DRAFT
SUBSEQUENT ENVIRONMENTAL IMPACT REPORT

MODIFICATIONS TO WARD LAKE QUARRY OPERATIONS
LASSEN COUNTY, CALIFORNIA

Prepared for

Lassen County

Prepared by

VESTRA Resources Inc.
5300 Aviation Drive
Redding, California 96002

FEBRUARY 2019

DRAFT
SUBSEQUENT ENVIRONMENTAL IMPACT REPORT

MODIFICATIONS TO WARD LAKE QUARRY OPERATIONS
LASSEN COUNTY, CALIFORNIA

Prepared for

Lassen County

Prepared by

VESTRA Resources Inc.
5300 Aviation Drive
Redding, California 96002

71305

FEBRUARY 2019

TABLE OF CONTENTS

SECTION

1.0 INTRODUCTION 1

2.0 EXECUTIVE SUMMARY 9

3.0 PROJECT DESCRIPTION 31

.4.0 ENVIRONMENTAL SETTING, IMPACT ANALYSIS, AND MITIGATION MEASURES .. 47

5.0 OTHER CEQA CONSIDERATIONS 167

6.0 ALTERNATIVES TO THE PROPOSED PROJECT 181

7.0 LIST OF EIR PREPARERS 187

8.0 REFERENCES 188

TABLES

2-1 Summary of Impacts and Mitigation Measures 14
3-1 Daily/Average One-Way Truck Trips, by Class 36
3-2 Reported Volumes (2014-2018) 40
4-1 Federal and State Ambient Air Quality Standards 61
4-2 Estimated Health Impacts 69
4-3 Potentially Occurring Special-Status Wildlife Species 72
4-4 Zoning and Land Use of Project Site and Adjoining Properties 121
4-5 Typical Noise Levels 128
4-6 Existing Continuous Background Noise Measurement Data Summary 130
4-7 Predicted Existing Traffic Noise Levels 132
4-8 Lassen County General Plan Noise Level Performance Standards for New Project and Developments 134
4-9 Determination of a Significant Increase in Noise Levels 135
4-10 Predicted Existing + Project Traffic Noise Levels 138
4-11 Trip Generation 153
4-12 Level of Service Criteria for Unsignalized Intersections 154
4-13 Intersection Level of Service and Delay Results 155

FIGURES

3-1 General Site Location
3-2 Parcel Boundary
3-3 Project Site Layout
3-4 DEM Topography
3-5 General Plan Land Use
3-6 Zoning
3-7 One-Way Truck Trips per day (by Days/Year) 2014-2018
3-8 Estimated Total One-Way Truck Trips per Day 2014-2018
3-9 Estimated Total One-Way Aggregate Trucks per Day 2014-2018
3-10 Estimated Total One-Way Asphalt Trucks per Day 2014-2018
3-11 Estimated One-Way Total Concrete Trucks per Day 2014-2018
4-1 Sensitive Receptors
4-2 Residences Adjacent to Center Road in Litchfield
4-3 Residences West on Center Road
4-4 Viewshed Analysis, Ward Lake Pit Only
4-5 Areas Where Prison Light is Visible and Photo Point Locations
4-6 Areas of Light Impacts
4-7 Habitat Types in Project Vicinity
4-8 CNDDB Occurrences
4-9 Mule Deer Critical Winter Range
4-10 Pronghorn Antelope Winter Range and Kidding Grounds
4-11 Noise Measurement Locations
4-12 Existing Traffic Volumes
4-13 Existing Plus Project Traffic Volumes

APPENDICES

A 1981 EIR
B 1997 EIR
C 2018 County Initial Study
D NOP and Comment Letters
E Visual Analysis
F Health Risk Assessment
G Wildlife Survey Report
H Noise Analysis
I Traffic Study

1.0 INTRODUCTION

1.1 Purpose of Environmental Impact Report

This Draft Subsequent Environmental Impact Report (DSEIR) has been prepared to evaluate the impacts associated with Use Permit Amendment #2018-003 and Reclamation Plan #2018-001 for operational changes at Ward Lake Quarry (Project). The site has been used as an active rock quarry since 1980 and currently operates under Lassen County Use Permit No. 96056, adopted in September 1997, and Reclamation Plan No. 94032, adopted in July 1994.

The Project is a proposal to amend mining operations at the Ward Lake Pit (CA Mine ID #91-18-0008). The amendment includes the following changes to existing permitted operations at the quarry:

- Allow for 24-hour mining operations, Monday through Saturday (currently, the use permit allows operations from 6:00 a.m. to 7:00 p.m., Monday through Saturday)
- Extend the life of the mine from 2020 to 2030
- Allow annual site production in excess of the permitted 100,000 tons during Federal-, State-, or County-declared emergencies

In accordance with CEQA Guidelines Section 15121(a), the purpose of this Subsequent EIR is to:

- Inform public agency decision makers and the public of any significant environmental effects that would result from the Project
- Identify possible ways to minimize any significant effects; and
- Identify reasonable alternatives to the Project

Two previous EIRs have been prepared for mining operations at the Project site. These include the completion of an EIR in May 1981 (SCH 80062304) associated with issuance of the 1981 Use Permit for operations at the site. The mining operation again underwent CEQA review with an EIR to address operational amendments in 1997 (SCH 2994051008). This DSEIR addresses additional changes in site operations (Project) and evaluation of the potential to result in significant impacts not addressed in the previous environmental documents prepared for the currently permitted operations at the Project site.

1.2 Subsequent EIR

Pursuant to CEQA Guidelines Section 15162(a), when an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in light of the whole record, one or more of the following:

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant

environmental effects or a substantial increase in the severity of previously identified significant effects:

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

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

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

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

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

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

Above finding 3B, that only minor additions or changes would be necessary to make the previous EIR adequately apply, cannot be made because of the following:

- The amendment would allow 24-hour operations (April 1 through December 31), Monday through Saturday, whereas currently hours are restricted to 6:00 a.m. to 7:00 p.m., Monday through Saturday.
- The amendment would extend the life of the mine an additional 10 years.

The DSEIR has been prepared to evaluate the impacts related to the substantial changes in the Project from the currently approved mining operation. Upon preparation of an Initial Study for the Project, Lassen County determined that a Subsequent EIR should be prepared to analyze the new potentially significant impacts of the Project that were not analyzed or disclosed in the previous environmental documents associated with the approved mining operation, including *Operation of Aggregate Materials Source, Operation of Rock Crushing Plan, Operation of Asphalt Concrete Batch Plant* EIR (SCH #80062304), prepared for operations at the Project site in 1981, and *Miller's Custom Work, Inc., Ward Lake Expansion Environmental Impact Report* (SCH #1994051008), prepared in 1997.

1.3 Environmental Review Approach

The Project includes operational changes to an existing mining facility. The mining operation has been analyzed in two previous environmental documents. This DSEIR will focus on any potential new significant impacts and/or increases in severity of impacts from those previously identified in the previous EIRs.

This DSEIR addresses subject areas determined to have potentially significant and less-than-significant environmental impacts which were identified during preparation of the Initial Study by the County. The baseline for environmental review is the currently permitted activity at the site and all associated conditions and restrictions. The Initial Study prepared by the County found that the Project could result in potentially significant impacts on the following subject areas:

- Aesthetics
- Biological Resources
- Land Use and Planning
- Noise
- Transportation/Traffic

In addition, the Initial Study concluded the following as having a less-than-significant impact:

- Hydrology and Water Quality
- Air Quality
- Hazard and Hazardous Materials
- Public Services
- Utilities and Service Systems
- Greenhouse Gas Emissions

Potential impacts associated with the following issues were identified through the Initial Study as having no impact:

- Population and Housing
- Geologic Resources
- Mineral Resources
- Cultural Resources
- Recreation
- Agriculture and Forestry Resources

The proposed changes to the Project outlined in the Project description do not involve any new significant effects or involve any increase in the severity of the previously identified impacts within the study areas of Agriculture and Forestry, Recreation, Minerals and Geology, Cultural, and Population and Housing.

There have been no substantial changes with respect to the circumstances of the Project under review that would involve the new significant effects or involve a substantial increase in the severity of the previously identified impacts, and, as such, a less-than-significant finding was made within the approved Initial Study for one topic under Hydrology, which was groundwater, and under the Utilities section that includes fire protection and general facilities. Additionally, a less-than-significant determination was made relating to odors and criteria pollutant concentrations under Air Quality, as well as Greenhouse Gas emissions. Hazards related to wildland fire and transportation and storage of hazardous materials were also determined to have little impact. Finally, water entitlements and scenic vistas were also found to be less than significant. Based on the County's determination on these topics during initial environmental review, the basis for their conclusions is supported by reasonable evidence. A summary of the discussions provided by the County in the Initial Study is included for each of these areas in Section 4 of the DSEIR. No more analysis of such topic areas will be included within this EIR and additional subsequent analysis of the above-mentioned impacts is not required. The previous impacts and resultant evaluation remain unchanged.

This DSEIR will focus on any potential new significant impacts and/or increases in severity of impacts from those previously identified in the 1981 and 1997 EIRs prepared for operations at the site.

1.4 Documents Incorporated by Reference

CEQA Guidelines Section 15150 permits documents of lengthy technical detail to be incorporated by reference in an EIR. This DSEIR relies, in part, on information previously prepared for operations at the Project site, and incorporates information provided in the previous two EIRs prepared for operations at the site. The EIRs include background information on the Project site as well as analyses of the environmental impacts of the currently permitted operation at the site. The documents listed below are incorporated by reference as source documents for this EIR.

Pursuant to CEQA guidelines Section 15150(e)(f), these documents were used primarily to describe the environmental setting, provide general background material, or communicate descriptive technical material.

1.4.1 Operation of Aggregate Materials Source, Operation of Rock Crushing Plant, Operation of Asphalt Concrete Batch Plant EIR (SCH #80062304)

An EIR was prepared for the initial Miller's Custom Work, Inc., mining operation at the Project site in 1981. The 1981 project included the use of 80 acres within the 240-acre parcel as a source for aggregates and asphaltic concrete materials. In addition to the excavation and removal of materials, a rock crushing and asphalt concrete batch plant (hot plant) were included in the project. The EIR included an overall description of the project, identified potentially significant adverse impacts of the project, and proposed mitigation measures to reduce or eliminate the potential adverse impacts. The document is included as Appendix A.

The EIR identified the following impacts of the Project to be significant and unavoidable:

- Changes in Existing Topography
- Noise
- Air
- Traffic
- Impacts to Wildlife
- Aesthetics

1.4.2 Miller's Custom Work, Inc., Ward Lake Pit Expansion EIR (SCH #1994051008)

Miller's Custom Work, Inc. Ward Lake Pit Expansion Environmental Impact Report (Ward Lake Expansion EIR), SCH No. 199405100, was prepared in 1997. The project analyzed in the EIR included the expansion of an aggregate and excavation and processing operation currently operation under Lassen County Use Permits #79-80-44, #11-02-85, and #94032, and Reclamation Plan #94032. The document is included in Appendix B. The project analyzed in the EIR included:

1. The rezoning of the parcel from "U-C" (Upland Conservation) to "U-C-2" (Upland Conservation/Resource Management) to allow operation of a ready-mix concrete plant (already onsite and operating within limits imposed by the Superior Court).
2. Onsite production of ready mix concrete added to the use permit as an allowed use.
3. Increase in the height of the exposed rock quarry face from the existing +/- 84 feet to a maximum of 150 feet with associated increase in harvest volume from 500,000 cubic yards (cy) to 1,700,000 cy.
4. Expansion of the season of operation from seven months (April through October) to year-round as weather permits.

The Ward Lake Pit Expansion DSEIR identifies potentially significant impacts resulting from the expansion of the mining operation and offers mitigation measures to reduce the impacts to less than significant. The DSEIR focused on two issues of concern: 1) Project impacts on local deer and animal herds and 2) visual impacts. The EIR focused on these two areas and other issues taken from the August 1996 Initial Study prepared for the expansion. The Ward Lake Pit Expansion EIR identified the following impacts as Significant and Unavoidable:

- Short-term, close-in, visual impacts
- Cumulative short-term, close-in, visual impacts

1.4.3 Previous EIR Mitigation Measures

The 1981 and 1997 EIRs prepared for operations at the Project site include standard conditions and mitigations measures that apply to the operation of the Project. The mitigation measures are included in Appendices A and B and are discussed further in Section 3.5.

1.5 Resources Not Further Evaluated in this Draft Subsequent EIR

Section 15128 of the CEQA Guidelines states, "An EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. Such a statement may be contained in an attached copy of an Initial Study."

