM Control Delay (s)	9.3	7.4	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.3	0	-	-	-

HCM 2010 Signalized Intersection Summary

3: SR-65 & Avenue 128

8/20/2014

															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations															
Volume (veh/h)	30	52	9	26	29	120	7	626	72	101	366	22			
Number	7	4	14	3	8	18	5	2	12	1	6	16			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1743	1743	1900	1743	1743	1900			
Adj Flow Rate, veh/h	34	60	10	31	34	141	8	728	84	116	421	25			
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0			
Peak Hour Factor	0.87	0.87	0.87	0.85	0.85	0.85	0.86	0.86	0.86	0.87	0.87	0.87			
Percent Heavy Veh, %	3	3	3	3	3	3	9	9	9	9	9	9			
Cap, veh/h	111	171	24	77	59	186	47	897	103	168	1071	64			
Arrive On Green	0.17	0.17	0.16	0.17	0.17	0.16	0.03	0.58	0.57	0.10	0.66	0.65			
Sat Flow, veh/h	316	1000	140	159	342	1087	1660	1535	177	1660	1629	97			
Grp Volume(v), veh/h	104	0	0	206	0	0	8	0	812	116	0	446			
Grp Sat Flow(s),veh/h/ln	1456	0	0	1588	0	0	1660	0	1712	1660	0	1726			
Q Serve(g_s), s	0.0	0.0	0.0	5.7	0.0	0.0	0.4	0.0	31.5	5.7	0.0	10.0			
Cycle Q Clear(g_c), s	4.4	0.0	0.0	10.3	0.0	0.0	0.4	0.0	31.5	5.7	0.0	10.0			
Prop In Lane	0.33		0.10	0.15		0.68	1.00		0.10	1.00		0.06			
Lane Grp Cap(c), veh/h	307	0	0	322	0	0	47	0	1000	168	0	1134			
V/C Ratio(X)	0.34	0.00	0.00	0.64	0.00	0.00	0.17	0.00	0.81	0.69	0.00	0.39			
Avail Cap(c_a), veh/h	686	0	0	706	0	0	178	0	1000	178	0	1134			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	30.6	0.0	0.0	33.3	0.0	0.0	39.8	0.0	13.8	36.4	0.0	6.7			
Incr Delay (d2), s/veh	0.6	0.0	0.0	2.1	0.0	0.0	1.7	0.0	7.1	10.2	0.0	1.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	4.7	0.0	0.0	0.2	0.0	16.7	3.1	0.0	5.0			
LnGrp Delay(d),s/veh	31.2	0.0	0.0	35.4	0.0	0.0	41.5	0.0	21.0	46.6	0.0	7.7			
LnGrp LOS	C			D			D		C	D		A			
Approach Vol, veh/h	104			206			820			562					
Approach Delay, s/veh	31.2			35.4			21.2			15.7					
Approach LOS	C			D			C			B					
Timer	1	2	3	4	5	6	7	8							
Assigned Phs	1	2		4	5	6		8							
Phs Duration (G+Y+Rc), s	12.5	53.0		18.4	6.4	59.1		18.4							
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0							
Max Green Setting (Gmax), s	8.0	48.0		34.0	8.0	48.0		34.0							
Max Q Clear Time (g_c+I1), s	7.7	33.5		6.4	2.4	12.0		12.3							
Green Ext Time (p_c), s	0.0	4.8		1.1	0.0	6.1		1.1							
Intersection Summary															
HCM 2010 Ctrl Delay	21.7														
HCM 2010 LOS	C														

Intersection												
Intersection Delay, s/veh	9.2											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	11	107	75	0	22	60	2	0	106	14	35
Peak Hour Factor	0.92	0.87	0.87	0.87	0.92	0.77	0.77	0.77	0.92	0.79	0.79	0.79
Heavy Vehicles, %	2	3	3	3	2	3	3	3	2	3	3	3
Mvmt Flow	0	13	123	86	0	29	78	3	0	134	18	44
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.3	8.8	9.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	68%	6%	26%	14%
Vol Thru, %	9%	55%	71%	48%
Vol Right, %	23%	39%	2%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	193	84	50
LT Vol	14	107	60	24
Through Vol	35	75	2	19
RT Vol	106	11	22	7
Lane Flow Rate	196	222	109	65
Geometry Grp	1	1	1	1
Degree of Util (X)	0.262	0.277	0.148	0.086
Departure Headway (Hd)	4.802	4.5	4.885	4.774
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	746	796	731	746
Service Time	2.848	2.543	2.935	2.831
HCM Lane V/C Ratio	0.263	0.279	0.149	0.087
HCM Control Delay	9.6	9.3	8.8	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	1.1	0.5	0.3

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	7	24	19
Peak Hour Factor	0.92	0.77	0.77	0.77
Heavy Vehicles, %	2	3	3	3
Mvmt Flow	0	9	31	25
Number of Lanes	0	0	1	0

Approach

SB

Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.3
HCM LOS	A

Lane

Intersection	
Int Delay, s/veh	4.4

Movement	WBR	SBL	SBR	SEL
Vol, veh/h	36	19	21	62
Conflicting Peds, #/hr	0	0	0	0
Sign Control	Free	Stop	Stop	Free
RT Channelized	-	-	None	None
Storage Length	-	0	-	-
Veh in Median Storage, #	0	0	-	0
Grade, %	0	0	-	0
Peak Hour Factor	79	35	35	72
Heavy Vehicles, %	3	3	3	3
Mvmt Flow	46	54	60	86

Major/Minor	Major2	Minor2	Major1
Conflicting Flow All	0	204	57
Stage 1	-	57	-
Stage 2	-	147	-
Critical Hdwy	-	6.43	6.23
Critical Hdwy Stg 1	-	5.43	-
Critical Hdwy Stg 2	-	5.43	-
Follow-up Hdwy	-	3.527	3.327
Pot Cap-1 Maneuver	-	782	1006
Stage 1	-	963	-
Stage 2	-	878	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	766	1006
Mov Cap-2 Maneuver	-	766	-
Stage 1	-	963	-
Stage 2	-	860	-

Approach	WB	SB	SE
HCM Control Delay, s	0	9.7	1.9
HCM LOS		A	

Minor Lane/Major Mvmt	WBR	WBR2	SEL2	SEL	SBLn1
Capacity (veh/h)	-	-	1527	-	876
HCM Lane V/C Ratio	-	-	0.02	-	0.13
HCM Control Delay (s)	-	-	7.4	0	9.7
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0.4

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	6	0	0	38	0	19	0	10	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	42	42	42	61	61	61	67	67	67
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3
Mvmt Flow	14	0	0	62	0	31	0	15	49

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	109	118	6	94	94	40	6	0	0
Stage 1	54	54	-	40	40	-	-	-	-
Stage 2	55	64	-	54	54	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-
Pot Cap-1 Maneuver	867	770	1074	887	794	1028	1608	-	-
Stage 1	956	848	-	972	860	-	-	-	-
Stage 2	955	840	-	956	848	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	830	758	1074	876	781	1028	1608	-	-
Mov Cap-2 Maneuver	830	758	-	876	781	-	-	-	-
Stage 1	956	834	-	972	860	-	-	-	-
Stage 2	926	840	-	941	834	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	9.4	9.4	0
HCM LOS	A	A	-

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1608	-	-	830	921	1532	-	-
HCM Lane V/C Ratio	-	-	-	0.017	0.101	0.016	-	-
HCM Control Delay (s)	0	-	-	9.4	9.4	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	16	4	0
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	67	67	67
Heavy Vehicles, %	3	3	3
Mvmt Flow	24	6	0

Major/Minor	Major2		
Conflicting Flow All	64	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.13	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.227	-	-
Pot Cap-1 Maneuver	1532	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1532	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	5.9
HCM LOS	

Minor Lane/Major Mvmt

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	43	5	0	40	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	66	66	58	58	25	25
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	65	8	0	69	8	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	73	0	138	69
Stage 1	-	-	-	-	69	-
Stage 2	-	-	-	-	69	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1520	-	853	991
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	951	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1520	-	853	991
Mov Cap-2 Maneuver	-	-	-	-	853	-
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	951	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	853	-	-	1520	-
HCM Lane V/C Ratio	0.009	-	-	-	-
HCM Control Delay (s)	9.3	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	3.7

Movement	NBL	NBR	SET	SER	NWL	NWT
Vol, veh/h	51	3	11	28	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	43	43	75	75
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	61	4	26	65	0	5

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	63	58	91
Stage 1	58	-	-
Stage 2	5	-	-
Critical Hdwy	6.43	6.23	4.13
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.43	-	-
Follow-up Hdwy	3.527	3.327	2.227
Pot Cap-1 Maneuver	941	1005	1498
Stage 1	962	-	-
Stage 2	1016	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	941	1005	1498
Mov Cap-2 Maneuver	941	-	-
Stage 1	962	-	-
Stage 2	1016	-	-



















Approach	NB	SE	NW
HCM Control Delay, s	9.1	0	0
HCM LOS	A	-	-

Minor Lane/Major Mvmt	NBLn1	NWL	NWT	SET	SER
Capacity (veh/h)	944	1498	-	-	-
HCM Lane V/C Ratio	0.069	-	-	-	-
HCM Control Delay (s)	9.1	0	-	-	-
HCM Lane LOS	A	A	-	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

HCM 2010 Signalized Intersection Summary

3: SR-65 & Avenue 128

8/20/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	39	35	24	45	28	62	19	356	49	46	478	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1743	1743	1900	1743	1743	1900
Adj Flow Rate, veh/h	42	38	26	49	30	67	21	387	53	50	520	23
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	9	9	9	9	9	9
Cap, veh/h	166	109	59	154	65	110	97	1564	213	160	1848	82
Arrive On Green	0.15	0.15	0.13	0.15	0.15	0.13	0.06	0.53	0.52	0.10	0.57	0.55
Sat Flow, veh/h	494	731	398	437	437	741	1660	2930	399	1660	3231	143
Grp Volume(v), veh/h	106	0	0	146	0	0	21	218	222	50	266	277
Grp Sat Flow(s), veh/h/ln	1623	0	0	1615	0	0	1660	1656	1673	1660	1656	1718
Q Serve(g_s), s	0.0	0.0	0.0	1.3	0.0	0.0	0.7	3.8	3.9	1.5	4.5	4.5
Cycle Q Clear(g_c), s	3.0	0.0	0.0	4.4	0.0	0.0	0.7	3.8	3.9	1.5	4.5	4.5
Prop In Lane	0.40		0.25	0.34		0.46	1.00		0.24	1.00		0.08
Lane Grp Cap(c), veh/h	334	0	0	329	0	0	97	884	893	160	947	982
V/C Ratio(X)	0.32	0.00	0.00	0.44	0.00	0.00	0.22	0.25	0.25	0.31	0.28	0.28
Avail Cap(c_a), veh/h	1084	0	0	1081	0	0	275	884	893	275	947	982
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	0.0	0.0	21.7	0.0	0.0	24.4	6.8	6.9	22.9	5.9	6.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.9	0.0	0.0	1.1	0.7	0.7	1.1	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	2.1	0.0	0.0	0.3	1.9	2.0	0.7	2.2	2.3
LnGrp Delay(d),s/veh	21.6	0.0	0.0	22.6	0.0	0.0	25.5	7.5	7.6	24.0	6.7	6.7
LnGrp LOS	C			C			C	A	A	C	A	A
Approach Vol, veh/h		106			146			461			593	
Approach Delay, s/veh		21.6			22.6			8.3			8.1	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	33.0		12.1	7.2	35.1		12.1				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	28.0		34.0	8.0	28.0		34.0				
Max Q Clear Time (g_c+I1), s	3.5	5.9		5.0	2.7	6.5		6.4				
Green Ext Time (p_c), s	0.0	3.5		0.9	0.0	3.5		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay			10.9									
HCM 2010 LOS			B									

Intersection												
Intersection Delay, s/veh	8.4											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	19	52	44	0	23	93	4	0	50	42	44
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	3	3	3	2	3	3	3	2	3	3	3
Mvmt Flow	0	21	57	48	0	25	101	4	0	54	46	48
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.3	8.6	8.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	37%	17%	19%	0%
Vol Thru, %	31%	45%	78%	56%
Vol Right, %	32%	38%	3%	44%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	136	115	120	73
LT Vol	42	52	93	41
Through Vol	44	44	4	32
RT Vol	50	19	23	0
Lane Flow Rate	148	125	130	79
Geometry Grp	1	1	1	1
Degree of Util (X)	0.185	0.154	0.168	0.098
Departure Headway (Hd)	4.514	4.432	4.634	4.454
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	795	809	775	804
Service Time	2.541	2.459	2.662	2.484
HCM Lane V/C Ratio	0.186	0.155	0.168	0.098
HCM Control Delay	8.6	8.3	8.6	8
HCM Lane LOS	A	A	A	A
HCM 95th-ile Q	0.7	0.5	0.6	0.3

Intersection
Intersection Delay, s/veh
Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	41	32
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	3	3	3
Mvmt Flow	0	0	45	35
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8
HCM LOS	A

Lane

Intersection	
Int Delay, s/veh	1.2

Movement	WBR	SBL	SBR	SEL
Vol, veh/h	52	11	1	28
Conflicting Peds, #/hr	0	0	0	0
Sign Control	Free	Stop	Stop	Free
RT Channelized	-	-	None	None
Storage Length	-	0	-	-
Veh in Median Storage, #	0	0	-	0
Grade, %	0	0	-	0
Peak Hour Factor	92	92	92	92
Heavy Vehicles, %	3	3	3	3
Mvmt Flow	57	12	1	30

Major/Minor	Major2	Minor2	Major1
Conflicting Flow All	0	107	68
Stage 1	-	68	-
Stage 2	-	39	-
Critical Hdwy	-	6.43	6.23
Critical Hdwy Stg 1	-	5.43	-
Critical Hdwy Stg 2	-	5.43	-
Follow-up Hdwy	-	3.527	3.327
Pot Cap-1 Maneuver	-	888	992
Stage 1	-	952	-
Stage 2	-	981	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	885	992
Mov Cap-2 Maneuver	-	885	-
Stage 1	-	952	-
Stage 2	-	978	-

Approach	WB	SB	SE
HCM Control Delay, s	0	9.1	0.9
HCM LOS	-	A	-

Minor Lane/Major Mvmt	WBR	WBR2	SEL2	SEL	SBLn1
Capacity (veh/h)	-	-	1513	-	893
HCM Lane V/C Ratio	-	-	0.003	-	0.015
HCM Control Delay (s)	-	-	7.4	0	9.1
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	-	0

Intersection									
Int Delay, s/veh	4.7								
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	1	0	0	6	0	17	2	7	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	0	0	7	0	18	2	8	16
Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	72	71	8	63	63	16	9	0	0
Stage 1	43	43	-	20	20	-	-	-	-
Stage 2	29	28	-	43	43	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-
Pot Cap-1 Maneuver	917	818	1071	929	826	1060	1604	-	-
Stage 1	969	857	-	996	877	-	-	-	-
Stage 2	985	870	-	969	857	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	893	808	1071	921	816	1060	1604	-	-
Mov Cap-2 Maneuver	893	808	-	921	816	-	-	-	-
Stage 1	968	848	-	995	876	-	-	-	-
Stage 2	967	869	-	958	848	-	-	-	-
Approach	EB			WB			NB		
HCM Control Delay, s	9			8.6			0.6		
HCM LOS	A			A					
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR	
Capacity (veh/h)	1604	-	-	893	1020	1584	-	-	
HCM Lane V/C Ratio	0.001	-	-	0.001	0.025	0.011	-	-	
HCM Control Delay (s)	7.2	0	-	9	8.6	7.3	0	-	
HCM Lane LOS	A	A	-	A	A	A	A	-	
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-	

Intersection
Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	16	7	1
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	3	3	3
Mvmt Flow	17	8	1

Major/Minor	Major	2	
Conflicting Flow All	24	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.13	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.227	-	-
Pot Cap-1 Maneuver	1584	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1584	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	4.9
HCM LOS	

Minor Lane/Major Mvmt

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	24	1	2	15	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	26	1	2	16	7	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	27	0	48	27
Stage 1	-	-	-	-	27	-
Stage 2	-	-	-	-	21	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1580	-	959	1046
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	999	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1580	-	958	1046
Mov Cap-2 Maneuver	-	-	-	-	958	-
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	998	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	958	-	-	1580	-
HCM Lane V/C Ratio	0.007	-	-	0.001	-
HCM Control Delay (s)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	NBL	NBR	SET	SER	NWL	NWT
Vol, veh/h	23	0	12	25	5	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	25	0	13	27	5	12

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	50	27	0
Stage 1	27	-	-
Stage 2	23	-	-
Critical Hdwy	6.43	6.23	4.13
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.43	-	-
Follow-up Hdwy	3.527	3.327	2.227
Pot Cap-1 Maneuver	957	1046	1563
Stage 1	993	-	-
Stage 2	997	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	954	1046	1563
Mov Cap-2 Maneuver	954	-	-
Stage 1	993	-	-
Stage 2	994	-	-




















Approach	NB	SE	NW
HCM Control Delay, s	8.9	0	2.3
HCM LOS	A	-	-

Minor Lane/Major Mvmt	NBLn1	NWL	NWT	SET	SER
Capacity (veh/h)	954	1563	-	-	-
HCM Lane V/C Ratio	0.026	0.003	-	-	-
HCM Control Delay (s)	8.9	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

HCM 2010 Signalized Intersection Summary

3: SR-65 & Avenue 128

8/20/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	58	32	46	71	116	40	751	110	95	508	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1743	1743	1900	1743	1743	1900
Adj Flow Rate, veh/h	36	63	35	50	77	126	43	816	120	103	552	36
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	9	9	9	9	9	9
Cap, veh/h	94	152	70	91	109	155	110	1737	255	144	1956	127
Arrive On Green	0.19	0.19	0.18	0.19	0.19	0.18	0.07	0.60	0.59	0.09	0.62	0.61
Sat Flow, veh/h	248	789	366	244	569	807	1660	2898	426	1660	3157	206
Grp Volume(v), veh/h	134	0	0	253	0	0	43	466	470	103	289	299
Grp Sat Flow(s),veh/h/ln	1403	0	0	1619	0	0	1660	1656	1668	1660	1656	1707
Q Serve(g_s), s	0.0	0.0	0.0	7.2	0.0	0.0	2.4	15.5	15.5	5.9	7.9	8.0
Cycle Q Clear(g_c), s	7.4	0.0	0.0	14.6	0.0	0.0	2.4	15.5	15.5	5.9	7.9	8.0
Prop In Lane	0.27		0.26	0.20		0.50	1.00		0.26	1.00		0.12
Lane Grp Cap(c), veh/h	316	0	0	355	0	0	110	993	1000	144	1026	1058
V/C Ratio(X)	0.42	0.00	0.00	0.71	0.00	0.00	0.39	0.47	0.47	0.72	0.28	0.28
Avail Cap(c_a), veh/h	567	0	0	612	0	0	152	993	1000	152	1026	1058
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	0.0	0.0	38.1	0.0	0.0	44.0	11.0	11.1	43.8	8.6	8.7
Incr Delay (d2), s/veh	0.9	0.0	0.0	2.7	0.0	0.0	2.2	1.6	1.6	14.1	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	0.0	6.9	0.0	0.0	1.2	7.4	7.5	3.3	3.8	3.9
LnGrp Delay(d),s/veh	35.9	0.0	0.0	40.8	0.0	0.0	46.3	12.6	12.7	57.9	9.3	9.3
LnGrp LOS	D			D			D	B	B	E	A	A
Approach Vol, veh/h	134			253			979			691		
Approach Delay, s/veh	35.9			40.8			14.1			16.6		
Approach LOS	D			D			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.5	63.0		22.9	10.5	65.0		22.9				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	58.0		34.0	8.0	58.0		34.0				
Max Q Clear Time (g_c+I1), s	7.9	17.5		9.4	4.4	10.0		16.6				
Green Ext Time (p_c), s	0.0	6.8		1.4	0.0	6.9		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay	19.6											
HCM 2010 LOS	B											

Intersection												
Intersection Delay, s/veh	9.4											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	27	107	61	0	36	71	9	0	95	50	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	3	3	3	2	3	3	3	2	3	3	3
Mvmt Flow	0	29	116	66	0	39	77	10	0	103	54	54
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.5	9.1	9.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	49%	14%	31%	18%
Vol Thru, %	26%	55%	61%	52%
Vol Right, %	26%	31%	8%	30%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	195	195	116	84
LT Vol	50	107	71	44
Through Vol	50	61	9	25
RT Vol	95	27	36	15
Lane Flow Rate	212	212	126	91
Geometry Grp	1	1	1	1
Degree of Util (X)	0.284	0.276	0.174	0.124
Departure Headway (Hd)	4.817	4.689	4.966	4.891
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	742	761	717	727
Service Time	2.877	2.747	3.031	2.961
HCM Lane V/C Ratio	0.286	0.279	0.176	0.125
HCM Control Delay	9.8	9.5	9.1	8.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.2	1.1	0.6	0.4

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	15	44	25
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	3	3	3
Mvmt Flow	0	16	48	27
Number of Lanes	0	0	1	0

Approach SB

Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.7
HCM LOS	A

Lane

Intersection	
Int Delay, s/veh	1.2

Movement	WBR	SBL	SBR	SEL
Vol, veh/h	42	17	1	68
Conflicting Peds, #/hr	0	0	0	0
Sign Control	Free	Stop	Stop	Free
RT Channelized	-	-	None	None
Storage Length	-	0	-	-
Veh in Median Storage, #	0	0	-	0
Grade, %	0	0	-	0
Peak Hour Factor	92	92	92	92
Heavy Vehicles, %	3	3	3	3
Mvmt Flow	46	18	1	74

Major/Minor	Major2	Minor2	Major1
Conflicting Flow All	0	132	54
Stage 1	-	54	-
Stage 2	-	78	-
Critical Hdwy	-	6.43	6.23
Critical Hdwy Stg 1	-	5.43	-
Critical Hdwy Stg 2	-	5.43	-
Follow-up Hdwy	-	3.527	3.327
Pot Cap-1 Maneuver	-	860	1010
Stage 1	-	966	-
Stage 2	-	943	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	859	1010
Mov Cap-2 Maneuver	-	859	-
Stage 1	-	966	-
Stage 2	-	942	-

Approach	WB	SB	SE
HCM Control Delay, s	0	9.3	0.2
HCM LOS	-	A	-

Minor Lane/Major Mvmt	WBR	WBR2	SEL2	SEL	SBLn1
Capacity (veh/h)	-	-	1533	-	866
HCM Lane V/C Ratio	-	-	0.001	-	0.023
HCM Control Delay (s)	-	-	7.4	0	9.3
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	-	0.1