The Initial Study for the Project is included in Appendix C. Effects and issues associated with the Project that were determined to have no impact, as explained further in the Initial Study application and in the Notice of Preparation (NOP), include effects on the following topic areas:

- **Population and Housing:** No new development or infrastructure is proposed as part of the Project and no additional employees are anticipated. In addition, no existing housing or people will be displaced by the Project. The Project does not propose the expansion or relocation of the mining operations. The Project will have no impact to population and housing.
- **Geologic Resources:** The Project does not include any changes to the location or type of mining at the site. The current 160-acre mining boundary was permitted on September 23, 1997. The Project does not include a septic system or wastewater disposal system onsite. The Project was determined to have no impact related to geologic resources.
- **Mineral Resources:** The Project does not include any changes to the location or type of mining or change in total site projection. The current 160-acre mining boundary was permitted on September 23, 1997. The current operation boundary mining type and production amount were analyzed in the 1997 EIR. The Project will have no impact to mineral resources.
- **Cultural Resources:** The Project does not include a change to the location or type of mining or total site production. The existing permitted location and type of mining were analyzed under the previous EIRs prepared for the operation. The Project will have no impact to cultural resources.
- **Recreation:** The Project does not include recreational facilities and would have no foreseeable impact on existing recreational facilities; neither will the Project increase the need for recreational services, as no additional employees are proposed. The Project will have no impact to recreation.
- **Agriculture and Forestry Resources:** The Project will not disturb additional land. The mining area will remain the same as the current operation that has been previously analyzed in the 1997 EIR. The Project will have no impact to agriculture and forestry resources.

The Project will not result in impacts to these resources; therefore, Project effects to population and housing, geologic resources, mineral resources, cultural resources, recreation, and agriculture and forestry resources are not further analyzed in this DSEIR.

1.6 Public Scoping and Review Process

In accordance with CEQA, a good faith effort has been made during the preparation of this DSEIR to contact affected agencies, organizations, and persons who may have an interest in this Project. This effort included circulation of the Notice of Preparation (NOP) of this DSEIR by the Lead Agency to the California Office of Planning and Research on 19 June 2018. The NOP was also mailed directly to other parties with interest in the Project. The purpose of the NOP was to solicit comments from public agencies on issues germane to that agency that should be considered in the DSEIR. The public review period for the NOP ended on 19 July 2018, approximately 30 days after public distribution of the NOP. The NOP and comment letters received are included in Appendix D. Comment letters received in response to the NOP were considered during preparation of this DSEIR.

This DSEIR will be published and made available to local, regional, state, and federal agencies and to the interested organizations and individuals who may want to review and comment on the adequacy of the analysis include in the DSEIR. Notice of this DSEIR will also be sent directly to the parties that commented on the NOP. The DEIR will undergo a 45-day public review period.

Following the close of the public comment period, responses to comments on the DSEIR will be prepared and published as a separate document. The DSEIR, together with the responses to comments document, will constitute the Final SEIR. The Final SEIR will be considered by the Lead Agency prior to any action taken on the proposed Project. Written comments on the draft SEIR must be sent to:

Lassen County Department of Planning and Building Services
707 Nevada Street, Suite 5
Susanville, CA 96130
Attn: Nancy McAllister

1.7 Organization of the Draft SEIR

The DSEIR is organized as follows:

Section 1: Introduction. Section 1 describes the intended uses of this EIR, the environmental review approach, documents incorporated by reference, environmental review process, and document organization.

Section 2: Executive Summary. Section 2 includes a summary of the Project, environmental impacts and mitigation, areas of known controversy, and issues to be resolved in the DSEIR. A summary table is included presenting the summary of potential environmental impacts, their level of significance without mitigation measures, mitigation measures, and levels of significance with mitigation measures.

Section 3: Project Description. Section 3 includes a description of the Project background, Project location, and existing conditions of the Project site. Section 3 also includes the Project

objectives, description of the Project characteristics, and approvals and entitlements necessary to implement the Project.

Section 4: Environmental Setting, Impact Analysis, and Mitigation Measures. Section 4 descripts the existing environmental setting, impacts and mitigation measures for specific areas identified in the Initial Study Form and by the County requiring environmental review.

Section 5: Other CEQA Considerations. Section 5 discusses other CEQA issues, including growth inducing impacts, cumulative impacts, significant and unavoidable impacts on the environment, and significant irreversible environmental changes.

Section 6: Alternatives to the Proposed Project. Section 6 describes alternative to the Project, along with an analysis of the ability of the alternatives to meet the Project objectives and associated environmental impacts.

Section 7: List of Preparers. Section 7 contains a list of report authors and subconsultants.

Section 8: References. Section 8 contains a list of materials referenced in the DSEIR.

Appendices. The appendices include materials and studies that support the findings and conclusions presented in the EIR.

2.0 EXECUTIVE SUMMARY

2.1 Introduction

This Executive Summary section is provided in accordance with CEQA Guidelines §15123. As stated in the State CEQA Guidelines §15123(a), "An EIR shall contain a brief summary of the proposed actions and its consequences. The language of the summary should be as clear and simple as reasonably practical." State CEQA Guidelines §15123 (b) states, the summary shall identify:

- Each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect.
- Areas of controversy known to the Lead Agency including issues raised by agencies and the public.
- Issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects.

Accordingly, this summary includes a brief synopsis of the proposed project and project alternatives, environmental impacts and mitigation, areas of known controversy, and issues to be resolved in the DSEIR. Table 2-1 (at the end of this section) presents the summary of potential environmental impacts, their level of significance without mitigation measures, mitigation measures, and levels of significance with mitigation measures.

2.2 Project Objectives

Materials produced at the site include asphalt, concrete, various sizes of crushed rock and crushed base rock which are used as construction materials. The materials at the site have been evaluated by an independent testing laboratory and the California Department of Transportation with test results indicating superior material not commonly found in the region. The quality of the resources and choice location to existing and potential market for aggregates and paving materials were the determining factors in choosing the site for the planned operations in 1981 (Miller's Custom Work, 1981).

The Use Permit amendment (Project) includes changes in currently permitted operations at the Project site that will allow the applicant to provide materials for emergency projects and construction projects that could require continuous 24-hour operations. To respond to emergency projects during Federal-, State-, or County-declared emergency conditions, 24-hour processing and hauling operations may be required. In addition, in order to respond to emergency projects, the annual removal volume of the mine could exceed 100,000 tons. Some projects, such as Caltrans road projects, operate during nighttime hours to avoid traffic conflicts. These projects also require material production and hauling during nighttime hours. These projects generally occur from May 1 through November 15. Hat Creek Construction estimates that they will complete two to four nighttime projects annually, for a total of 20 to 40 nighttime operational days.

In addition, the project includes extending the life of the mine by 10 years to allow increased extraction of materials from the site.

The Project applicant has identified the following objectives for the Project:

- Provide a local construction material supply to serve local and regional market demands
- Provide a local source of materials for emergency jobs (during Federal-, State-, or County-declared emergencies) and other construction jobs requiring nighttime work.
- Extend the life of the quarry to extract additional superior materials from the site

2.3 Summary of Project Description

The Project includes modifications to existing permitted operations at the Ward Lake Quarry. The Project includes to following changes to existing operations:

- Allow 24-hour mining operations, Monday through Saturday (currently, the use permit allows operations from 6:00 a.m. to 7:00 p.m., Monday through Saturday), from April 1 to December 31
- Extend the life of the mine from 2020 to 2030
- Allow annual site production in excess of the permitted 100,000 tons during Federal-, State-, or County-declared emergencies

No changes are proposed to the reclamation of the areas already disturbed and covered under the existing Reclamation Plan for the site. The Project does not include any changes to final topography.

2.4 Project Alternatives

Section 15126(d) of the State CEQA Guidelines mandates that all EIRs include a comparative evaluation of the proposed project with alternatives to the project that are capable of attaining most of the project's basic objectives but would avoid or substantially lessen any of the significant effects of the project. CEQA requires a "reasonable range" of alternatives, including the "no project" alternative. Section 6 of this DSEIR discusses each alternative in detail.

The alternatives evaluated include:

Alternative 1 – No Action. The "no project" alternative would include the continuation of mining operations at the site as currently permitted under Use Permit 96056. Hours of mining operations would remain 6:00 a.m. to 7:00 p.m., Monday through Saturday; mining would continue until the year 2020; site production would be limited to the permitted 100,000 tons per year.

Under the "no project" alternative, materials for projects requiring nighttime hauling and delivery of material would be supplied by another source. In addition, the operation would only be able to supply materials to fewer/smaller projects.

Alternative 2 – Reduced Truck Trip Alternative. This alternative is similar to the proposed Project, but with a reduction in the amount of total truck trips. The reduced truck trip alternative includes 24-hour operations, Monday through Saturday; extension of the life of the mine from 2020 to 2030; and annual site production in excess of the permitted 100,000 tons per year if required during Federal-, State-, or County-declared emergencies.

The reduced truck trip alternative would decrease the maximum number of daily truck trips to 62 total trips (31 arriving and 31 departing), instead of the current condition of an average of 16 one-way truck trips (16 arriving and 16 departing) per day with a peak of 350 one-way trips (350 arriving and 350 departing) included in the proposed Project. This volume of trucks was identified in the Noise Analysis (j.c. brennan & associates, Inc., 2018) as the volume of trucks that would eliminate a significant increase in traffic noise in the project area. Truck trips would still occur at night as needed during 24-hour operations.

Under the reduced truck trip alternative, the applicant could only provide materials for jobs requiring 31 or less truckloads of materials each day. This alternative would limit the number or size of construction jobs the Project could serve. Larger construction projects would obtain materials from other sources that could provide the required volume of materials

2.5 Areas of Controversy, Issues Raised, and Areas Resolved in the EIR

Comments received on the Project include those received during early consultation as well as in response to the Notice of Preparation for the Project. The areas of controversy identified include the following:

1. A complaint was received by Lassen County Department of Planning and Building Services August 22, 2017, about the operation of the rock quarry outside of permitted days and hours.
2. During early consultation, CDFW expressed concerns about the impacts of artificial lighting and noise on birds and other nocturnal species as well as impacts related to vehicle collisions and dust from the mine. CDFW also submitted a comment letter on the Notice of Preparation requesting a complete assessment of the flora and fauna within and adjacent to the Project area.
3. Concerns of the increase in traffic on Center Road (A27), Ward Lake Road, and Cutoff Road, including the need for additional turn lanes or rehab to surface roads and intersections.
4. During early consultation, the County received a comment letter from the Lassen County Air Pollution Control District regarding concerns and recommendations for fugitive dust emissions from the mining operation as well as health risks from diesel exhaust emissions and PM10.
5. The Native American Heritage Commission submitted a letter to the County regarding AB 52 consultation requirements.

Comment letters received during early consultation are included in Appendix D of the DSEIR. Comments received on the Notice of Preparation are also included in Appendix D.

2.6 Significant Unavoidable Effects

Potential impacts associated with the following issues were identified through the Initial Study prepared by Lassen County as having no impact:

- Population and Housing
- Geologic Resources
- Mineral Resources
- Cultural Resources
- Recreation
- Agriculture and Forestry Resources

In addition, the Initial Study concluded the following as having a less-than-significant impact:

- Hydrology and Water Quality
- Air Quality
- Hazard and Hazardous Materials
- Public Services
- Utilities and Service Systems
- Greenhouse Gas Emissions

The Initial Study prepared by the County found that the Project could result in potentially significant impacts on the following subject areas:

- Aesthetics
- Biological Resources
- Land Use and Planning
- Noise
- Transportation/Traffic

Significant and unavoidable impacts, those that cannot be mitigated to a level of less than significant, were identified in the following subject areas:

2.6.1 Aesthetics

Visual impacts of the initial mining operation at the site (excavation, crushing, stockpiling, and hauling of materials, as well as the operation of asphalt concrete batch plant) were analyzed in both the 1981 and 1997 EIRs. The EIR determined that increased traffic and the proposed plant activities (even though not directly adjacent to occupied lands) would have an indirect long-term effect on the existing environmental setting (aesthetics) which could not be circumvented. During the review under the 1981 EIR, the plant was allowed 24-hour operations. Visual impacts were determined to be significant and unavoidable. The 1997 EIR determined that impacts to views from homes and residential properties closest to the entrance to the quarry off of Ward Lake Road would be significant and unavoidable.

Also, the nighttime operating period impact to the four nearest residences on Ward Lake Road was determined to be significant and unmitigable.

The review of visual impacts from proposed changes to operations would generally be less than significant with the exception of nighttime headlights. It was determined that the nighttime headlights during the 20 to 40 days of 24-hour operation would not be mitigable to residences on Ward Lake Road and Center Road (A27) and therefore would be significant and unmitigable.

2.6.2 Biological Resources

The project would extend the life of the mine an additional 10 years from 2020 to 2030. As discussed in the CEQA Review section (Section 4.4.3.2), the 1997 EIR prepared for existing permitted operations included a seasonal restriction of operations onsite between December 1 and March 31 to reduce impacts to pronghorn and mule deer. In 1997, the Lassen County Planning Commission recommended that the Lassen County Board of Supervisors amend the season of restricted operations due to economic infeasibility of a four-month closure.

Recognizing that this would result in significant adverse unavoidable impacts to deer and antelope, the County adopted a Statement of Overriding Considerations with respect to these impacts. Extension of the life of the mine for 10 years would extend the significant impact of the existing operation to pronghorn and mule deer. The project would not result in any additional impacts to pronghorn or mule deer; however, it would extend impacts that have been determined to be significant and unavoidable. Extending the life of the mine would also prolong the amount of time before the site can be reclaimed back to habitat for these species. Extending the life of the mine would result in significant impacts to pronghorn antelope and mule deer.