Intersection									
Int Delay, s/veh	5.9								

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	6	0	0	16	0	21	0	10	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3
Mvmt Flow	7	0	0	17	0	23	0	11	12

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	69	64	4	58	58	17	4	0	0
Stage 1	41	41	-	17	17	-	-	-	-
Stage 2	28	23	-	41	41	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-
Pot Cap-1 Maneuver	921	825	1077	936	831	1059	1611	-	-
Stage 1	971	859	-	1000	879	-	-	-	-
Stage 2	987	874	-	971	859	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	894	816	1077	928	822	1059	1611	-	-
Mov Cap-2 Maneuver	894	816	-	928	822	-	-	-	-
Stage 1	971	850	-	1000	879	-	-	-	-
Stage 2	966	874	-	960	850	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	9.1	8.8	0
HCM LOS	A	A	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1611	-	-	894	998	1586	-	-
HCM Lane W/C Ratio	-	-	-	0.007	0.04	0.012	-	-
HCM Control Delay (s)	0	-	-	9.1	8.8	7.3	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	17	4	0
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	3	3	3
Mvmt Flow	18	4	0

Major/Minor	Major2		
Conflicting Flow All	23	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.13	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.227	-	-
Pot Cap-1 Maneuver	1586	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1586	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	5.9
HCM LOS	

Minor Lane/Major Mvmt

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	22	6	0	19	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	24	7	0	21	2	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	30	48
Stage 1	-	-	27
Stage 2	-	-	21
Critical Hdwy	-	4.13	6.43
Critical Hdwy Stg 1	-	-	5.43
Critical Hdwy Stg 2	-	-	5.43
Follow-up Hdwy	-	2.227	3.527
Pot Cap-1 Maneuver	-	1576	959
Stage 1	-	-	993
Stage 2	-	-	999
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1576	959
Mov Cap-2 Maneuver	-	-	959
Stage 1	-	-	993
Stage 2	-	-	999



















Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	959	-	-	1576	-
HCM Lane V/C Ratio	0.002	-	-	-	-
HCM Control Delay (s)	8.8	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection							
Int Delay, s/veh	5.2						
Movement	NBL	NBR	SET	SER	NWL	NWT	
Vol, veh/h	28	3	12	5	0	4	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	-	-	-	-	-	
Veh in Median Storage, #	0	-	0	-	-	0	
Grade, %	0	-	0	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	3	3	3	3	3	3	
Mvmt Flow	30	3	13	5	0	4	
Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	20	16	0	0	18	0	
Stage 1	16	-	-	-	-	-	
Stage 2	4	-	-	-	-	-	
Critical Hdwy	6.43	6.23	-	-	4.13	-	
Critical Hdwy Stg 1	5.43	-	-	-	-	-	
Critical Hdwy Stg 2	5.43	-	-	-	-	-	
Follow-up Hdwy	3.527	3.327	-	-	2.227	-	
Pot Cap-1 Maneuver	995	1060	-	-	1592	-	
Stage 1	1004	-	-	-	-	-	
Stage 2	1017	-	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	995	1060	-	-	1592	-	
Mov Cap-2 Maneuver	995	-	-	-	-	-	
Stage 1	1004	-	-	-	-	-	
Stage 2	1017	-	-	-	-	-	
Approach	NB		SE		NW		
HCM Control Delay, s	8.7		0		0		
HCM LOS	A						
Minor Lane/Major Mvmt	NBLn1	NWL	NWT	SET	SER		
Capacity (veh/h)	1001	1592	-	-	-		
HCM Lane V/C Ratio	0.034	-	-	-	-		
HCM Control Delay (s)	8.7	0	-	-	-		
HCM Lane LOS	A	A	-	-	-		
HCM 95th %tile Q(veh)	0.1	0	-	-	-		

HCM 2010 Signalized Intersection Summary 3: SR-65 & Avenue 128

8/20/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	39	35	24	50	28	77	19	356	54	61	478	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1743	1743	1900	1743	1743	1900
Adj Flow Rate, veh/h	42	38	26	54	30	84	21	387	59	66	520	23
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	9	9	9	9	9	9
Cap, veh/h	165	121	64	151	64	131	95	1485	225	181	1830	81
Arrive On Green	0.16	0.16	0.15	0.16	0.16	0.15	0.06	0.51	0.50	0.11	0.57	0.55
Sat Flow, veh/h	462	743	392	408	391	799	1660	2885	437	1660	3231	143
Grp Volume(v), veh/h	106	0	0	168	0	0	21	221	225	66	266	277
Grp Sat Flow(s),veh/h/ln	1597	0	0	1599	0	0	1660	1656	1666	1660	1656	1718
Q Serve(g_s), s	0.0	0.0	0.0	2.2	0.0	0.0	0.7	4.2	4.3	2.1	4.7	4.7
Cycle Q Clear(g_c), s	3.1	0.0	0.0	5.3	0.0	0.0	0.7	4.2	4.3	2.1	4.7	4.7
Prop In Lane	0.40		0.25	0.32		0.50	1.00		0.26	1.00		0.08
Lane Grp Cap(c), veh/h	350	0	0	345	0	0	95	852	857	181	938	973
V/C Ratio(X)	0.30	0.00	0.00	0.49	0.00	0.00	0.22	0.26	0.26	0.36	0.28	0.28
Avail Cap(c_a), veh/h	1038	0	0	1040	0	0	265	852	857	265	938	973
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	0.0	0.0	22.1	0.0	0.0	25.3	7.7	7.8	23.3	6.3	6.3
Incr Delay (d2), s/veh	0.5	0.0	0.0	1.1	0.0	0.0	1.1	0.7	0.7	1.2	0.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	2.5	0.0	0.0	0.3	2.1	2.1	1.0	2.3	2.4
LnGrp Delay(d),s/veh	21.6	0.0	0.0	23.2	0.0	0.0	26.5	8.4	8.5	24.5	7.1	7.1
LnGrp LOS	C			C			C	A	A	C	A	A
Approach Vol, veh/h		106			168			467			609	
Approach Delay, s/veh		21.6			23.2			9.3			9.0	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.2	33.0		13.2	7.2	35.9		13.2				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	28.0		34.0	8.0	28.0		34.0				
Max Q Clear Time (g_c+I1), s	4.1	6.3		5.1	2.7	6.7		7.3				
Green Ext Time (p_c), s	0.0	3.5		1.0	0.0	3.5		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	11.8											
HCM 2010 LOS	B											

Intersection												
Intersection Delay, s/veh	8.6											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	19	52	64	0	23	93	4	0	70	42	44
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	3	3	3	2	3	3	3	2	3	3	3
Mvmt Flow	0	21	57	70	0	25	101	4	0	76	46	48
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.5	8.7	8.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	45%	14%	19%	0%
Vol Thru, %	27%	39%	78%	56%
Vol Right, %	28%	47%	3%	44%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	156	135	120	73
LT Vol	42	52	93	41
Through Vol	44	64	4	32
RT Vol	70	19	23	0
Lane Flow Rate	170	147	130	79
Geometry Grp	1	1	1	1
Degree of Util (X)	0.217	0.181	0.171	0.1
Departure Headway (Hd)	4.606	4.435	4.719	4.535
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	778	807	759	788
Service Time	2.641	2.469	2.756	2.575
HCM Lane V/C Ratio	0.219	0.182	0.171	0.1
HCM Control Delay	8.9	8.5	8.7	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.7	0.6	0.3

Intersection
Intersection Delay, s/veh
Intersection LOS

Movement	SBU	SBL	SBL	SBR
Vol, veh/h	0	0	41	32
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	3	3	3
Mvmt Flow	0	0	45	35
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.1
HCM LOS	A

Lane

Intersection	
Int Delay, s/veh	3

Movement	WBR	SBL	SBR	SEL
Vol, veh/h	52	14	21	28
Conflicting Peds, #/hr	0	0	0	0
Sign Control	Free	Stop	Stop	Free
RT Channelized	-	-	None	None
Storage Length	-	0	-	-
Veh in Median Storage, #	0	0	-	0
Grade, %	0	0	-	0
Peak Hour Factor	92	92	92	92
Heavy Vehicles, %	3	3	3	3
Mvmt Flow	57	15	23	30

Major/Minor	Major2	Minor2	Major1
Conflicting Flow All	0	153	70
Stage 1	-	70	-
Stage 2	-	83	-
Critical Hdwy	-	6.43	6.23
Critical Hdwy Stg 1	-	5.43	-
Critical Hdwy Stg 2	-	5.43	-
Follow-up Hdwy	-	3.527	3.327
Pot Cap-1 Maneuver	-	836	990
Stage 1	-	950	-
Stage 2	-	938	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	821	990
Mov Cap-2 Maneuver	-	821	-
Stage 1	-	950	-
Stage 2	-	921	-

Approach	WB	SB	SE
HCM Control Delay, s	0	9.1	3.4
HCM LOS	-	A	-

Minor Lane/Major Mvmt	WBR	WBR2	SEL2	SEL	SBLn1
Capacity (veh/h)	-	-	1508	-	915
HCM Lane V/C Ratio	-	-	0.017	-	0.042
HCM Control Delay (s)	-	-	7.4	0	9.1
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0.1

Intersection									
Int Delay, s/veh	4.7								
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	1	0	0	29	0	17	2	7	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	0	0	32	0	18	2	8	41
Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	85	96	8	76	76	28	9	0	0
Stage 1	43	43	-	33	33	-	-	-	-
Stage 2	42	53	-	43	43	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-
Pot Cap-1 Maneuver	899	792	1071	911	812	1044	1604	-	-
Stage 1	969	857	-	981	866	-	-	-	-
Stage 2	970	849	-	969	857	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	875	783	1071	903	802	1044	1604	-	-
Mov Cap-2 Maneuver	875	783	-	903	802	-	-	-	-
Stage 1	968	848	-	980	865	-	-	-	-
Stage 2	952	848	-	958	848	-	-	-	-
Approach	EB			WB			NB		
HCM Control Delay, s	9.1			9			0.3		
HCM LOS	A			A					
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR	
Capacity (veh/h)	1604	-	-	875	950	1551	-	-	
HCM Lane V/C Ratio	0.001	-	-	0.001	0.053	0.011	-	-	
HCM Control Delay (s)	7.2	0	-	9.1	9	7.3	0	-	
HCM Lane LOS	A	A	-	A	A	A	A	-	
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-	

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	16	7	1
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	3	3	3
Mvmt Flow	17	8	1

Major/Minor	Major2		
Conflicting Flow All	49	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.13	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.227	-	-
Pot Cap-1 Maneuver	1551	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1551	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	4.9
HCM LOS	

Minor Lane/Major Mvmt

Intersection							
Int Delay, s/veh	0.7						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Vol, veh/h	47	1	2	38	6	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	3	3	3	3	3	3	
Mvmt Flow	51	1	2	41	7	0	
Major/Minor	Major1		Major2		Minor1		
Conflicting Flow All	0	0	52	0	98	52	
Stage 1	-	-	-	-	52	-	
Stage 2	-	-	-	-	46	-	
Critical Hdwy	-	-	4.13	-	6.43	6.23	
Critical Hdwy Stg 1	-	-	-	-	5.43	-	
Critical Hdwy Stg 2	-	-	-	-	5.43	-	
Follow-up Hdwy	-	-	2.227	-	3.527	3.327	
Pot Cap-1 Maneuver	-	-	1548	-	899	1013	
Stage 1	-	-	-	-	968	-	
Stage 2	-	-	-	-	974	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	-	-	1548	-	898	1013	
Mov Cap-2 Maneuver	-	-	-	-	898	-	
Stage 1	-	-	-	-	968	-	
Stage 2	-	-	-	-	973	-	
Approach	EB		WB		NB		
HCM Control Delay, s	0		0.4		9		
HCM LOS					A		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT		
Capacity (veh/h)	898	-	-	1548	-		
HCM Lane V/C Ratio	0.007	-	-	0.001	-		
HCM Control Delay (s)	9	-	-	7.3	0		
HCM Lane LOS	A	-	-	A	A		
HCM 95th %tile Q(veh)	0	-	-	0	-		

HCM 2010 TWSC
15: Project Access & Deer Creek Drive

8/20/2014

Intersection	
Int Delay, s/veh	3.7

Movement	NBL	NBR	SET	SER	NWL	NWT
Vol, veh/h	46	0	12	48	5	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	50	0	13	52	5	12



















Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	62	39	0
Stage 1	39	-	-
Stage 2	23	-	-
Critical Hdwy	6.43	6.23	4.13
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.43	-	-
Follow-up Hdwy	3.527	3.327	2.227
Pot Cap-1 Maneuver	942	1030	1531
Stage 1	981	-	-
Stage 2	997	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	939	1030	1531
Mov Cap-2 Maneuver	939	-	-
Stage 1	981	-	-
Stage 2	994	-	-

Approach	NB	SE	NW
HCM Control Delay, s	9	0	2.3
HCM LOS	A	-	-

Minor Lane/Major Mvmt	NBLn1	NWL	NWT	SET	SER
Capacity (veh/h)	939	1531	-	-	-
HCM Lane V/C Ratio	0.053	0.004	-	-	-
HCM Control Delay (s)	9	7.4	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

HCM 2010 Signalized Intersection Summary 3: SR-65 & Avenue 128

8/20/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	58	32	51	71	131	40	751	115	110	508	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1743	1743	1900	1743	1743	1900
Adj Flow Rate, veh/h	36	63	35	55	77	142	43	816	125	120	552	36
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	9	9	9	9	9	9
Cap, veh/h	96	155	73	95	108	171	109	1688	259	148	1926	125
Arrive On Green	0.21	0.21	0.20	0.21	0.21	0.20	0.07	0.59	0.58	0.09	0.61	0.60
Sat Flow, veh/h	244	758	354	251	524	834	1660	2880	441	1660	3157	206
Grp Volume(v), veh/h	134	0	0	274	0	0	43	469	472	120	289	299
Grp Sat Flow(s),veh/h/ln	1356	0	0	1609	0	0	1660	1656	1665	1660	1656	1707
Q Serve(g_s), s	0.0	0.0	0.0	8.7	0.0	0.0	2.5	16.5	16.5	7.1	8.3	8.4
Cycle Q Clear(g_c), s	7.5	0.0	0.0	16.3	0.0	0.0	2.5	16.5	16.5	7.1	8.3	8.4
Prop In Lane	0.27		0.26	0.20		0.52	1.00		0.26	1.00		0.12
Lane Grp Cap(c), veh/h	324	0	0	373	0	0	109	971	976	148	1010	1041
V/C Ratio(X)	0.41	0.00	0.00	0.73	0.00	0.00	0.40	0.48	0.48	0.81	0.29	0.29
Avail Cap(c_a), veh/h	541	0	0	596	0	0	148	971	976	148	1010	1041
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.6	0.0	0.0	38.4	0.0	0.0	45.1	12.0	12.1	45.0	9.3	9.3
Incr Delay (d2), s/veh	0.8	0.0	0.0	2.8	0.0	0.0	2.3	1.7	1.7	27.2	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	0.0	7.6	0.0	0.0	1.2	7.9	8.0	4.4	4.0	4.1
LnGrp Delay(d),s/veh	35.4	0.0	0.0	41.2	0.0	0.0	47.4	13.7	13.8	72.2	10.0	10.0
LnGrp LOS	D			D			D	B	B	E	A	B
Approach Vol, veh/h	134			274			984			708		
Approach Delay, s/veh	35.4			41.2			15.3			20.5		
Approach LOS	D			D			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	63.0		24.7	10.6	65.4		24.7				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	58.0		34.0	8.0	58.0		34.0				
Max Q Clear Time (g_c+I1), s	9.1	18.5		9.5	4.5	10.4		18.3				
Green Ext Time (p_c), s	0.0	6.9		1.5	0.0	6.9		1.4				
Intersection Summary												
HCM 2010 Ctrl Delay	21.7											
HCM 2010 LOS	C											

Intersection												
Intersection Delay, s/veh	9.8											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	27	107	81	0	36	71	9	0	115	50	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	3	3	3	2	3	3	3	2	3	3	3
Mvmt Flow	0	29	116	88	0	39	77	10	0	125	54	54
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.9	9.2	10.3
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	53%	13%	31%	18%
Vol Thru, %	23%	50%	61%	52%
Vol Right, %	23%	38%	8%	30%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	215	215	116	84
LT Vol	50	107	71	44
Through Vol	50	81	9	25
RT Vol	115	27	36	15
Lane Flow Rate	234	234	126	91
Geometry Grp	1	1	1	1
Degree of Util (X)	0.318	0.306	0.177	0.126
Departure Headway (Hd)	4.896	4.713	5.058	4.98
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	729	757	702	712
Service Time	2.966	2.78	3.136	3.065
HCM Lane V/C Ratio	0.321	0.309	0.179	0.128
HCM Control Delay	10.3	9.9	9.2	8.8
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.4	1.3	0.6	0.4

Intersection
Intersection Delay, s/veh
Intersection LOS

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	15	44	25
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	3	3	3
Mvmt Flow	0	16	48	27
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.8
HCM LOS	A

Lane

Intersection	
Int Delay, s/veh	2.8

Movement	WBR	SBL	SBR	SEL
Vol, veh/h	42	20	21	68
Conflicting Peds, #/hr	0	0	0	0
Sign Control	Free	Stop	Stop	Free
RT Channelized	-	-	None	None
Storage Length	-	0	-	-
Veh in Median Storage, #	0	0	-	0
Grade, %	0	0	-	0
Peak Hour Factor	92	92	92	92
Heavy Vehicles, %	3	3	3	3
Mvmt Flow	46	22	23	74

Major/Minor	Major2	Minor2	Major1
Conflicting Flow All	0	178	56
Stage 1	-	56	-
Stage 2	-	122	-
Critical Hdwy	-	6.43	6.23
Critical Hdwy Stg 1	-	5.43	-
Critical Hdwy Stg 2	-	5.43	-
Follow-up Hdwy	-	3.527	3.327
Pot Cap-1 Maneuver	-	809	1008
Stage 1	-	964	-
Stage 2	-	901	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	796	1008
Mov Cap-2 Maneuver	-	796	-
Stage 1	-	964	-
Stage 2	-	887	-

Approach	WB	SB	SE
HCM Control Delay, s	0	9.2	1.8
HCM LOS	-	A	-

Minor Lane/Major Mvmt	WBR	WBR2	SEL2	SEL	SBLn1
Capacity (veh/h)	-	-	1529	-	892
HCM Lane V/C Ratio	-	-	0.016	-	0.05
HCM Control Delay (s)	-	-	7.4	0	9.2
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	-	0.2

Intersection									
Int Delay, s/veh	5.5								
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	6	0	0	39	0	21	0	10	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3
Mvmt Flow	7	0	0	42	0	23	0	11	37
Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	82	89	4	70	70	29	4	0	0
Stage 1	41	41	-	29	29	-	-	-	-
Stage 2	41	48	-	41	41	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-
Pot Cap-1 Maneuver	903	799	1077	919	819	1043	1611	-	-
Stage 1	971	859	-	985	869	-	-	-	-
Stage 2	971	853	-	971	859	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	875	789	1077	911	809	1043	1611	-	-
Mov Cap-2 Maneuver	875	789	-	911	809	-	-	-	-
Stage 1	971	849	-	985	869	-	-	-	-
Stage 2	950	853	-	959	849	-	-	-	-
Approach	EB			WB			NB		
HCM Control Delay, s	9.1			9.1			0		
HCM LOS	A			A					
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR	
Capacity (veh/h)	1611	-	-	875	953	1553	-	-	
HCM Lane V/C Ratio	-	-	-	0.007	0.068	0.012	-	-	
HCM Control Delay (s)	0	-	-	9.1	9.1	7.3	0	-	
HCM Lane LOS	A	-	-	A	A	A	A	-	
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-	

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	17	4	0
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	3	3	3
Mvmt Flow	18	4	0

Major/Minor	Major2		
Conflicting Flow All	48	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.13	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.227	-	-
Pot Cap-1 Maneuver	1553	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1553	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	5.9
HCM LOS	

Minor Lane/Major Mvmt

Intersection							
Int Delay, s/veh	0.2						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Vol, veh/h	45	6	0	42	2	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	3	3	3	3	3	3	
Mvmt Flow	49	7	0	46	2	0	
Major/Minor	Major1		Major2		Minor1		
Conflicting Flow All	0	0	55	0	98	52	
Stage 1	-	-	-	-	52	-	
Stage 2	-	-	-	-	46	-	
Critical Hdwy	-	-	4.13	-	6.43	6.23	
Critical Hdwy Stg 1	-	-	-	-	5.43	-	
Critical Hdwy Stg 2	-	-	-	-	5.43	-	
Follow-up Hdwy	-	-	2.227	-	3.527	3.327	
Pot Cap-1 Maneuver	-	-	1544	-	899	1013	
Stage 1	-	-	-	-	968	-	
Stage 2	-	-	-	-	974	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	-	-	1544	-	899	1013	
Mov Cap-2 Maneuver	-	-	-	-	899	-	
Stage 1	-	-	-	-	968	-	
Stage 2	-	-	-	-	974	-	
Approach	EB		WB		NB		
HCM Control Delay, s	0		0		9		
HCM LOS					A		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT		
Capacity (veh/h)	899	-	-	1544	-		
HCM Lane V/C Ratio	0.002	-	-	-	-		
HCM Control Delay (s)	9	-	-	0	-		
HCM Lane LOS	A	-	-	A	-		
HCM 95th %tile Q(veh)	0	-	-	0	-		

Intersection	
Int Delay, s/veh	4.9

Movement	NBL	NBR	SET	SER	NWL	NWT
Vol, veh/h	51	3	12	28	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	55	3	13	30	0	4

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	32	28	0
Stage 1	28	-	-
Stage 2	4	-	-
Critical Hdwy	6.43	6.23	4.13
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.43	-	-
Follow-up Hdwy	3.527	3.327	2.227
Pot Cap-1 Maneuver	979	1044	1559
Stage 1	992	-	-
Stage 2	1017	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	979	1044	1559
Mov Cap-2 Maneuver	979	-	-
Stage 1	992	-	-
Stage 2	1017	-	-

Approach	NB	SE	NW
HCM Control Delay, s	8.9	0	0
HCM LOS	A	-	-

Minor Lane/Major Mvmt	NBLn1	NWL	NWT	SET	SER
Capacity (veh/h)	982	1559	-	-	-
HCM Lane V/C Ratio	0.06	-	-	-	-
HCM Control Delay (s)	8.9	0	-	-	-
HCM Lane LOS	A	A	-	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

Appendix D

Cumulative Project Trip Generation/Distribution

3.0 Traffic Impacts

This chapter provides an assessment of the traffic the Project is expected to generate and the impact of that traffic on the surrounding street system.