2.6.3 Noise

Following implementation of the proposed mitigation measures, Project noise impacts of the material facility's extended hours of operations will be reduced to a less-than-significant level. In addition, the mitigation measures proposed will reduce the traffic noise impact to comply with the 60 dB Ldn Lassen County traffic noise level standard; however, due to the number of nighttime material haul trucks utilizing the facility, the Project increase in truck traffic noise levels will remain significant. The traffic noise on Ward Lake Road cannot be reduced in significance and will be significant and unavoidable.

2.7 Summary of Environmental Impacts and Mitigation Measures

Environmental impacts and mitigation measures are included in Table 2-1.

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
AESTHETIC AND VISUAL RESOURCES			
4.2.5.1 Substantially degrade the existing visual character or quality of the site and its surroundings through project lighting and nighttime views. The Project will alter the visual character of the site through the use of nighttime lighting during 24-hour operations. Lighting fixtures are currently used onsite during the morning and evening hours. The Project will extend the use of the lighting to include the hours between 7:00 p.m. and 6:00 a.m. during periods of 24-hour operation.	Significant	1. Direct lighting internally into the site and berm site areas to minimize impact when possible 2. Install fully shielded (pointing downward) lighting fixtures	Significant and unavoidable to close-in residences along Ward Lake Road
4.2.5.2 Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area (headlight impacts) The Project will allow 24-hour operations resulting in an increase in nighttime truck traffic on Project area roads. The Project will result in increased nighttime traffic headlight use on roadways in the Project area. Local roadways used by Project traffic will include Ward Lake Road and Center Road (A27). Homes along Ward Lake Road are as close as 60 feet from the roadway. Headlight use will not impact large-scale nighttime views, but does have the potential to significantly degrade the existing visual quality of areas close to the roadways at night.	Significant	1. Use only low beams on trucks in residential areas during nighttime operations	Significant and unavoidable to residences along Ward Lake Road
AIR QUALITY			
4.3.5.1 Exposure of Sensitive Receptors to Substantial Concentrations of Toxic Air Contaminants. The Health Risk Assessment prepared for the Project assessed the health impacts to nearby sensitive receptors from diesel particulate matter generated by additional truck trips, and operation of generators onsite. Cancer risks and non-cancer health hazards were calculated to be below thresholds for significant health impacts.	Less than Significant	No mitigation measures are necessary.	Less than Significant
BIOLOGICAL RESOURCES			
4.4.5.1 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by DFG or U.S. Fish and Wildlife Service (USFWS). 15 special-status species are known or have the potential to occur within the project area. Impacts were assessed based on habitat availability and documented occurrences of the species. Nocturnally	Less than Significant	No mitigation measures are necessary.	Less than Significant

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
foraging animals are likely to avoid the project area and utilize alternate habitat in the adjacent public land and privately-owned agricultural fields. Diurnal animals will not be impacted by nighttime activities.			
4.4.5.2 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; specifically nighttime operations to Pronghorn antelope, mule deer and nocturnal foragers.			
a. Additional Noise and Light Levels. The addition of periods of 24-hour operations would result in additional disturbance to pronghorn antelope and mule deer by extending onsite operational noise to nighttime hours and introducing nighttime lighting. 24-hour operations could have a significant impact if these operations were to occur in the period from December to March. However, nighttime operations are prohibited for this period. Nighttime operations are prohibited from January 1 to March 31.	Significant	1. Operator shall continue limits on operations from January to March 31. Impacts can be lessened through continuing seasonal operating restrictions included in the Condition of Approval for Use Permit No. 96056: *Except in a state of emergency, as declared by the local Emergency Services Director and/or the Board of Supervisors and/or the City of Susanville, no grading, excavating, or blasting on the site shall be allowed between January 1 and March 31 annually.* 2. Operator shall conduct no nighttime operations (7:00 p.m. to 6:00 a.m.) during the period of January 1 to March 31. Applying the existing operational restriction to the proposed nighttime operations would eliminate additional disturbance/displacement of pronghorn antelope and mule deer utilizing the winter habitat during the winter months. 3. Year-round nighttime operation restrictions. No grading, blasting, or excavating shall be allowed onsite between the hours of 6:00 p.m. and 7:00 a.m.	Less than Significant

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
		4. Lighting fixture design. To minimize the effects of lighting of artificial light on wildlife, lighting fixtures associated with nighttime project work shall be downward facing and fully-shielded. Lighting equipment should be designed and installed to minimize light pollution. 5. Noise reduction barriers. Adverse effects from noise may be reduced through installation of noise berms constructed around the project area where heavy machinery is in use. Barriers can eliminate or minimize the impacts of vibrations that may result from nighttime operations. 6. No "jake brake" usage. This option can significantly reduce the noise impacts from the increased traffic volume. "No use of jake brake" signs shall be posted on the access road and at the Center Road (A27) and Ward Lake Road intersection.	
b. Extending Site Life. The Project would extend the life of the mine an additional 10 years from 2020 to 2030. Extension of the life of the mine for 10 years would extend the significant impact of the existing operation to pronghorn and mule deer. The project would not result in any additional impacts to pronghorn or mule deer; however, it would extend impacts that have been determined to be significant and unavoidable. Extending the life of the mine would also prolong the amount of time before the site can be reclaimed back to habitat for these species.	Significant	No mitigation measures are available	Significant and Unavoidable
c. Increased Traffic Impacts to Wildlife. Nighttime operations between April 1 and December 31 could result in potential encounters on roadways with pronghorn antelope and mule deer	Significant	1. Wildlife crossing signage on roadways. This option would educate drivers about the potential for wildlife	Less than Significant

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
during dawn and dusk.		encounters on roads during nighttime hours. Signage will be permanent. This measure can prevent direct mortalities to nocturnal wildlife. Signs will be added along Center Road and Ward Lake Road with County approval. 2. Reduce traffic speed on roadways. This mitigation would reduce the speed limit in order to minimize traffic impacts to wildlife. "Reduce speed to [specify speed limit]" signs would reduce the speed limit on Ward Lake Road during nighttime hours, granting a longer reaction time should any wildlife be encountered on a roadway. 3. Driver education. Hat Creek Construction will conduct education events to increase driver awareness to avoid wildlife vehicle impacts.	
GREENHOUSE GAS EMISSIONS			
4.5.5.1 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. The County determined in the Initial Study that the Project may have a less-than-significant impact to GHG emissions, directly or indirectly, that may significantly impact the environment. No changes are being proposed to the permitted production of the asphalt or concrete plants, and therefore the total amount of GHG produced by the plant remains unchanged. An analysis of potential truck emissions completed by Lassen County using thresholds from the Bay Area GHG Management District resulted in values below the CEQA thresholds of significance for GHG (see initial study). The additional analysis including the calculated emissions from the asphalt plant and concrete plant, support the assessment and conclusion that the Project will have a less-than-significant impact to GHG emissions, directly or indirectly, on the environment.	Less than Significant	No mitigation measures are necessary.	Less than Significant

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
4.5.5.2 Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. No specific area plans or numerical threshold of significance for GHG emissions have been established by Lassen County. Therefore, the focus is whether the Project is consistent with applicable federal and state regulations and programs adopted to achieve state and regional reductions in GHG emissions. The Project is not in violation of any State or Federal standard.	Less than Significant	No mitigation measures are necessary.	Less than Significant
HAZARDS AND HAZARDOUS MATERIALS			
4.6.5.1 Create a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials or through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment. The Project does not include changes to mineral or asphalt production. The existing permitted mineral and asphalt production amount were analyzed under a previous environmental document and the impact was concluded to be less than significant. Additionally, the operation is required to have the necessary permits from Lassen County Environmental Health for storing hazardous materials. Operations will continue to follow the applicable laws and regulations regarding hazardous material transport, as defined in Section 353 of the California Vehicle Code.	Less than Significant	No mitigation measures are necessary.	Less than Significant
4.6.5.2 Expose people or structures to a significant risk of loss, injury or death involving wildland fires. The Project includes nighttime operations that may add to the risk of fire starting on site at night. However, wildfire spreading is reduced at night, due to increased relative humidity and decreased temperature and wind. The potential of fire to spread to the few residences in the area is low, due to roads and agricultural use. Additionally, it is expected that operation will move from day to night (project specific), without additional shifts. Because the volume of mining is not increasing, but rather undergoing a change in its timing, the cumulative risk for wildfire will not increase.	Less than Significant	No mitigation measures are necessary.	Less than Significant
HYDROLOGY AND WATER QUALITY			
4.7.5.1 Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a	Less than Significant	No mitigation measures are necessary.	Less than Significant

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
net deficit in aquifer volume or a lowering of the local groundwater table level. The Project will not change groundwater use at the Project site. The project is not expected to create a demand for water in excess of available supplies.			
LAND USE			
4.8.5.1 Conflict with Lassen County General Plan or Standish-Litchfield Area Plan. Wildlife impacts are addressed in the Biological Resources section of this DSEIR. Goal L-22 contained in the Lassen County General Plan Land Use Element does not contain mention of a specific species or criteria for consistency; however, the Project site does contain critical winter range for pronghorn and mule deer. The impacts of nighttime operations to pronghorn and mule deer and special-status species are discussed in the Biological Resources section of the DSEIR. With implementation of the Biological Resource Mitigation Measures, the Project will not conflict with Goal L-22 of the Lassen County General Plan Land Use Element.	Significant	See mitigations in Biology section.	Less than Significant
NOISE			
4.9.5.1 Result in exposure of persons to or generation of noise levels in excess of standards established in the Lassen County General Plan.			
a. Materials Facility Extended Hours of Operations. Based upon the measured noise levels, it is expected that the on-site activities, which include the batch plants and crushing operations, will result in hourly noise levels equal to, or less than, 45 dBA L50. The primary increase in L50 values occurred between 6:00 a.m. and 8:00 a.m. during the start-up operations. Once operations occur, they are generally in the mid 30 dBA L50 range. Based upon the Noise analysis, the nighttime noise levels could exceed the Lassen County nighttime noise level criteria of 40 dBA L50, if start-up operations occur during the nighttime hours of 10:00 p.m. to 7:00 a.m.	Significant	1. The operator shall restrict the start-up operations to between the hours of 7:00 a.m. to 10:00 p.m.	Less than Significant
b. Materials Haul Truck Operations. The Project will exceed the 60 dBA Ldn noise level standard along Ward Lake Road, and a portion of Center Road (A27), west of Ward Lake Road under worst-case operating conditions. Noise levels at a distance of 75 feet from the	Significant	1. No use of "jake" brakes leaving the Project site 2. "Reduce speed" signs will be posted by the operator for tucks on the access road	Less than Significant

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
road centerline will be 63.6 dBA Ldn along Ward Lake Road and 63.1 dBA Ldn on Center Road west of Ward Lake Road.		and Ward Lake Road and "no use of jake brake" signs will be posted by the operator on the access road and at the Center Road (A27) and Ward Lake Road intersection 3. Reduce the number of trucks per day to 250 (125 arriving and 125 departing)	
4.9.5.2 Result in the exposure or persons to or generation of excessive ground borne vibration or ground borne noise levels. The project will not introduce any new equipment or processes to the project site that will increase the levels of vibration or ground born noise levels generated by current onsite operations. The project would result in an increase in truck traffic on roadways during nighttime hours, however loaded trucks produce vibration levels less than the threshold at which vibration becomes annoying or levels that could cause damage to any buildings along the material haul route.	Less than Significant	No mitigation is required	Less than Significant
4.9.5.3 A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. The Project will result in traffic noise increases greater than 5 dB along the Material Haul Routes Increases in traffic noise levels would result in a significant increase in noise levels in the in the project vicinity above those existing without the project.	Significant	See mitigation measures for Impact 4.9.5.1	Significant and Unavoidable
4.9.5.4 A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. The Project will result in traffic noise increases greater than 5 dB along the Material Haul Routes Increases in traffic noise levels would result in a significant increase in noise levels in the in the project vicinity above those existing without the project.	Significant	See mitigation measures for Impact 4.9.5.1	Significant and Unavoidable
PUBLIC SERVICES			
4.10.5.1 Result in the Need for New or Physically Altered Facilities related to Fire Protection. The addition of nighttime operations could increase the risk of onsite fires, but this is not anticipated to affect service ratios, response times or other performance objectives for fire protection services.	Less Than Significant	No mitigation measures are necessary.	Less than Significant

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
TRAFFIC			
4.11.5.1 Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections). No increase in total truck trips will occur as part of the project. There will be no change in existing traffic load and capacity. For the duration of 2 to 4 nighttime-required highway projects per year, the traffic volume will be redistributed to nighttime hours (7:00 p.m. to 6:00 a.m.). This redistribution will result in less daytime traffic loading. No impact to traffic load and capacity of the street system is anticipated	No Impact	No mitigation measures are necessary	No Impact
4.11.5.2 Exceed, either individually or cumulatively, a level of service standard established by the County congestion management agency for designated roads or highway. Analysis of intersection traffic capacity at Center Road (A27)/Ward Lake Road and Center Road (A27)/Cutoff Road focused on the impacts to the Level of Service defined for each roadway. No degradation to Level of Service is anticipated.	Less than Significant	No mitigation measures are necessary.	Less than Significant
4.11.5.3 Need for Additional Turn Lanes. The need for an exclusive eastbound left turn lane on Center Road (A27) at the Ward Lake Road intersection and the need for an exclusive westbound right turn lane on Center Road (A27) at the Ward Lake Road intersection were reviewed based on guidelines presented in the AASHTO publication *A Policy on Geometric Design of Highways and Streets.* Analyses of these intersections found that there is a need to construct turning lanes due to increased traffic from project operations.	No Impact	No mitigation measures are necessary.	No Impact
4.11.5.4 Conflict with Local Circulation Policies. The Lassen County General Plan Circulation Element and the Standish-Litchfield Area Plan Circulation Element contain goals, policies, and implementation measures related to circulation in the project area. The Project will have a minimal impact the Level of Service at the Center Road (A27)/Ward Lake Road and Center Road (A27)/Cutoff Road intersections. Level of Service at these intersections will remain at LOS A under existing plus Project traffic conditions.	Less than Significant	No mitigation measures are necessary	Less than Significant

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
UTILITIES AND SERVICE SYSTEMS			
4.12.5.1 Require New or Expanded Water Supply Entitlements. Well water is used by the current operation for wet suppression on onsite dust. While the amount of groundwater used by the surface mining operation may be impacted by the proposed Project amendment, the Project is not expected to create a demand for water in excess of available supplies see Section 4: Hydrology and Water Quality (Section 4.7 of this DSEIR).	Less than Significant	No mitigation measures are necessary.	Less than Significant
ENERGY CONSUMPTION			
4.13.5.1 The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials may be discussed. Because project work during operations will be transferred from daytime to nighttime use, there will be only a slight increase in generator fuel consumption. The increase in generator use for lighting represents a small draw on generator power and will be for limited duration, two to four times per year. The project would not result in any unusual characteristics that would result in excessive long-term operational fuel consumption. Fuel consumption associated with vehicle trips generated by the project would not be considered inefficient, wasteful, or unnecessary; in fact, the local nature of the facility results in fewer vehicle trips for local construction projects. The extension of the project for a 10-year period will continue the use of diesel fuel for generators and heavy-duty trucks. All new trucks must meet new emission control guidelines. The Hat Creek Construction fleet is in change-out period for trucks. In addition, Hat Creek Construction will be making improvements to the mixes of asphalt to be more energy and resource efficient, such as using RAP in mixes.	Less than Significant	No mitigation measures are necessary.	Less than Significant
4.13.5.2 The effects of the project on local and regional energy supplies and on requirements for additional capacity. The project will not have a negative impact on local and regional energy supplies. The use of locally produced asphalt and aggregate will reduce overall energy demand due to decrease in miles from the location of final use.	Less than Significant	No mitigation measures are necessary.	Less than Significant

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
4.13.5.3 The effects of the project on peak and base period demands for electricity and other forms of energy. The are no project impacts on peak and base period demand for electricity and other forms of energy.	Less than Significant	No mitigation measures are necessary.	Less than Significant
4.13.5.4 The degree to which the project complies with existing energy demands. The project is in compliance with existing energy standards.	Less than Significant	No mitigation measures are necessary.	Less than Significant
4.13.5.5 The effects of the project on energy resources. The project has diesel for onsite fuel. No other alternatives are available.	Less than Significant	No mitigation measures are necessary.	Less than Significant
4.13.5.6 The projects projected transportation energy use requirements and its overall use of efficient transportation alternatives. No transportation alternatives are available for product delivery at this time. Energy use is not anticipated to increase over time.	Less than Significant	No mitigation measures are necessary.	Less than Significant
CUMULATIVE IMPACTS			
Cumulative Aesthetics and Visual Resources			
Substantially degrade the existing visual character or quality of the site and its surroundings through project lighting and nighttime views. The Project site lighting is most obvious to the residences along Ward Lake Road and will result in significant impacts to the nighttime view of Shaffer Mountain at theses residences. Mitigation measures including directing lighting internally into the site and installing fully shielded lighting fixtures are included in the DSEIR for this impact, but do not reduce the impact to a less than significant level. Additional cumulative impacts could occur if additional point sources of light were added to the side of Shaffer Mountain. There are no known future projects that would contribute additional sources of lighting on the mountainside visible from Ward Lake Road. However, since the Project-level impacts to homes on Ward Lake Road are significant and unavoidable, the cumulative impacts of the Project to nighttime views are significant as well.	Significant	See mitigation measures for impact 4.2.5.1	Significant and Unavoidable
Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area (headlight impacts). Impacts from nighttime truck headlight use are cumulatively considerable when combined with existing and projected traffic on Ward Lake Road. There are no existing or planned future projects that would add nighttime traffic to Ward Lake Road; however, population growth in	Significant	See mitigation measures for impact 4.2.5.2	Significant and Unavoidable

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
the County is anticipated to be approximately 1 percent each year (see Section 5.4.2.10). Mitigation measures in Section 4.2.5 of this DSEIR are proposed to reduce Project-level impacts related to nighttime headlight use; however, the mitigation measures will not reduce the impacts of headlight use for residences on Ward Lake Road to a less-than-significant level. When combined with non-Project traffic on the Project-area roadways as well as increased traffic (although minor) related to population growth, the impacts related to headlights will be cumulatively significant and unavoidable.			
Cumulative Air Quality Impacts			
Cumulative Exposure of Sensitive Receptors to Substantial Concentrations of Toxic Air Contaminants. The only known current or future project within the vicinity of the proposed Project that could combine with the Project-related diesel particulate matter emissions to result in a cumulatively significant impact is a smaller aggregate mine located adjacent to and south of the site on Bureau of Land Management (BLM) administered land. As discussed in the Health Risk Assessment prepared for the Project, the majority of any health impacts from mine operations are due to the operation of generators as haul truck emissions occur over the length of a haul route and are not near receptors for much duration. The adjacent mine does not have any concrete or asphalt plants or associated generators that would generate diesel particulate matter. The adjacent mine does not have any generators, therefore cumulative impacts related to toxic air contaminants are anticipated to be less than significant.	Less than Significant	No mitigation measures are necessary.	Less than Significant
Cumulative Biological Resources Impacts			
Cumulative 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 DFG or U.S. Fish and Wildlife Service (USFWS). As discussed in Section 4.4 of the DSEIR, the Project-level impacts of onsite nighttime operations and traffic from the project were determined to have a less-than-significant impact on any special-status species in the project area. Impacts of the project to special status species are not cumulatively considerable. There are no current or future known projects	Less than Significant	No mitigation measures are necessary.	Less than Significant

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
requiring nighttime operations in the County that would combine with the project to result in cumulatively significant impacts to special status species			
Cumulative impacts related to the substantial interference 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; specifically nighttime operations to Pronghorn antelope, mule deer and nocturnal foragers			
a. Additional Noise and Light Levels. Project-level impacts of additional noise and light levels generated by nighttime operations to pronghorn and mule deer were determined to be less than significant with mitigation. Mitigation measures are included in Section 4.4.6 to reduce the impacts of the Project to pronghorn and mule deer to be less than significant. There are known current or future projects that will result in increased noise levels or lighting in the Project area. The impacts of the project are not cumulatively considerable with implementation of the mitigation measures contained in section 4.4.6 of the DSEIR and will not result in a cumulative impact related to increased noise levels or lighting in the Project area**.**	Significant	See mitigation measures for Impact 4.4.5.2.	Less than Significant
b. Extending Site Life. Project-level impacts related to extending the life of the mine an additional 10 years were determined to be significant and unavoidable. The project impacts would be cumulatively considerable with other projects impacting winter habitat for pronghorn and mule deer. Although there are currently no known current or future projects in the County that will result in impacts to pronghorn or mule deer habitat, the extended impacts to this species will combine with any future projects resulting in a cumulative impact. The project will result in a significant cumulative impact to pronghorn and mule deer habitat.	Significant	No mitigation measures are available	Significant and Unavoidable
c. Increased Traffic Impacts to Wildlife. The project will result in potentially significant impacts to species due to potential increased vehicle mortality that could occur during increases in nighttime traffic volumes on existing roadways during 24-hour operations. Mitigation measures contained in Section 4.4.6 of the DSEIR	Significant	See mitigation measures for Impact 4.4.5.2	Less than Significant

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
including wildlife crossing signage on roadways, reduced traffic speed on Ward Lake Road, and driver education are included to reduce increased project level traffic mortality impacts to wildlife to a less-than-significant level. The project-level impacts will be reduced to a less-than-significant level and will not be cumulatively considerable. The project will not result in significant cumulative traffic impacts to wildlife.			
Cumulative Greenhouse Gas Emissions			
Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. An analysis of potential truck emissions completed by Lassen County using thresholds from the Bay Area GHG Management District resulted in values below the CEQA thresholds of significance for GHG (see initial study). The additional analysis in the DSEIR including the calculated emissions from the asphalt plant and concrete plant, support the assessment and conclusion that the Project will have a less-than-significant impact to GHG emissions, directly or indirectly, on the environment. The project will not result in a significant cumulative impact.	Less than Significant	No mitigation measures are necessary.	Less than Significant
Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The Project does not violate any state or federal plans or standards. In addition, the operation of the facility is a benefit to Lassen County in that the maintenance of roads and other infrastructure requiring the generation of asphalt pavement and concrete are necessary for support of a safe public transportation system within Lassen County. The generation of pavement material and concrete are required whether located at this facility or other facilities further away. The transportation of materials from facilities further away would result in higher emissions per ton of material produced due to the increased emission from miles traveled by truck. For these reasons, this impact is considered less than significant and no mitigation is required. The Project will not result in a cumulative impact that would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less than Significant	No mitigation measures are necessary.	Less than Significant

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
Cumulative Hazards and Hazardous Materials Impacts			
Create a cumulative a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials or through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Project-level impacts related to the transport, use or disposal of hazardous materials will be less than significant and will not be cumulatively considerable. There are no projects in the county that will combine with the project to result in a cumulative impact related to hazardous materials.	Less than Significant	No mitigation measures are necessary.	Less than Significant
Expose people or structures to a significant cumulative risk of loss, injury or death involving wildland fires. The Project will result in no hazards and hazardous material impacts with exception of a possible change in the risk of fire starting onsite at night during 24-hour operations. The Project will not introduce new activities at the site or increase the likelihood of fires onsite. Project impacts related to wildland fires will not be cumulatively considerable, and will not contribute to cumulative impacts.	Less than Significant	No mitigation measures are necessary.	Less than Significant
Cumulative Hydrology and Water Quality Impacts			
Cumulative substantial depletion of groundwater supplies or substantial interference with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table. Hydrology and Water Quality impacts are cumulatively considerable when considered with all current and future projects within the same groundwater basin that may utilize groundwater. There is currently no trend or pattern indicating overdraft in the basin. The Project is not expected to create a demand for water in excess of available supplies. No additional projects that would use a substantial amount of groundwater have been identified in the County. Cumulative impacts to groundwater supplies will be less than significant.	Less than Significant	No mitigation measures are necessary.	Less than significant
Cumulative Noise Impacts			
Result in exposure of persons to or generation of noise levels in excess of standards established in the Lassen County General Plan. There are no known new projects in the vicinity of the Project site that could result in cumulative considerable impacts when combined with nighttime noise from equipment operation on the Project site. Mitigation	Significant	See mitigation measures for Impact 4.9.5.1	Less than Significant

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
measures are included in Section 4.9 to reduce Project-level noise impacts from the materials facility operations to be below Lassen County noise standards and result in a less-than-significant impact. With implementation of these mitigation measures, materials facility operation noise impacts will not be cumulatively considerable, and noise from onsite operations will not result in a cumulative noise impact. Noise from material haul truck operations is cumulatively considerable in combination with projected traffic increases through the year 2030. With implementation of the mitigation measures contained in Section 4.9.6, the noise impacts of the project related to the exceedance of standards established in the Lassen County General Plan would be less than significant and not be cumulatively considerable. The Project would not result in a cumulative impact related to exceedance of Lassen County standards for traffic noise.			
Result in the exposure or persons to or generation of excessive ground borne vibration or ground borne noise levels. Project-level impacts related to ground borne vibration or ground borne noise levels will be less than significant. The Project does not result in the addition of any new equipment or processes to the project site that will increase vibration or ground borne noise levels, and there are no projects within the area that will include stationary sources of vibration or ground borne noise levels. Increases in vibration from truck traffic are cumulatively considerable in combination with projected traffic increases through the year 2030. However, even when increased traffic volumes are considered, loaded truck pass-bys produce vibration levels below human annoyance thresholds and below levels that could result in damage to structures along area roadways.	Less than Significant	No mitigation measures are necessary.	Less than significant
Substantial permanent or temporary/ periodic increase in ambient noise levels in the project vicinity above levels existing without the project. The Project will result in a significant and unavoidable increase in traffic noise levels. The traffic noise increases from the Project are cumulatively considerable. Combined with additional traffic generated by population growth in the County, the Project will contribute to a significant cumulative increase in traffic noise levels along the material haul routes. The mitigation measures for the Project-level traffic noise impacts contained in Section 4.9.6 will be implemented, but haul truck operational noise will result in a significant cumulative increase in traffic noise levels.	Significant	See mitigation measures for Impact 4.9.5.1	Significant and Unavoidable