3.1 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. Project trip generation was estimated as shown in Table 3-1 and is based on rates contained in the ITE Trip Generation Manual, 8th Edition.

TABLE 3-1
Project Trip Generation

LAND USE	SIZE	TRIP RATE SOURCE	DAILY TRIP ENDS		AM PEAK HOUR					PM PEAK HOUR				
			RATE	VOLUME	RATE	IN:OUT SPLIT	VOLUME			RATE	IN:OUT SPLIT	VOLUME		
							IN	OUT	TOTAL			IN	OUT	TOTAL
Prison	514 Beds	ITE (571)	N/A	N/A	0.10	54:46	28	24	51	0.05	10:90	3	23	26
TOTAL PROJECT TRIPS				N/A			28	24	51			3	23	26

Source: Generation factors from ITE Trip Generation Manual, 8th Edition.

Trip ends are one-way traffic movements, entering or leaving.

The numbers in parenthesis are ITE land use codes.

3.2 Trip Distribution

Project trip distribution is shown in Figures 3-1 and 3-2 and is based upon prevailing traffic patterns in the study area as well as input from Caltrans. The Project is expected to have two (2) access points, one (1) major entrance/exit along Scranton Avenue (Avenue 136) and one (1) minor entrance/exit on Newcomb Street (Road 232). While the exact location of these access points is currently unknown, they will be designed in accordance with the City of Porterville's design standards.

3.3 Project Traffic

Project traffic as shown in Table 3-1 was distributed to the roadway system using the trip distribution percentages shown in Figures 3-1 and 3-2. A graphical representation of the resulting AM and PM peak hour Project trips used is shown in Figures 3-3 and 3-4.

3.4 Existing 2012 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 3-5 and 3-6. (Note: The Project is not expected to be operational until 2018.)