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
Cumulative Public Service Impacts			
Result in the Need for New or Physically Altered Facilities related to Fire Protection. Impacts from the Project are cumulatively considerable in combination with all other current and future projects that would result in an increased demand for fire protection services. The County has not identified any cumulative projects within Lassen County. The Project will change the timing of fires onsite due to 24-hour operations but will not result in an overall increase in fire risks at the site. The Project will not result in a significant cumulative impact related to fire protection services.	Less than Significant	No mitigation measures are necessary.	Less than Significant
Cumulative Transportation and Traffic Impacts			
Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to capacity ratio on roads, or congestion at intersections). The Project impacts to the existing traffic load and capacity of the street system was determined to be less than significant. Combined with regional growth of 1 percent each year, the Project traffic is not expected to result in a significant cumulative impact to the load and capacity of the street system.	Less than Significant	No mitigation measures are necessary.	Less than Significant
Exceed either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highway. The project will not substantially degrade the level of service on any of the project roadways. Lassen County requires no public highway or roadway should be allowed to fall to or exist for a substantial amount of time at or below a Level of Service rating of "E" (i.e., road at or near capacity; reduced speed; extremely difficult to maneuver; some stoppages).The Project combined with a 1 percent traffic increase each year is not anticipated to degrade roadway capacity below a Level of Service of "E". The project will not result in cumulative impacts related to levels of service.	Less than Significant	No mitigation measures are necessary.	Less than Significant
Need for Additional Turn Lanes. The Project alone will not result in a decrease in level of service at the intersections in the Project area. The Project combined with a 1 percent traffic increase each year is not anticipated to degrade intersection capacity in the Project area or result in the need for additional turn lanes. Combined with regional growth of 1	Less than Significant	No mitigation measures are necessary.	Less than Significant

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
percent each year, the Project will not result in a significant cumulative impact that will result in the need for additional turn lanes on area roadways.			
Cumulative Conflict with Local Circulation Policies. The project will not substantially degrade the level of service on any of the project roadways. In addition, no additional turn lanes were determined to be required for traffic generated by the Project. The Project combined with a 1 percent traffic increase each year is not anticipated to degrade roadway or intersection capacity in the Project area. The project will not result in cumulative impacts related to Local Circulation Policies.	Less than Significant	No mitigation measures are necessary.	Less than Significant
Cumulative Utilities and Service Systems Impacts			
Require New or Expanded Water Supply Entitlements. The geographic context for cumulative impacts related to water at the site is the Honey Lake Valley Groundwater Basin. The Project water use will not have significant impact to groundwater supplies and no new or expanded water quality entitlements will be required. Cumulative impacts to groundwater supplies will be less than significant.	Less than Significant	No mitigation measures are necessary.	Less than Significant
Cumulative Energy Conservation Impacts. The energy consumption impacts of the Project are less than significant. The Project will not combine with other projects to create a significant impact on local and regional energy supplies resulting in a need of additional capacity. The Project will not combine with other projects to result in an increase on peak and base period demand for electricity and other forms of energy, or result in a significant impact on energy resources.	Less than Significant	No mitigation measures are necessary.	Less than Significant

3.0 PROJECT DESCRIPTION

This section describes the location and the existing conditions of the Project site. The Project purpose and Project characteristics are also described in this section as well as Project objectives, and approvals and entitlements necessary to implement the Project.

3.1 Site Location

The Ward Lake Quarry is located approximately three miles east of Ward Lake off of Ward Lake Road in Lassen County. The quarry is located in Section 32, Township 30 North, Range 14 East, MDBM. The latitude and longitude at the center of the Project are 40° 24' 52.12' and -120° 25' 2.07', respectively. In decimal degrees, the latitude and longitude at the center of the Project are 40.414478° and -120.417222°, respectively.

The general site location of the Project is shown on Figure 3-1. The Use Permit amendment (Project) addresses changes to the current operation within portions of Assessor's Parcel No. (APN) 109-100-59 (which includes historical parcel 109-100-40). The current parcel is 442 acres. Mining occurs on approximately 160 acres of historical parcel 109-100-40. The Project site and parcel are shown on Figure 3-2. The layout of the Project site is shown on Figure 3-3.

3.2 Project Background

Mining on the Project site began at a small scale in 1980 under a use permit issued to Caltrans. Caltrans had an agreement dated November 1979 with Miller's Custom Work to use materials from the site.

In 1981, Miller's Custom Work applied for and was granted an expansion of the operation to include excavation and removal of rock over an 80-acre area and installation of a hot plant for asphaltic concrete processing. The road connecting Ward Lake Road to the site was also approved at this time. An EIR was prepared for that project in May 1981 (SCH #80062304).

In 1994, Miller's Custom Work applied for an expansion of the 1981 permitted operation. An Initial Environmental Study/Mitigated Negative Declaration was prepared by the County, the project was approved, and expanded operations began. However, a lawsuit was brought against the applicants and the County by the Maidu Nation and Everd and Iona McCain maintaining, among other items, that the Initial Environmental Study and Mitigated Negative Declaration were inadequate under CEQA and the concrete plant was not a permitted use in an area zoned U-C or Upland Conservation. The Lassen County Superior Court agreed, in part. Related to the inadequacy of the environmental review, the Initial Study and Mitigated Negative Declaration were found to be deficient in two areas – impacts to the deer and antelope herds and visual impacts. These two issues were the focus of an EIR which was prepared in June 1997.

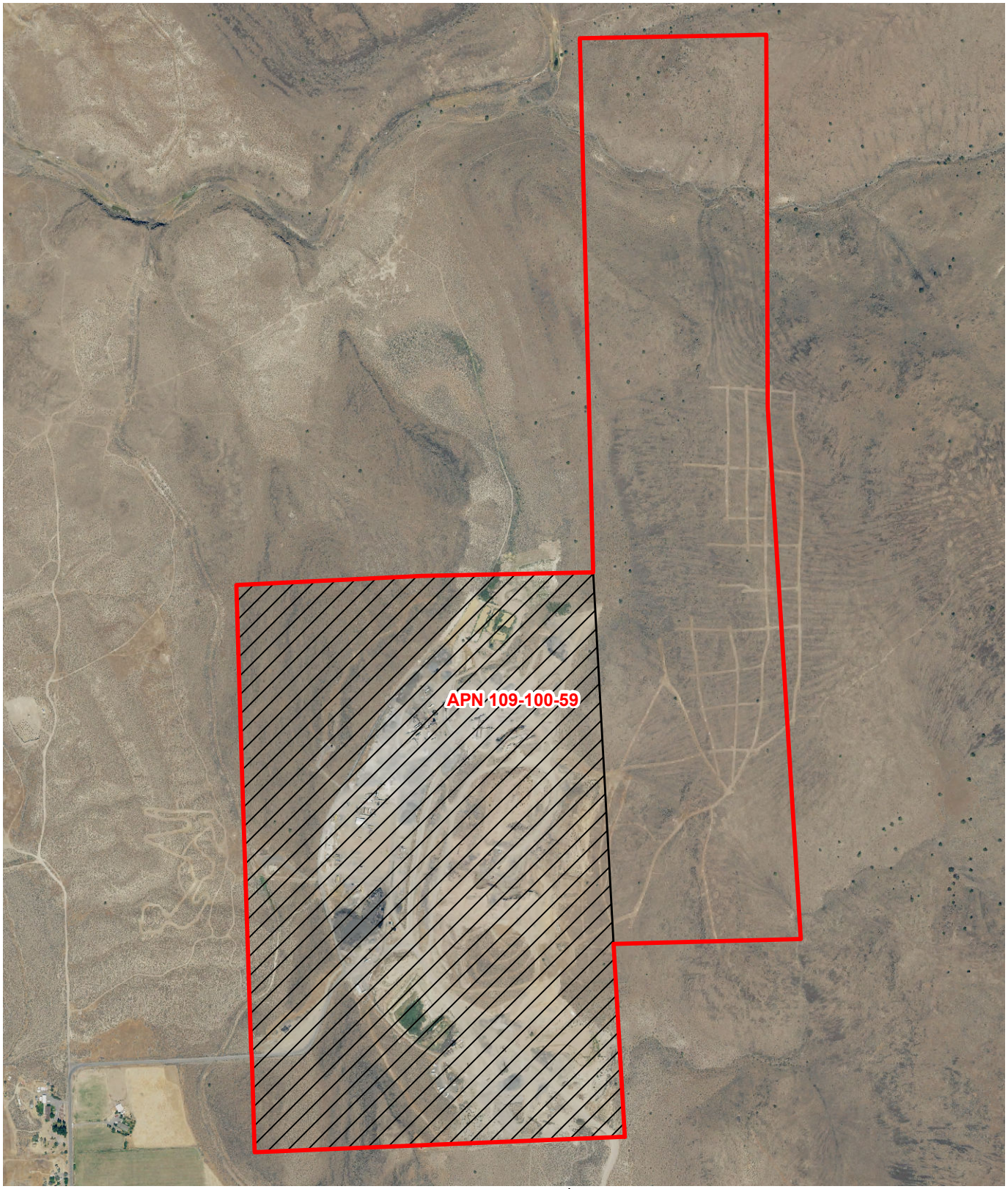
The amendments to the Use Permit covered in the 1997 EIR included:

1. The rezoning of the parcel from "U-C" (Upland Conservation) to "U-C-2" (Upland Conservation/Resource Management District) to allow operation of a ready-mix

VESTRA

FIGURE 3-1
GENERAL SITE LOCATION
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\Final EIR\71305_GeneralSiteLocation.mxd

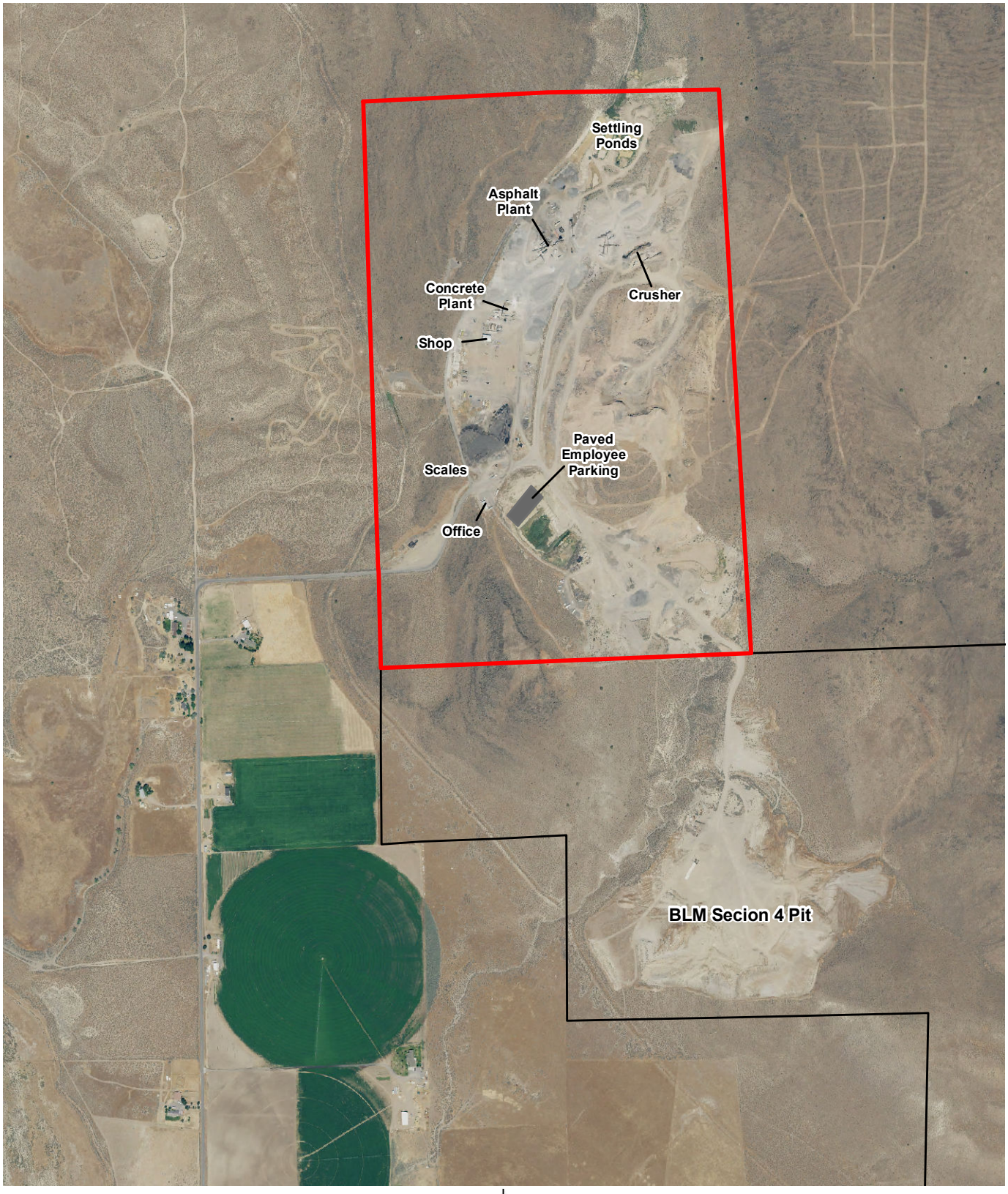


VESTRA

SOURCE: USDA NAIP 2016 AERIAL PHOTOGRAPH

FIGURE 3-2
PARCEL BOUNDARY
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\Final EIR\71305_ParcelBoundary.mxd



VESTRA

SOURCE: USDA NAIP 2016 AERIAL PHOTOGRAPH

FIGURE 3-3
PROJECT SITE LAYOUT
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\Final EIR\71305_ProjectSiteLayout.mxd

concrete plant (already onsite and operating within limits imposed by the Superior Court).

2. Onsite production of ready-mix concrete added to the use permit as an allowed use.
3. Increase in the height of the exposed rock quarry face from the existing +/- 84 feet to a maximum of 150 feet with associated increase in harvest volume from 500,000 cubic yards (CY) to 1,700,000 CY.
4. Expansion of the season of operation from seven months (April through October) to year-round as weather permits.

The Reclamation Plan was already approved for the mining operation, which includes regrading of slopes to no greater than 2H: 1V, benching of the quarry face, and revegetation with native plants. During the 1997 amendment process, the quarry operator reduced the operating hours from 24 hours a day to from 6:00 a.m. to 7:00 p.m. The quarry previously operated as needed, 24 hours a day, seven days a week.

TLT Enterprises LLC will continue operating the Ward Lake Quarry under the original conditions outlined in Use Permit 96056 and previous permits 79-80-44, 11-02-85, and 94032. Additional ground disturbance is not proposed by this Project. With the exception of the requested changes to operations herein, the previously approved Mining and Reclamation Plan for the site will not change.

3.3 Project Objectives

The proposed Use Permit amendment (Project) includes changes in currently permitted operations at the Project site that will allow the applicant to:

- Provide materials for emergency projects and construction projects that could require continuous 24-hour operations. To respond to emergency projects during Federal-, State-, or County-declared emergency conditions, 24-hour processing and hauling operations may be required. In addition, in order to respond to emergency projects, the annual removal volume of the mine could exceed 100,000 tons. Some projects, such as Caltrans road projects, operate during nighttime hours to avoid traffic conflicts. These projects also require material production and hauling during nighttime hours. The proposed project includes 24-hour operations (6:00 p.m. to 7:00 a.m.) from April 1 to December 31.
- Extend the life of the mine by 10 years from 2020 to 2030.

The Project applicant has identified the following objectives for the Project:

- Provide a local construction material supply to serve local and regional market demands
- Provide a local source of materials for emergency jobs (during Federal-, State-, or County-declared emergencies) and other construction jobs requiring nighttime work
- Extend the life of the quarry to extract additional superior materials from the site

3.4 Current Physical Setting

3.4.1 Topography

The Project site is located on the southwestern side of Shaffer Mountain. Topography generally slopes from east to west with gentle to moderate slopes. Prior to mining activities, the site was characterized by a small knob rising approximately 200 feet from the current base of operations. The flat areas at the site (0 to 4 percent slopes) are used for crusher, asphalt, and stockpiles sites and steeper areas (over 16 percent slopes) are utilized for material excavation. Current DEM topography of the Project site is shown on Figure 3-4.

3.4.2 Hydrology and Water Quality

There are no existing streams or bodies of water within the boundaries of the Project site. In addition, the site is not within a 100-year floodplain. The closest bodies of water to the Project site include Eagle Lake Ditch, located 375 feet west of the Project site, and Ward Lake, located 0.5 miles southwest of the Project site. Willow Creek is approximately 1 mile west of the site, and the Susan River is approximately 2 miles south of the site.

The Project site contains several permitted settling basins near the north end of the site. The quarry site is made up of mostly fractured and weather rock; therefore, the site is pervious and a majority of stormwater infiltrates. Concentrated flows are observed only during heavy rain events. These flows are contained and slowed by berms and benches and ultimately directed into settling basins.

The mining operation on the Project site is covered under the *General Permit for Storm Water Discharges Associated with Industrial Activities* (NPDES No. CAS000001 2014-0057-DWQ). Standard soil erosion control protocols are currently practiced throughout the site include the use of berms, water bars, or rolling dips, rock check dams on roadway ditches, diverting run-on away from stockpile areas, installing stabilizers as necessary (silt fence, wattles, etc.), and directing runoff within quarry to detention ponds. The operator filed a Notice of Non-Applicability (NONA) under Order 2014-0057-DWQ in October 2015.

The Project site is located within the Honey Lake Valley Groundwater Basin, which has been identified as a "low priority basin" by the Department of Water Resources (DWR), signifying that it is not currently at risk for overdraft. Within this basin, California *Bulletin 118* estimates the total volume of water stored in the upper 100 feet of saturated basin-fill deposits and volcanic-rock aquifers to be 10 million acre-feet. Estimates of groundwater extraction for agricultural, municipal and industrial, and environmental wetland uses are 51,000, 15,000, and 3,800 acre-feet, respectively. Deep percolation from agricultural-applied water is estimated to be 14,000 acre-feet.

As seen in the groundwater levels for monitored wells in the Project area, found in the DWR Water Data Library, there is currently no trend or pattern indicating overdraft in the basin.

Well water is used by the current operation for wet suppression of onsite dust. The applicant estimates up to six truckloads of water are currently used per day (4,000 gallons/load) during

Project Site

N

0 300 600 1,200 Feet

VESTRA

SOURCE: USDA NAIP 2016 AERIAL PHOTOGRAPH; USGS 10-METER DEM

FIGURE 3-4
DEM TOPOGRAPHY
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\Final EIR\71305_DEM-Topography.mxd

daytime operations with an average of 4 to 5 loads per day, amounting to approximately 38.3 acre-feet per year.

3.4.3 Geology and Soils

The following setting discussion is based on the text of the 1981 and 1997 EIRs for the current mining operation. The Project site is located where the Modoc Plateau meets the Great Basin. This is an area of Cenozoic volcanic rock, the lower levels of which have been converted to gravel by shoreline action on ancient Lake Lahontan. The deposit to be mined is located just above the high water line of Lake Lahontan in a large deposit of Pleistocene volcanic basalt. The deposit appears as ledge rock, the exposed edges of volcanic flow.

According to the California Geological Survey (CGS) *Earthquake Zones of Required Investigation Map*, there are no Alquist Priolo Special Study Earthquake zones (active faults) within the Project site. The nearest fault mapped by the CGS is approximately 7.8 miles to the southwest.

According to the Natural Resource Conservation Services (NRCS) Web Soil Survey, soils at the Project site are comprised on Devada-Rock outcrop association (2 to 50 percent slopes; non-irrigated land capability class 7e; no specified irrigated land capability classification), Orhood very stony sandy loam (5 to 15 percent slopes; non-irrigated land capability class 7s; no specified irrigated land capability classification), McConnel-Mottsville complex (2 to 9 percent slopes; non-irrigated land capability class 6e; irrigated land capability class 3e) and Fivesprings-Longcreek association (9 to 30 percent slopes; non-irrigated land capability class 7s; no specified land capability classification). These soils are listed by the NRCS as well drained to excessively drained, with no flooding or ponding concerns.

3.4.4 Biota

The Project area consists mainly of shrub communities, including sagebrush, bitterbrush, and rabbitbrush. Approximately 160 acres of the Project site has been cleared of vegetation. The Project area is considered important wintering range for deer and antelope, and also serves resident antelope and chucker. Special-status wildlife species that are known to occur, or have the potential to occur, within the Project area include the golden eagle, northern harrier, Swainson's hawk, greater sage-grouse, borrowing owl, long-eared owl, short eared owl, loggerhead shrike, gray wolf, American badger, pallid bat, Townsend's big-eared bat, pygmy rabbit, and white-tailed jackrabbit.

3.4.5 Archeological and Historical Resources

An archaeological study conducted in 1980 included in the 1981 EIR prepared for the Project site (ECO, 1980) noted that the site is located in an area which was likely used by members of two bordering tribes: the Northeastern Maidu and the Northern Paiute. The site is also near the Nobles' Road trail established in 1852 and passing just south of Shaffer Mountain. The 1980 study found no cultural or historical resources located within the Project site.

3.4.6 Land Use

The site is surrounded by open grazing lands, generally zoned Upland Conservation and designated in the Standish-Litchfield Area Plan as Extensive Agriculture. Immediate adjacent to and south of the site, a smaller aggregate mine is located on Bureau of Land Management (BLM)-administered land. Other BLM land is located to the east and south and the Wells Ranch is located directly to the north. Eight homes are located on parcels from 10 to 80 acres in size to the west and south along Ward Lake Road. The nearest residence is approximately 875 feet from the western property line of the Project parcel. The Standish-Litchfield Area Plan designations are shown on Figure 3-5. The Project site is currently zoned Upland Conservation/Resource Management District. Site zoning and adjacent zoning are shown on Figure 3-6.

3.5 Existing Baseline Operations

The mining operation currently operates under Lassen County Use Permit No. 96056 adopted in September 1997 and Reclamation Plan No. 94032 adopted in July 1994. The surface mining operation is presently permitted for the mining of rock, crushing, screening, washing, material stockpiling, fuel storage; operation of a cement plant (12,000-cubic-yard annual limit) and asphalt plant; and the use of settling ponds, scales, an office, and a truck shop. Grading, excavating, and blasting are prohibited onsite between January 1 and March 31, except in a state of emergency as declared by the Local Emergency Services Director and/or the Board of Supervisors and/or the City of Susanville. The detonation of explosives is prohibited between the hours of 6:00 p.m. and 7:00 a.m. year-round.

Materials produced at the site include asphalt, concrete, various sizes of crushed rock, and crushed base rock which are used as construction materials. The materials at the site have been evaluated both by an independent testing laboratory and the California Department of Transportation with test results indicating superior material not commonly found in the region. The quality of the resources and choice location to the existing and potential market aggregates and paving materials were the determining factors in choosing the site for the planned operations in 1981.

3.5.1 Hours of Operation

The current use permit allows for six-day-per-week operations. Hours of operation, including truck traffic to and from the site on Ward Lake Road, are currently permitted to occur Monday through Saturday, 6:00 a.m. to 7:00 p.m. In addition, Lassen County Board Resolution 97-067, Condition #21, for the currently permitted operation identifies seasonal restrictions to the operation between January 1 and March 31. The condition restricts grading, excavating, and blasting during this period to reduce adverse impacts to deer and antelope herds. Condition # 27 of Resolution 97-067 requires that no explosives shall be detonated between the hours of 6:00 p.m. and 7:00 a.m.