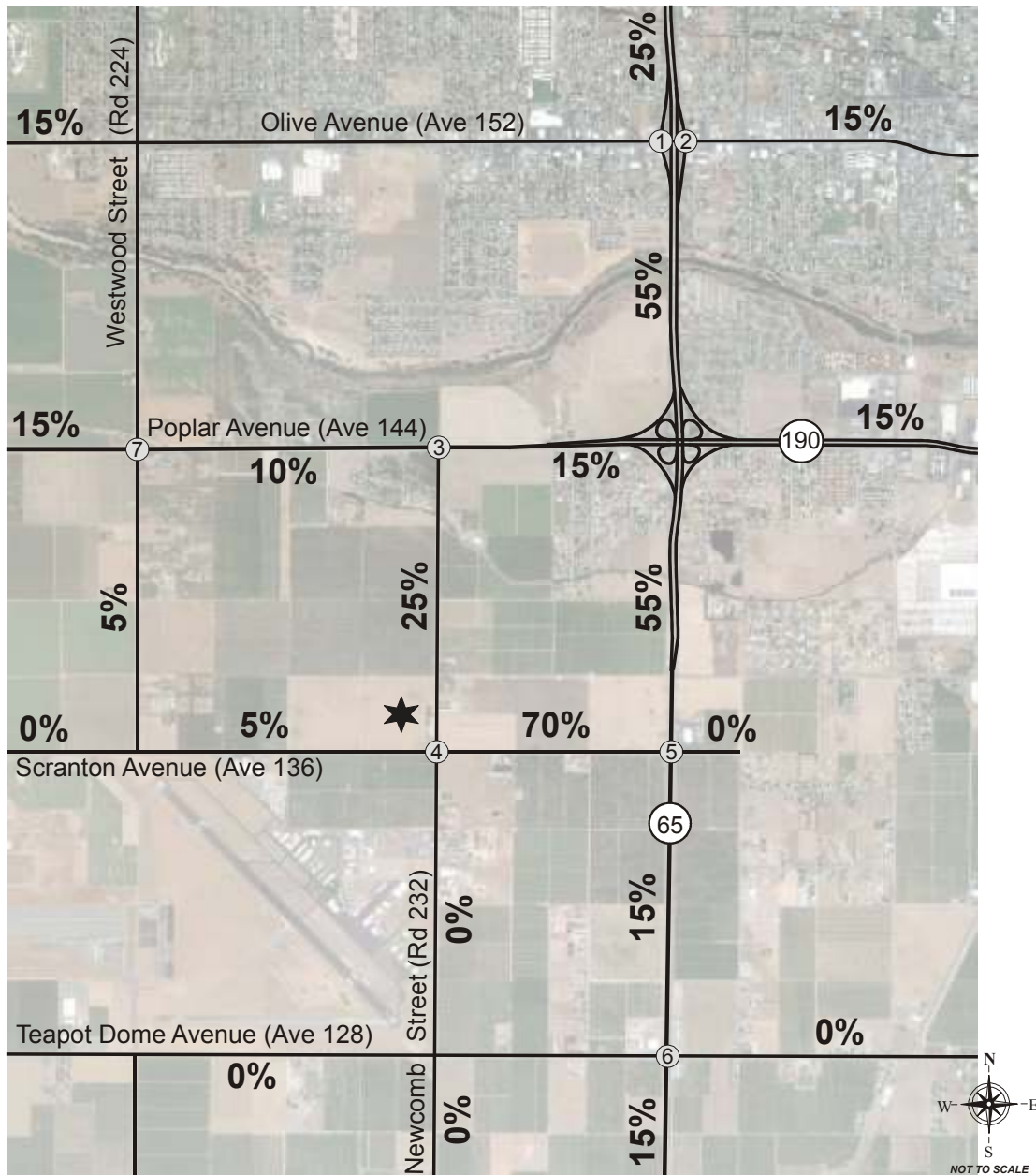


FIGURE 3-1
Project Trip Distribution

LEGEND

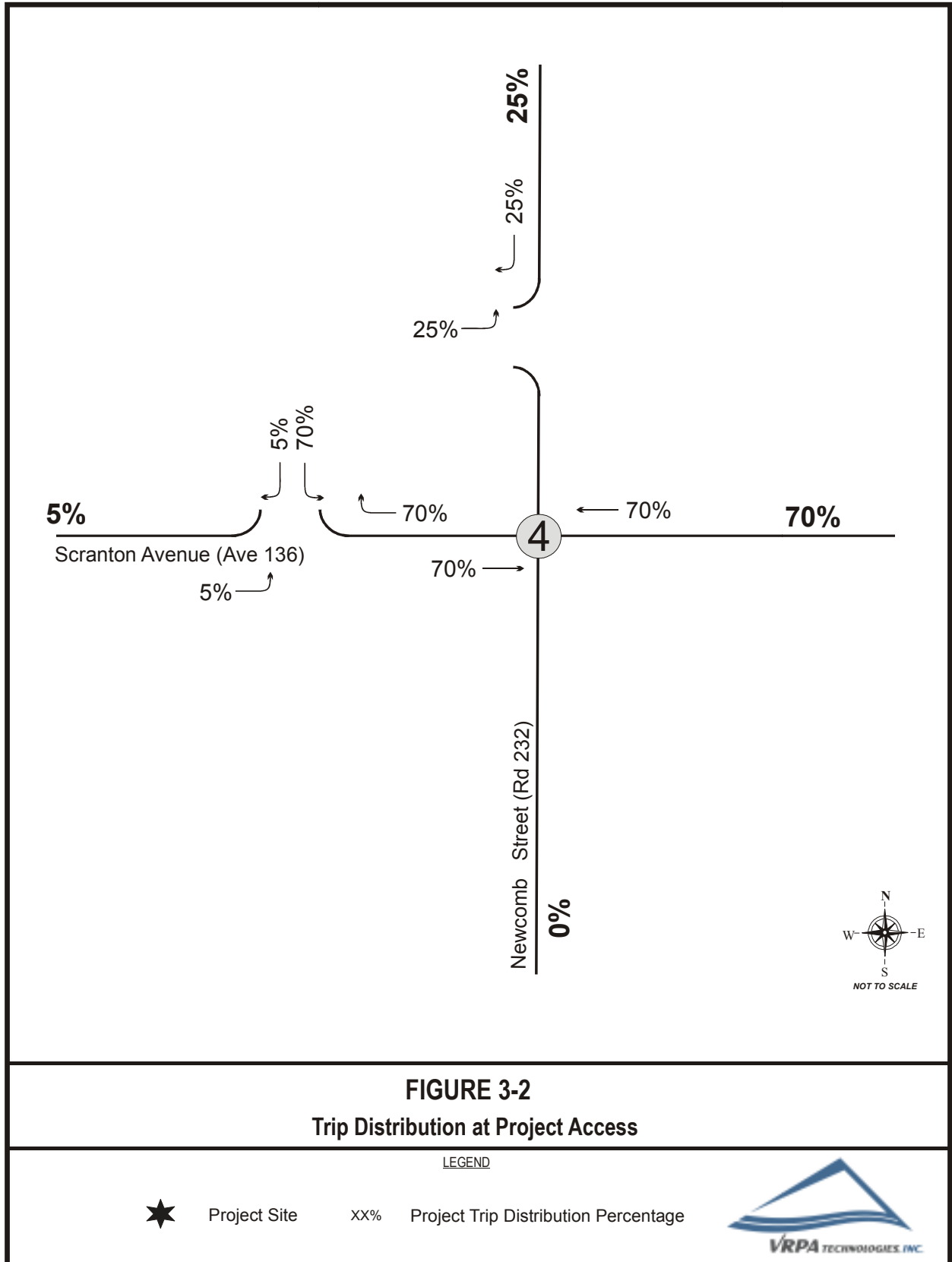


Project Site

xx%

Project Trip Distribution Percentage





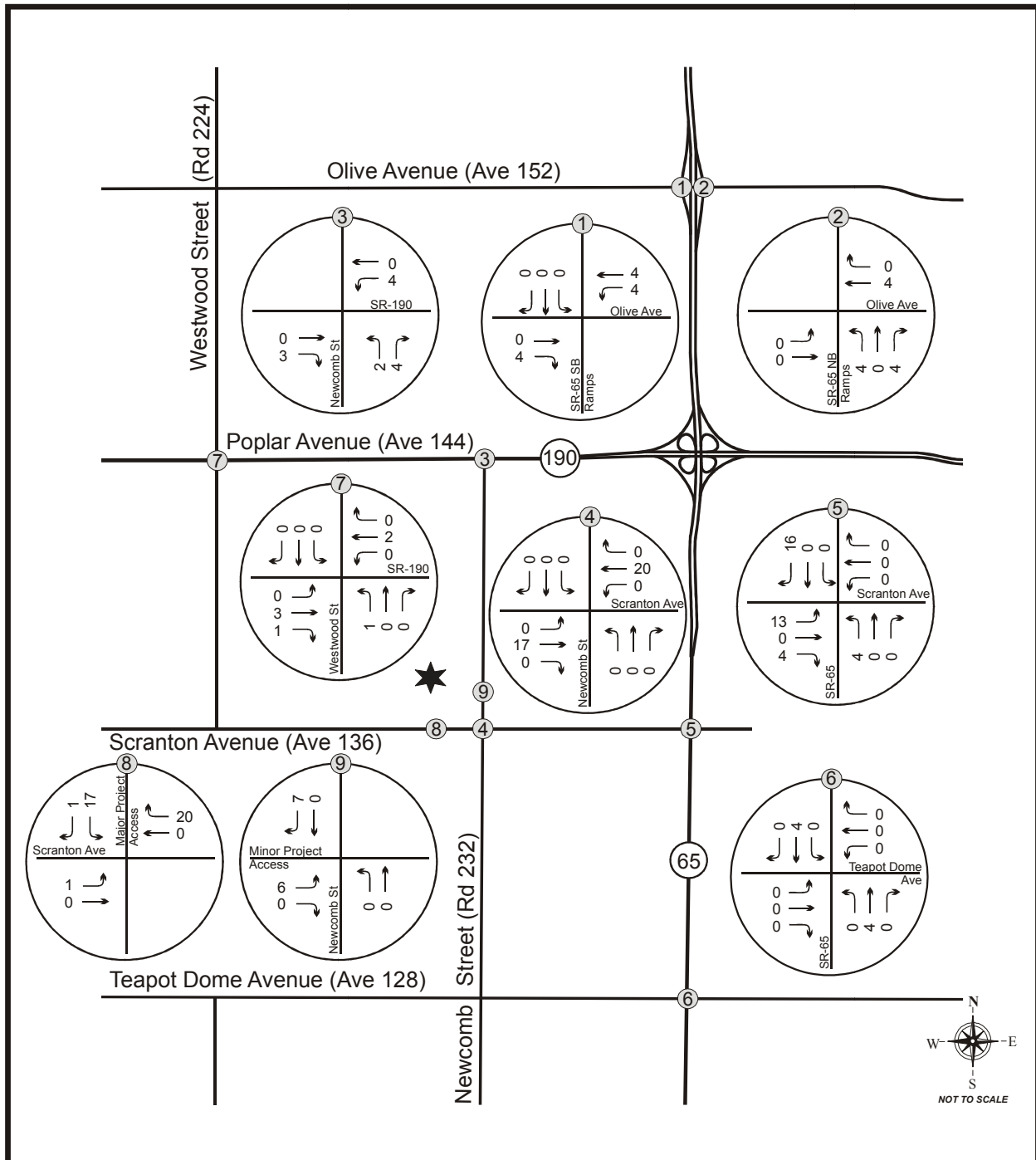
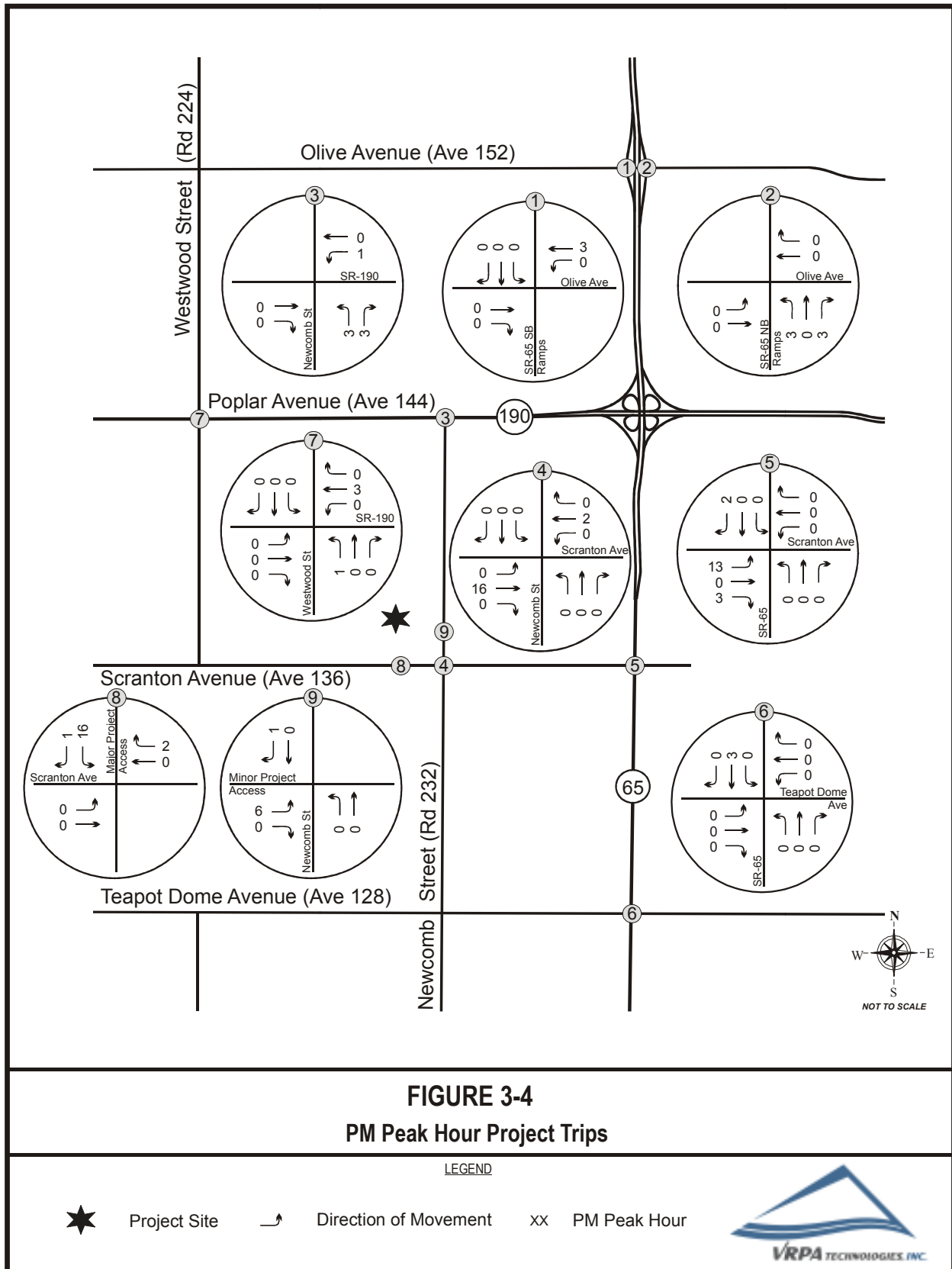


FIGURE 3-3
AM Peak Hour Project Trips

LEGEND

★ Project Site ↗ Direction of Movement xx AM Peak Hour

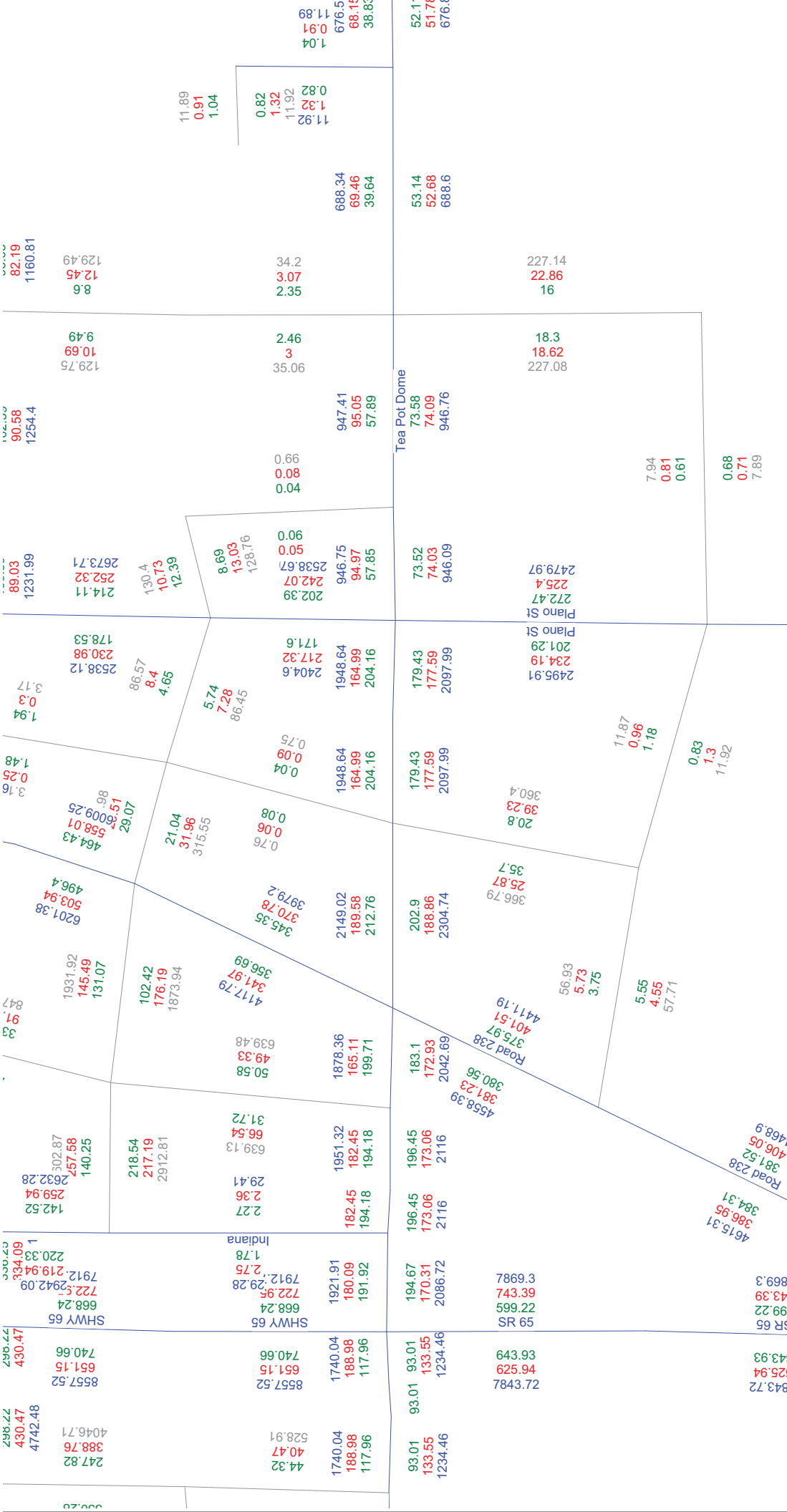




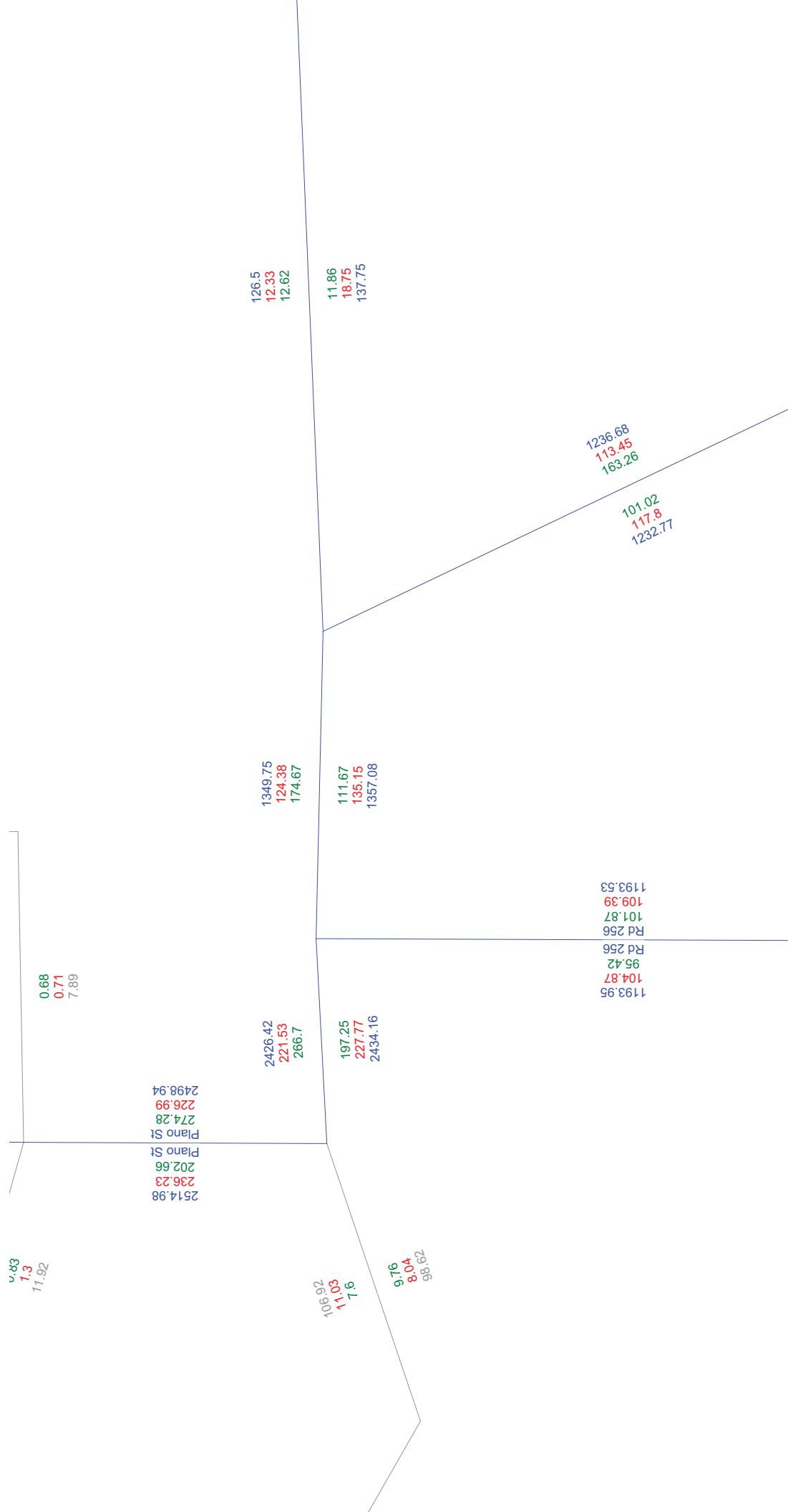
Appendix E

TCAG Model Plots

2040 Model

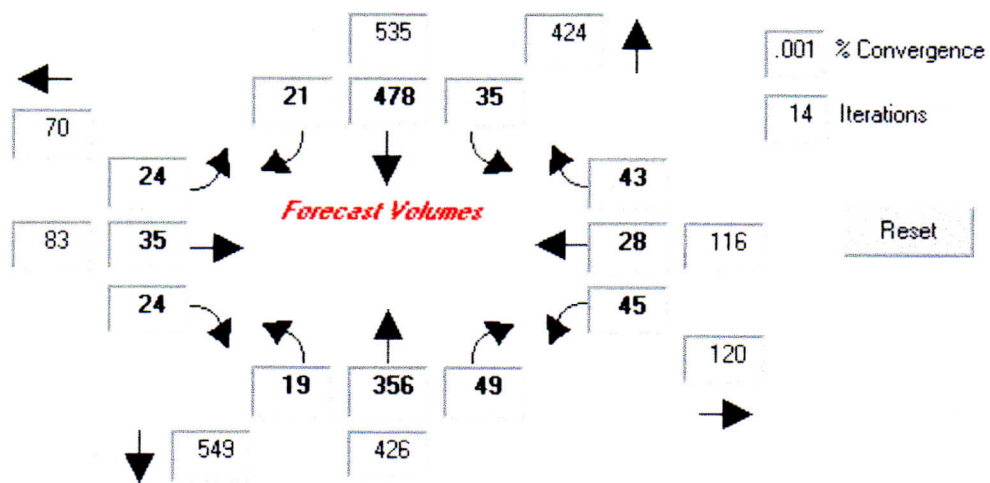
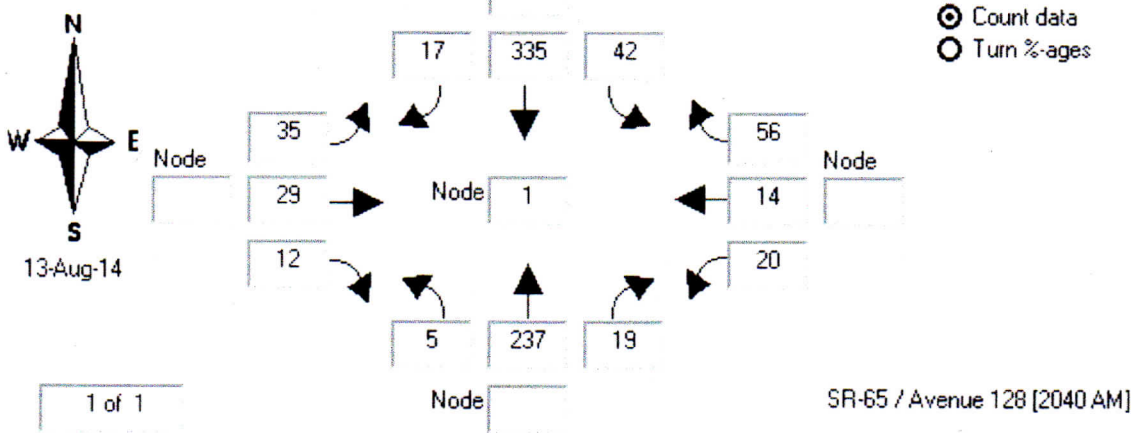


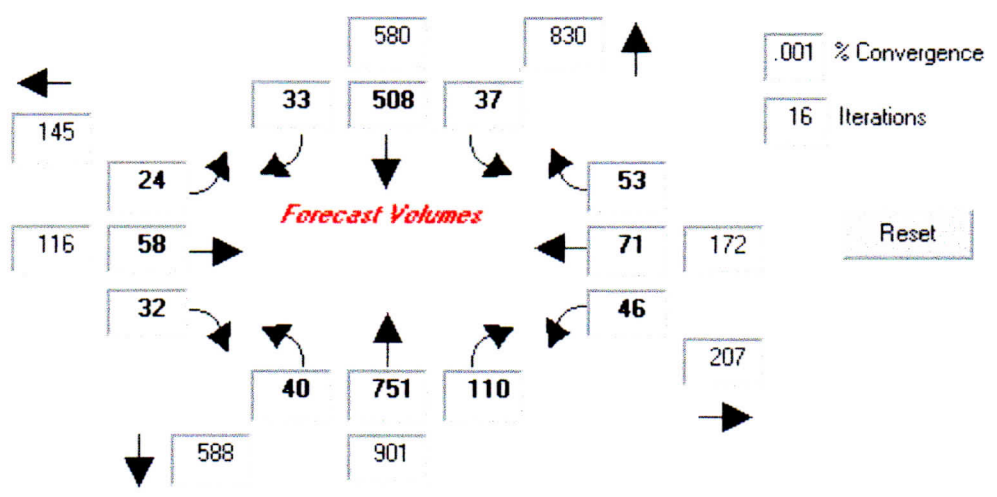
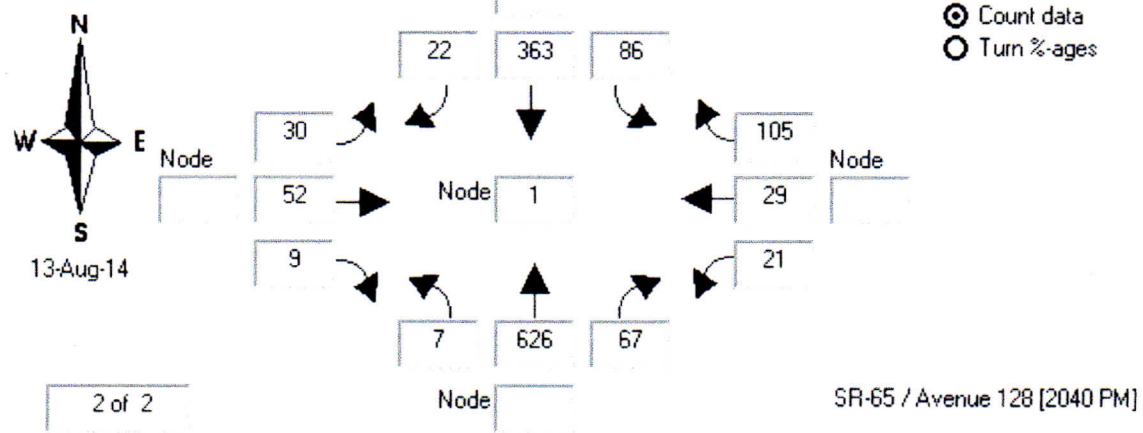
2040 Model



Appendix F

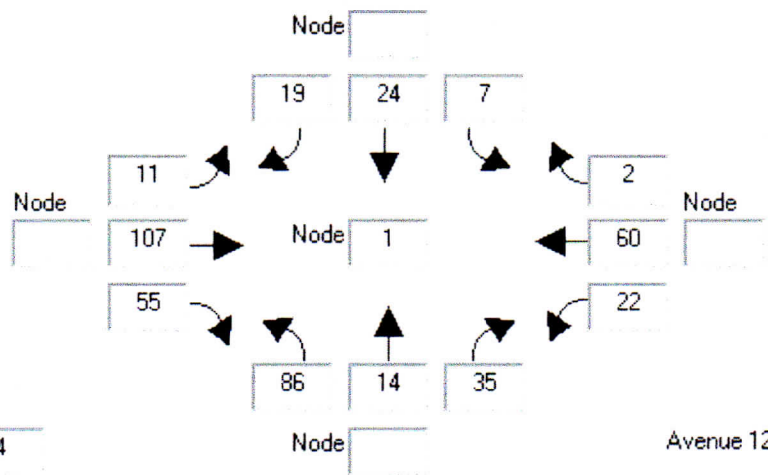
TurnsW32 Worksheets





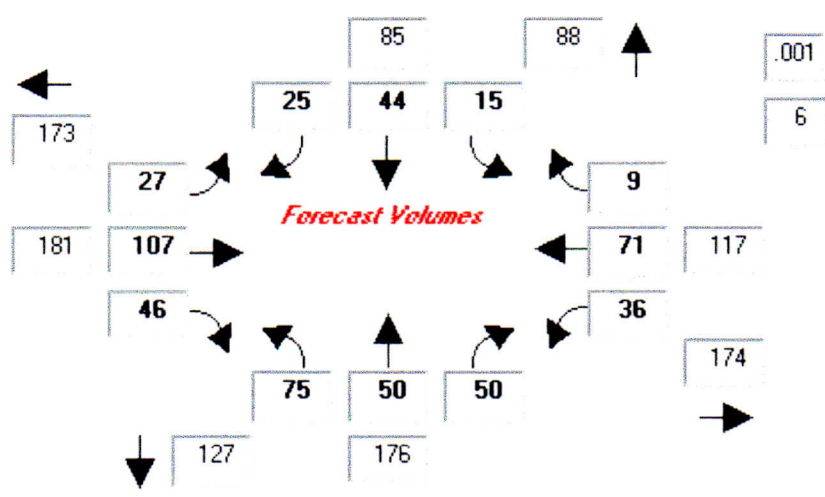


- Count data
- Turn %-ages



4 of 4

Avenue 128 / Plano St [2040 PM]