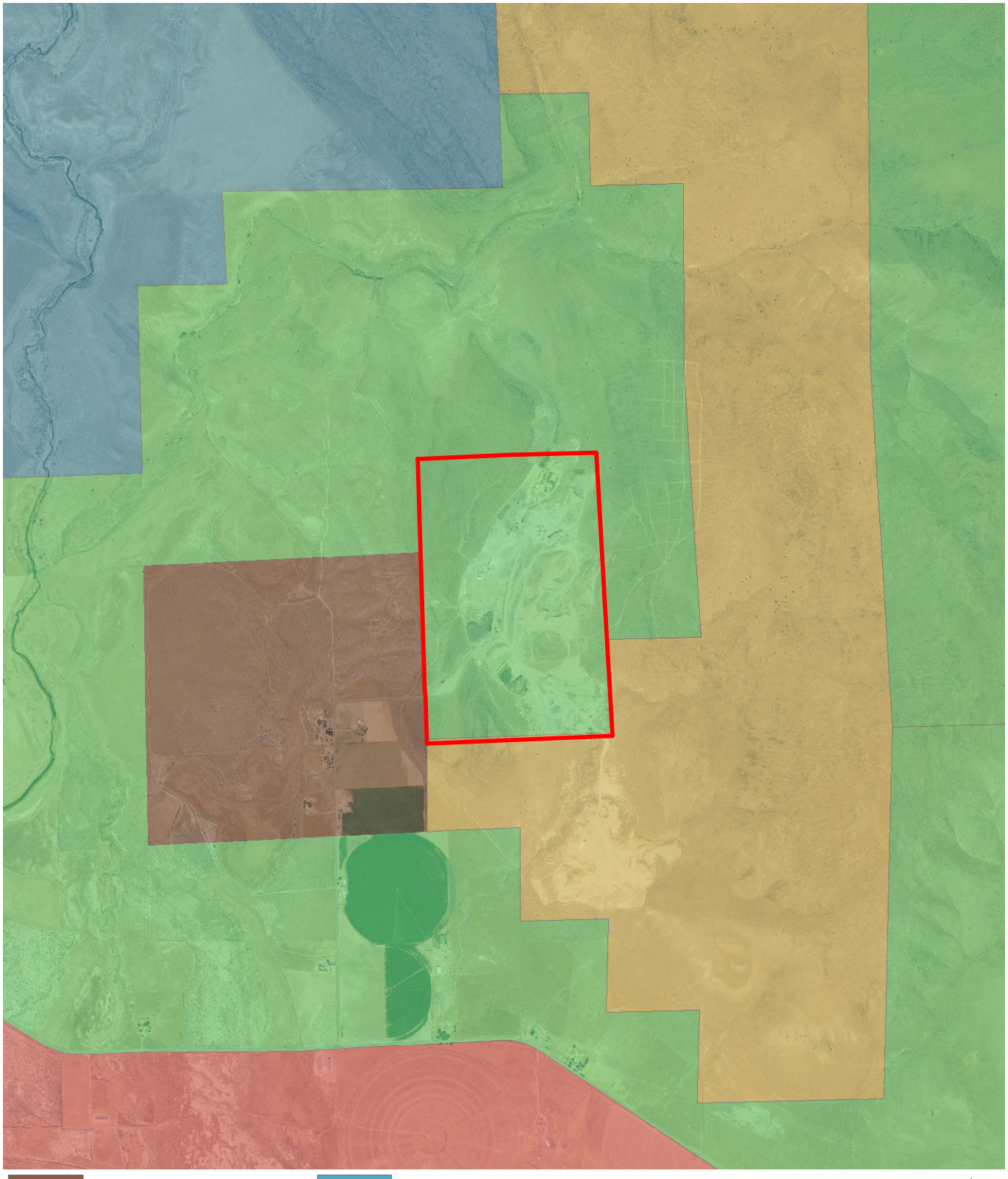
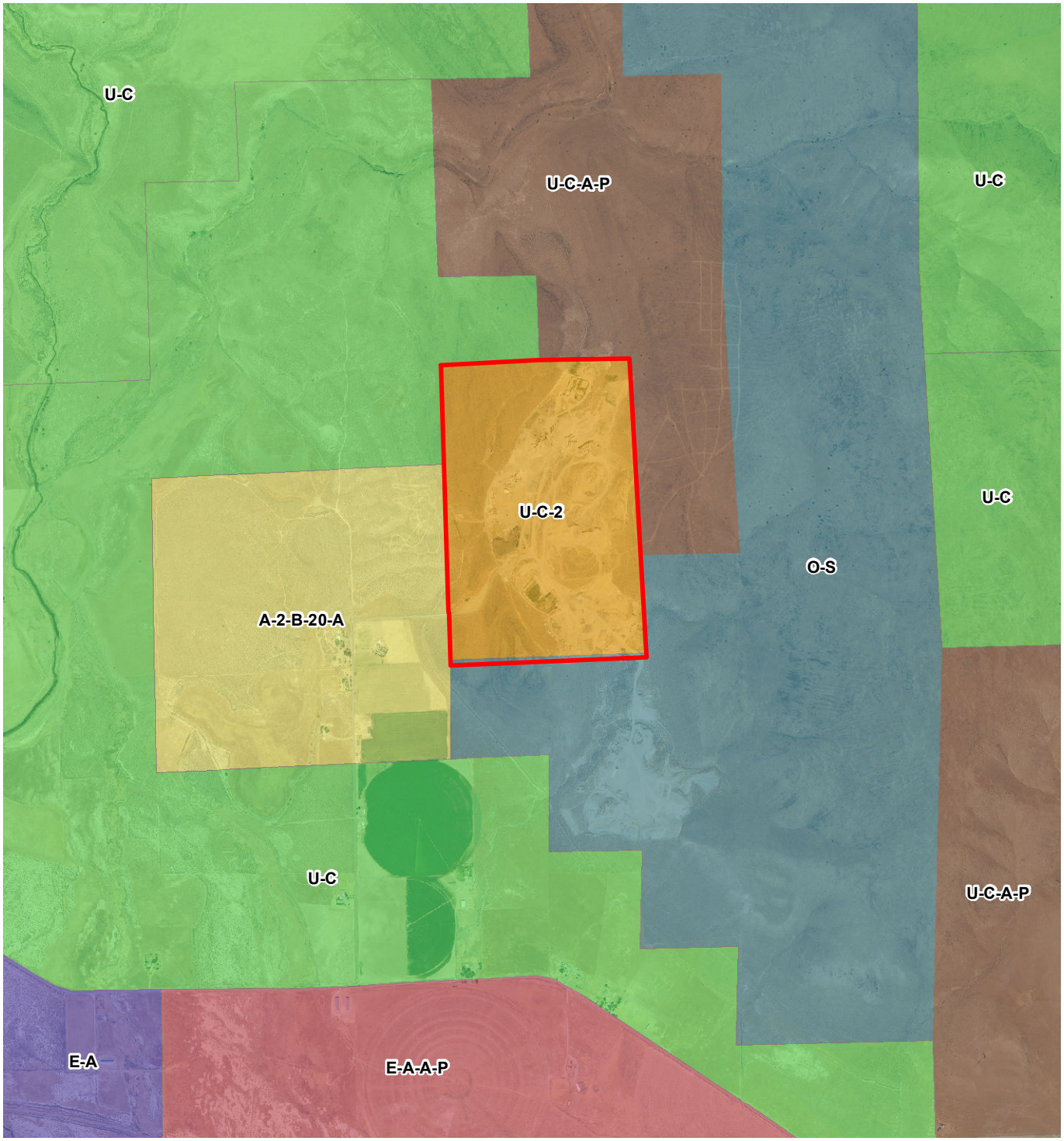


FIGURE 3-5
GENERAL PLAN LAND USE
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

SOURCE: USDA NAIP 2016 AERIAL PHOTOGRAPH; LASSEN COUNTY 2014

P:\GIS\71305\WardLakeExpansion\Final EIR\71305_GeneralPlanLandUse.mxd



Projet Site

A-2-B-20-A (Agricultural Residential District/Building Site Combining District/Agricultural Combining Districts)

E-A (Exclusive Agricultural District)

E-A-A-P (Exclusive Agricultural/Agricultural Preserve Combining District)

O-S (Open Space District)

U-C (Upland Conservation District)

U-C-2 (Upland Conservation/Resource Management District)

U-C-A-P (Upland Conservation District/Agricultural Preserve Combining District)

N

VESTRA

0 1,000 2,000 4,000 Feet

SOURCE: USDA NAIP 2016 AERIAL PHOTOGRAPH; LASSEN COUNTY 2018

FIGURE 3-6
ZONING
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\Final EIR\71305_Zoning.mxd

3.5.2 Nighttime Lighting

The Project site contains lighting fixtures used in the early morning and evening hours when needed between 6:00 a.m. and 7:00 p.m.

3.5.3 Truck Volume

Truck volumes were estimated from scale and yard data provided by Hat Creek Construction for the years 2014 through 2018. Annual truck trips by material class are included in Table 3-1.

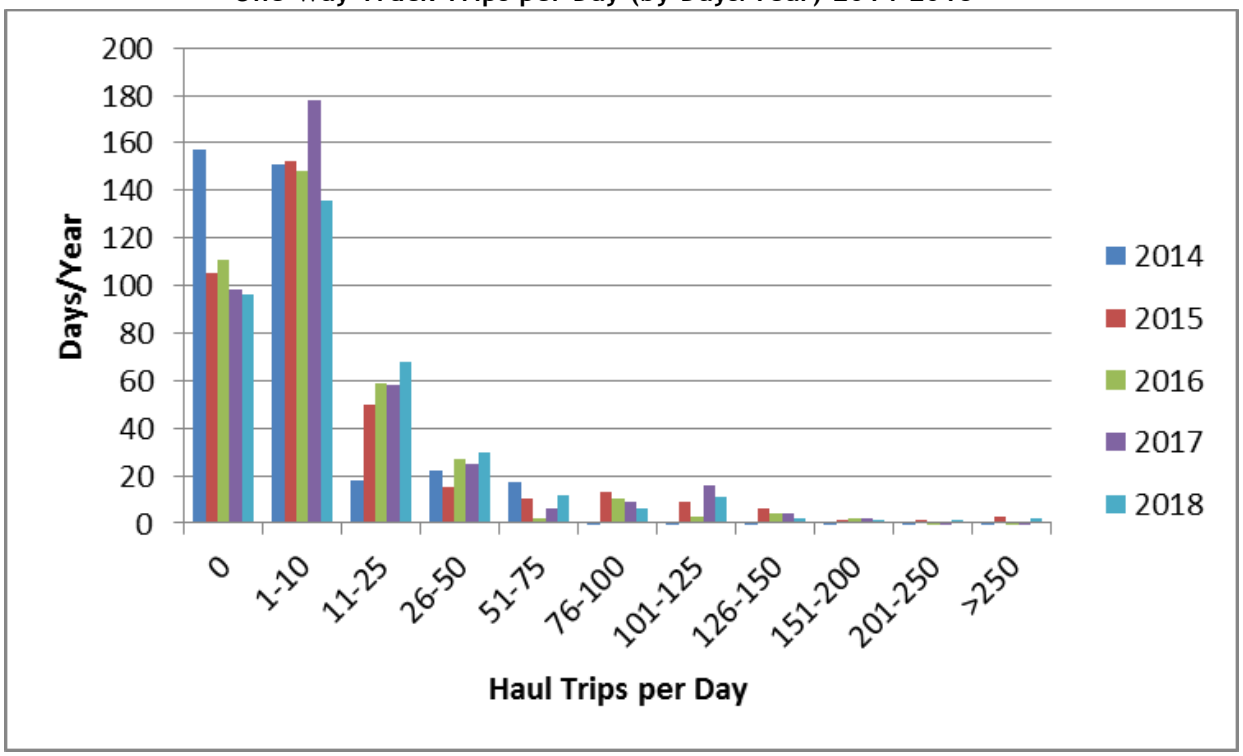
Table 3-1
DAILY/AVERAGE ONE-WAY TRUCK TRIPS (by class)
TOTAL DAYS OF RECORD 1,826 (2014-2018)

Total Asphalt Trips (5-year period)	9,900
Average Asphalt Trips/Day[1]	7
Maximum Asphalt Trips/Haul Day	140
Total Aggregate Trips (5-year-period)	11,521
Average Aggregate Trips/Day[1]	8
Maximum Aggregate Trips/Haul Day	353
Total Concrete Trips (5-year period)	2,601
Average Concrete Trips/Day[1]	2
Maximum Concrete Trips/Haul Day	68
Total Haul Trips (5-year period)	24,022
Average Trips per Day[1]	16
Maximum Trips/Haul Day	358

1 = Average number of trips per day based on a 305-day operating year

Truck trip data are summarized by trips per day on Figure 3-7. The figure presents the total number of one-way truck trips (departing only) per day against number of days per year. It is notable that for all five years, "no hauling" (i.e. no truck trips) occurred on approximately 100 days for each year. Fewer than 10 trucks left the site on approximately 150 days per year, and the truck trips over 150 departing trucks per day amount to less than 2 percent of the total truck traffic. Based on these data, the current (baseline) condition for the site is an average of 16 one-way (departing) truck trips per day and a maximum of 358 one-way (departing) truck trips per day.

Figure 3-7
One-Way Truck Trips per Day (by Days/Year) 2014-2018



Truck trip numbers were based on the following: Aggregate and asphalt are sold as tons. Hat Creek Construction used scale data to generate the number of truck trips, dividing the daily scale by 22 tons per truck to estimate truck trips for aggregate and asphalt. Concrete is measured and sold in yards. An average truck holds 10 yards total of concrete. The yards per day was divided by 10 yards per truck to get the estimated number of concrete trucks. Again, this is a conservative number as some trucks leave the site with less than 10 yards of concrete.

Total truck trips per day over the previous five-year period are shown on Figure 3-8. Aggregate, asphalt, and concrete contributions are shown on Figures 3-9, 3-10, and 3-11.

Truck trips are also generated by the BLM Section 4 Pit located directly south of the Ward Lake Pit. Hat Creek Construction also operates the BLM Section 4 Pit. The Section 4 Pit materials run through the Ward Lake Pit scales and onto Ward Lake Road. The BLM, for the Section 4 Pit, allows removal of 50,000 tons/year. At a maximum removal rate, this could generate 2,272 additional truck trips per year or approximately 7 truck trips per operating day (assuming a 305-day operating year).