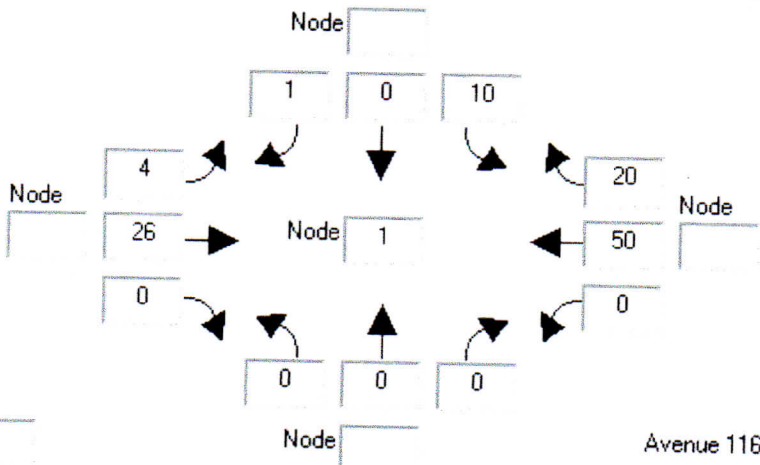


.001 % Convergence
6 Iterations

Reset

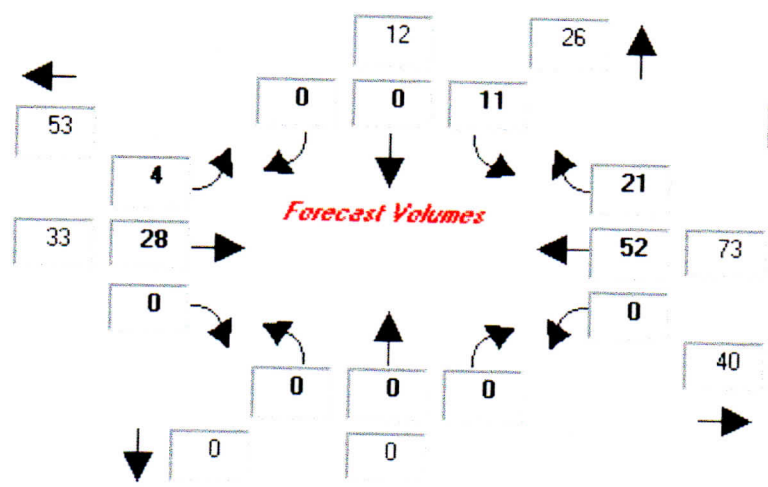


- ⊙ Count data
- Turn %-ages



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Avenue 116 / Road 264 [2040 AM]



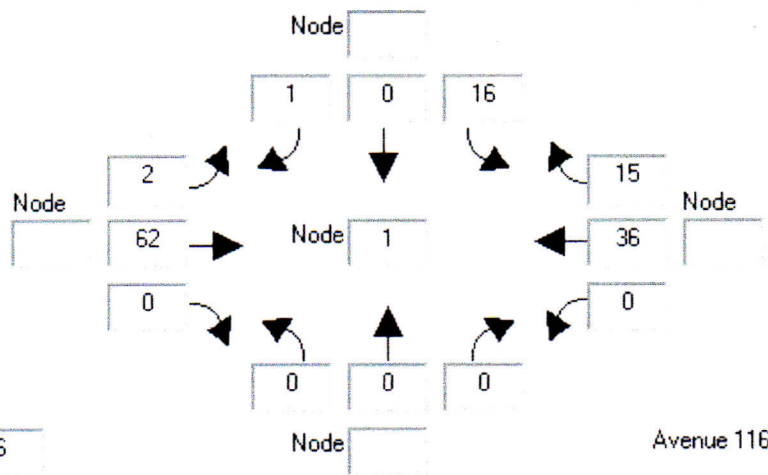
.001 % Convergence
8 Iterations

Reset



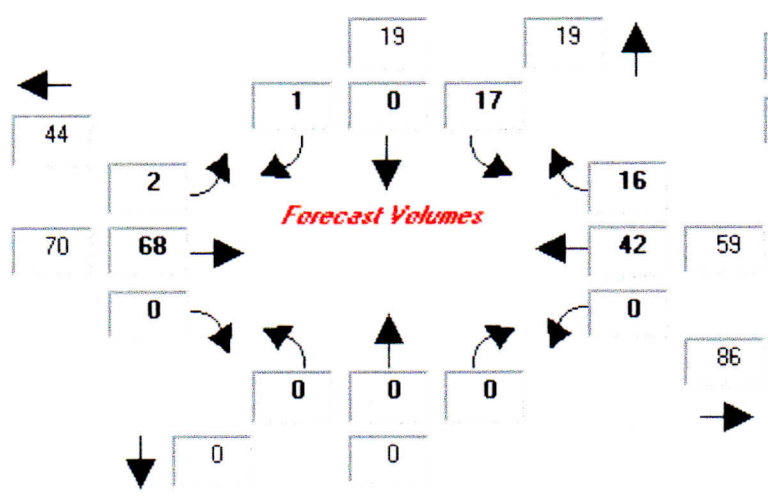
13-Aug-14

- Count data
- Turn %-ages



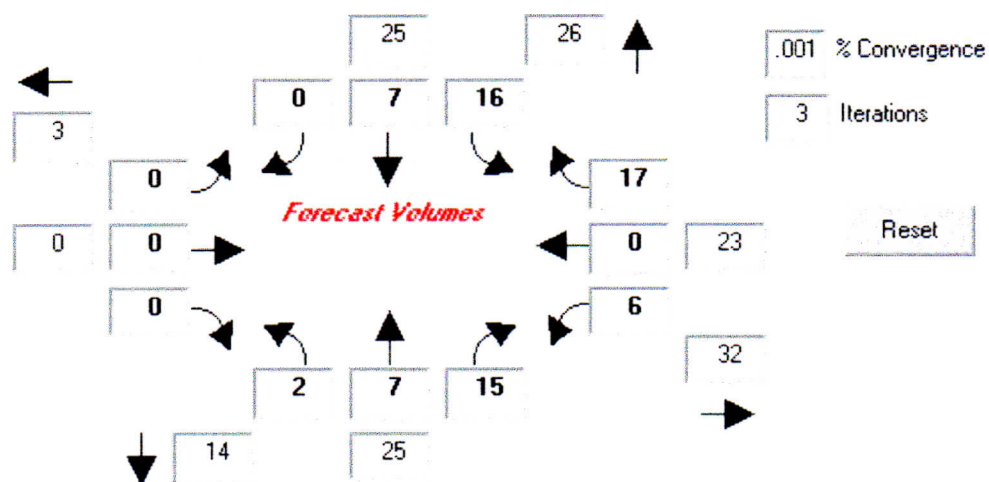
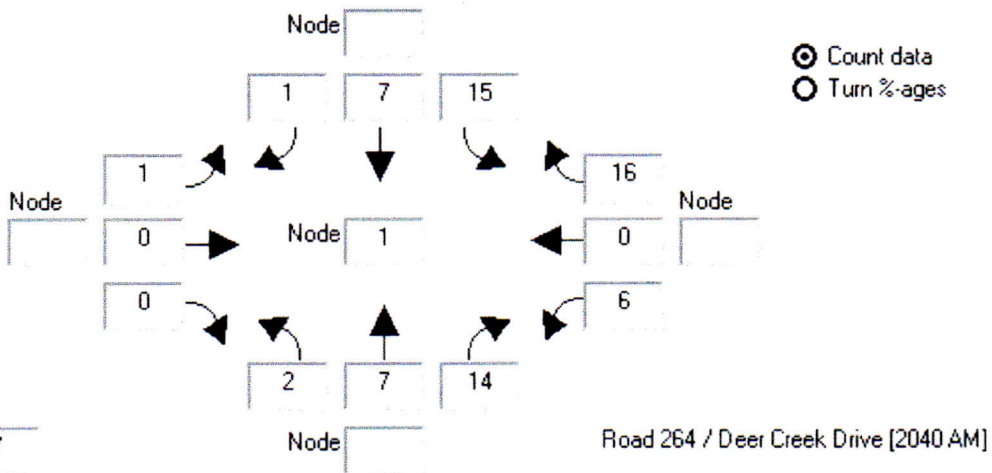
6 of 6

Avenue 116 / Road 264 [2040 PM]



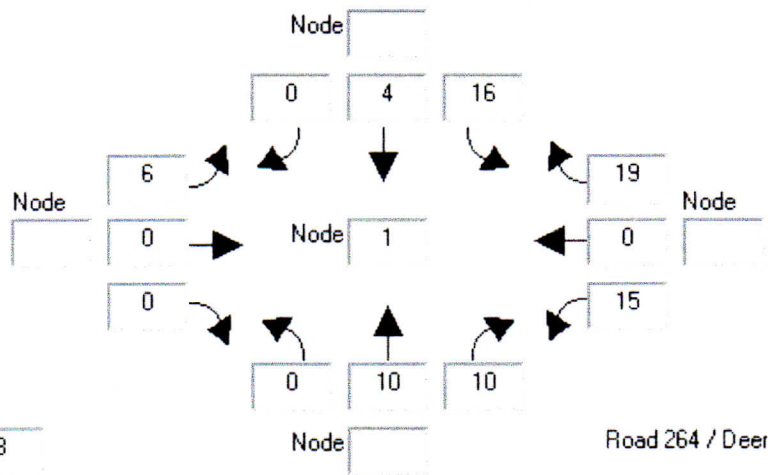
.001 % Convergence
3 Iterations

Reset



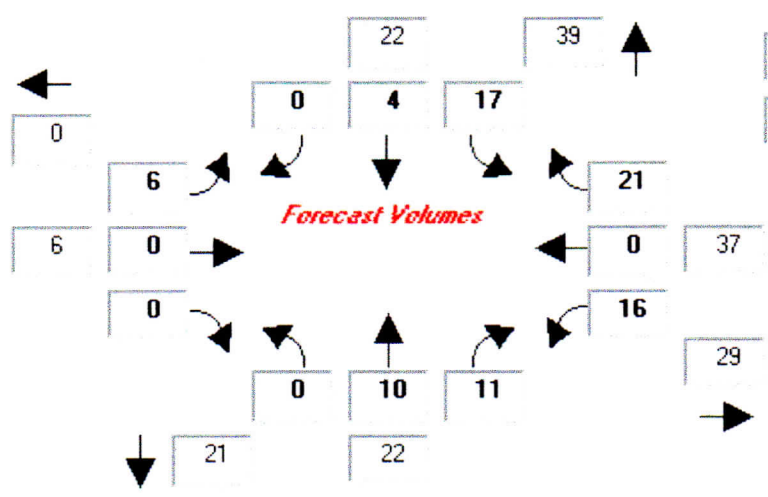


- Count data
- Turn %-ages



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Road 264 / Deer Creek Drive [2040 PM]



.001 % Convergence
4 Iterations

Reset



- Count data
- Turn %-ages