Figure 3-8
Estimated Total One-Way Truck Trips per Day 2014-2018

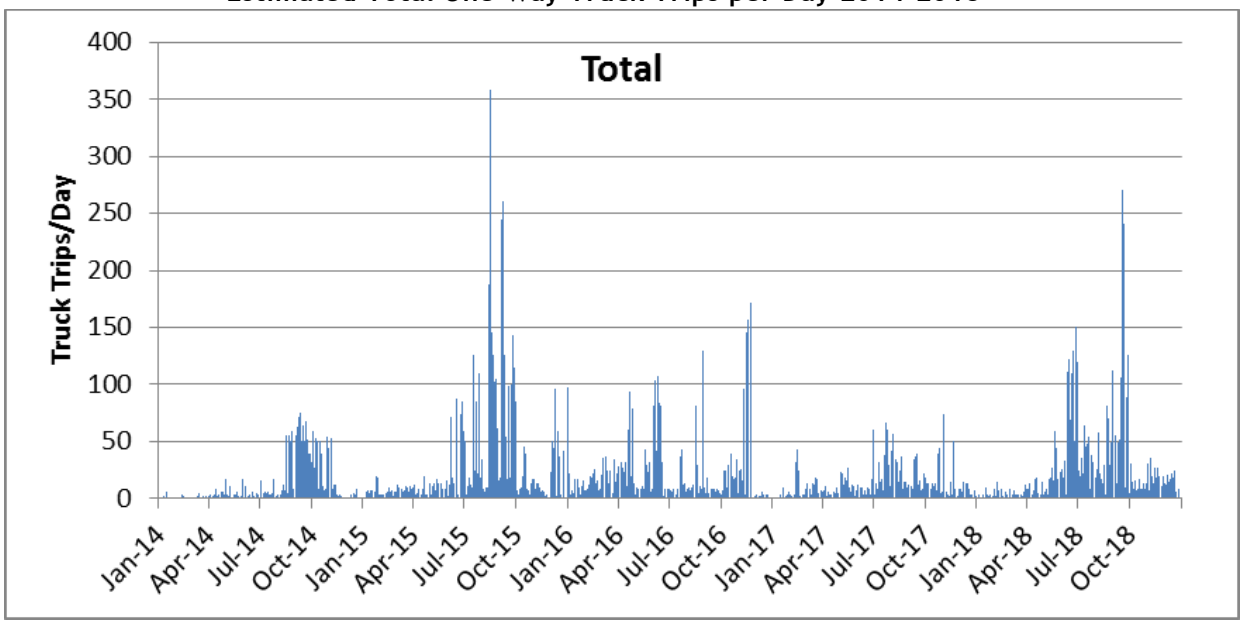


Figure 3-9
Estimated Total One-Way Aggregate Trucks per Day 2014-2018

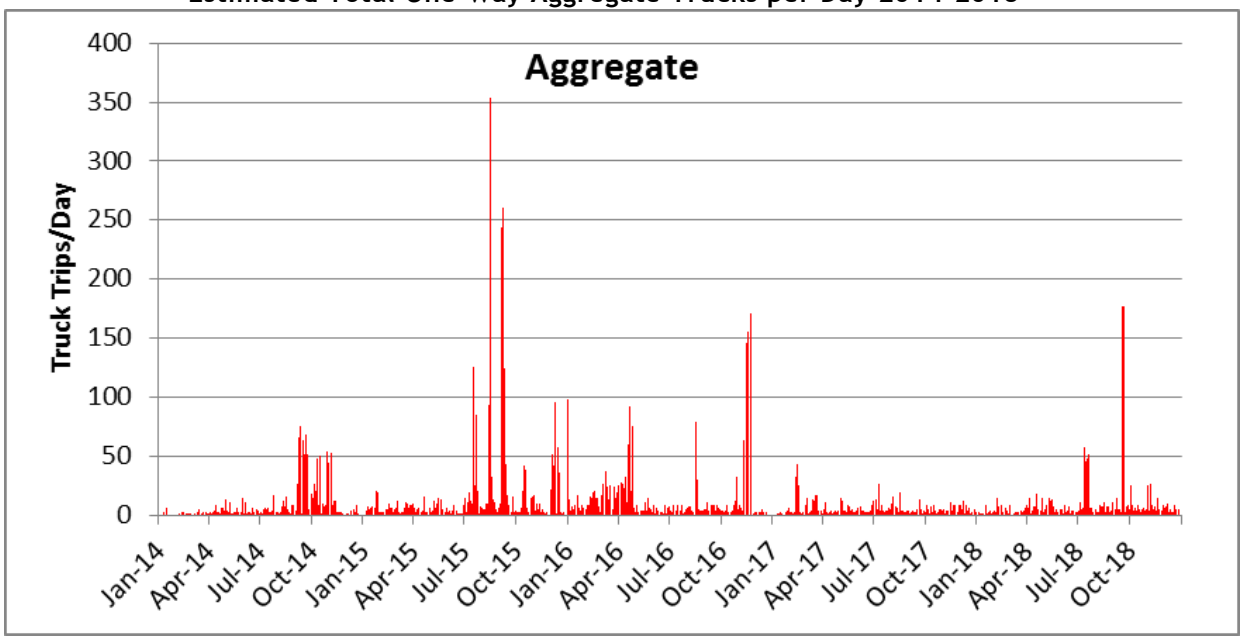


Figure 3-10
Estimated Total One-Way Asphalt Trucks per Day 2014-2018

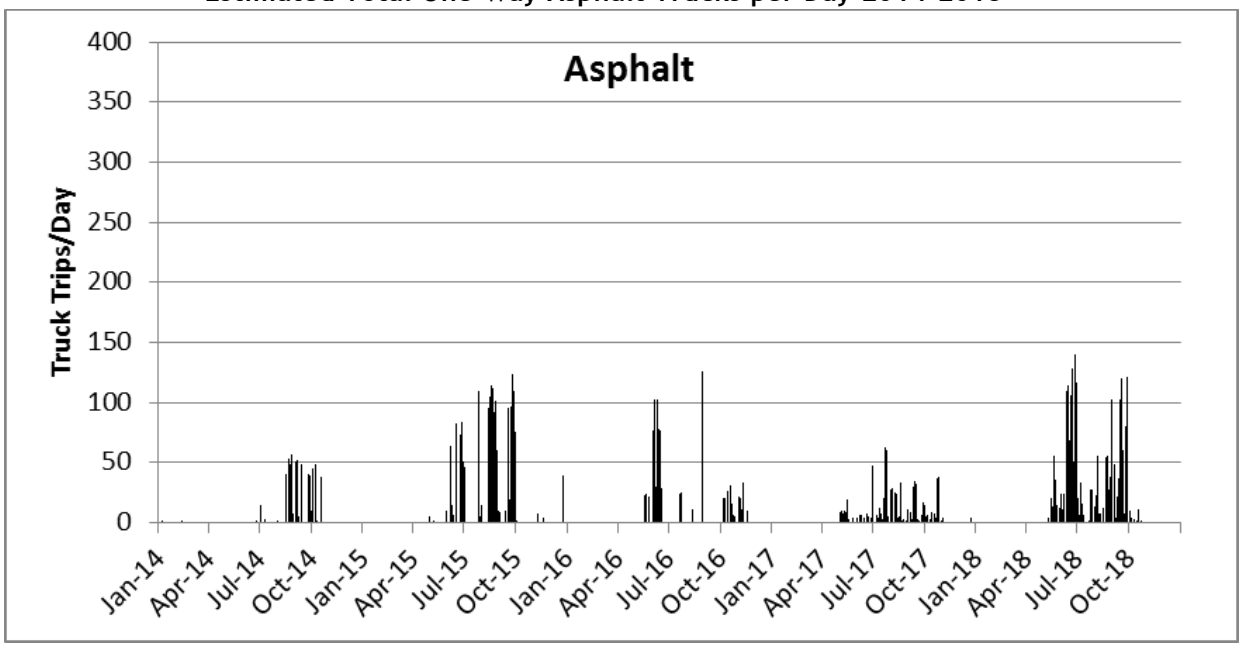
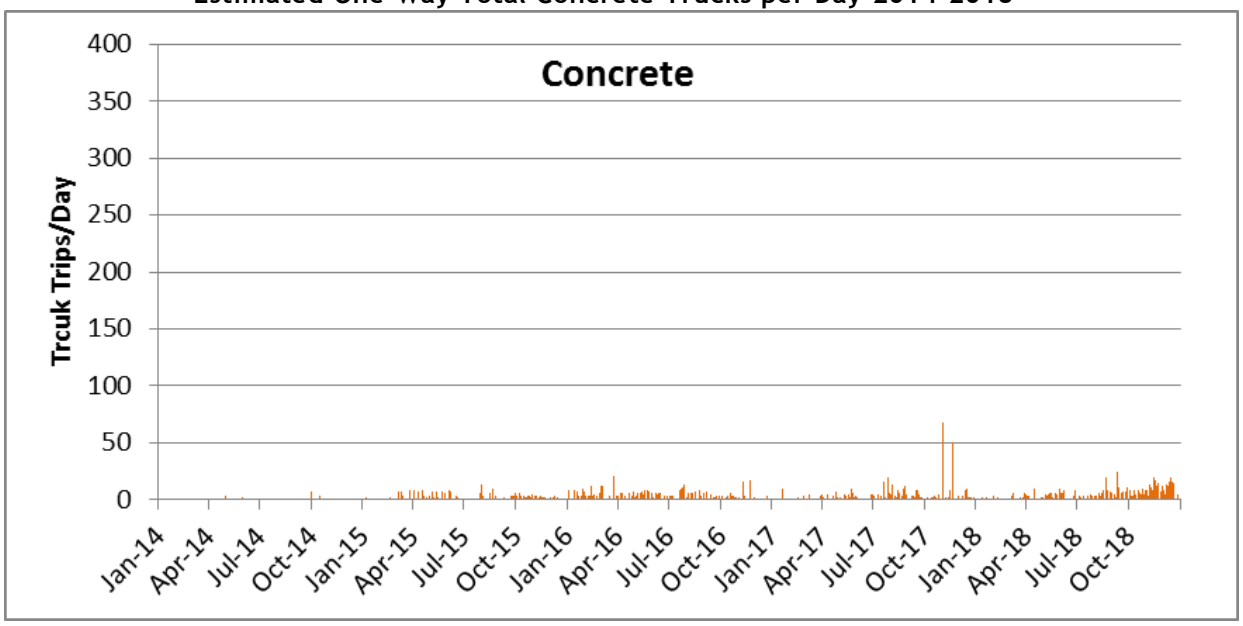


Figure 3-11
Estimated One-Way Total Concrete Trucks per Day 2014-2018



From 2014 through 2017, Hat Creek Construction did not effectively separate the scale data from Ward Lake Pit and BLM Section 4 Pit, as all of the material from both pits goes across the Ward Lake scales and the same royalty is paid on material from both pits. For asphalt and aggregate for 2014 through 2018, the total one-way (departing) truck trips per day were adjusted by the Division of Mine Reclamation-reported Ward Lake Pit volumes to isolate project-specific (Ward Lake) truck trips.

The baseline numbers of an average of 16 one-way (departing) truck trips per operating day and a maximum of 350 one-way (departing) truck trips per day were used in the analysis.

3.5.4 Truck Distribution

Truck traffic to and from the site is currently distributed with 60 percent of truck traveling to and from the site using Center Road West of Ward Lake Road and 40 percent of trucks using Center Road east of Ward Lake Road to travel to and from the site.

3.5.5 Volume Removal

The Ward Lake Pit is permitted to remove 100,000 tons of material per year. The actual amount removed varies by year and product demand.

Hat Creek Construction also operates the BLM Section 4 Pit located directly south of Ward Lake Pit. Royalties for the removal of aggregate are paid to the BLM on both pits. Historically, Hat Creek Construction has not clearly separated the volume from each pit for reporting purposes, as the royalty is the same for each pit. Following a review of activities during the renewal of the BLM Section 4 Pit Operation Plan in 2018, Hat Creek Construction will now provide more detailed log slips for each mine property. The BLM Section 4 Pit allows an annual extraction volume of 50,000 tons. The Ward Lake Pit allows an annual extraction of 100,000 tons. Reported volumes for the last five years are included in Table 3-2.

Table 3-2
REPORTED VOLUMES (2014-2018)
(tons)

Year	Ward Lake Pit[1]	Section 4 Pit[2]	Total[3]
2014	52,148	4,250	56,398
2015	148,094[4]	2,665	150,759
2016	91,725	2,670	94,395
2017	50,717	572	51,289
2018	93,611	33,835	127,446

Notes:
1 – Not to exceed 100,000 tons
2 – Not to exceed 50,000 tons
3 – Not to exceed 150,000 tons
4 – Includes Section 4 volume

3.5.5 Current Resolution 97-067 Operating Conditions

On September 23, 1997, Board of Supervisors Resolution 97-067 was adopted to approve Use Permit No. 96056 and certify the Final Environmental Impact Report. The resolution contained conditions of approval for the current mining operation:

13. The following reclamation shall be required and, when different or in addition to the provisions of the approved reclamation plan, said reclamation plan shall be amended by application:

    Reclamation of graded areas. The intent of the Reclamation Plan shall be to recreate to the extent possible a viable, self-sustaining plant community similar to that which existed prior to mining as follows:

    Sand and Gravel Excavation Areas: These areas shall be regraded to maximum slopes of 2H:1V, shall be resoiled with adequate growth medium to support vegetation including fines from the crusher and stockpiled topsoil and shall be vegetated with native species including sage, bitterbrush, and rabbit brush. The success of revegetation in these areas shall be monitored by qualified personnel with reports submitted to the County Community Development Department at least once per year for five years. The final approved species list and planting density must be approved by the County in consultation with the Department of Fish and Game.

    Rock Quarry Area: This area shall be regraded to a maximum overall slope of 2H;1V and shall be benched with minimum 10 foot wide benches at vertical intervals appropriate for the type of material, but not greater than 15 feet. The benches shall be sloped to drain toward the hillside, shall be resoiled with adequate growth medium to support vegetation including fines from the crusher and stockpiled topsoil and revegetated using native range greases, shrubs, and trees if they can be supported.

    The operator shall institute a test plot program on the first available rock face bench to determine the best species mix and planting scheme for subsequent benches. The test plots shall be set up and monitored by qualified personnel with reports submitted to the County Community Development Department at least once per year for five years. The final approved species list and planting density must be approved by the County in consultation with the Department of Fish and Game.

    Timing/Phasing of Reclamation: Reclamation of sub-areas shall take place in a phased manner where possible as excavation is completed.

    Protection of Replanted Areas: Replanted areas shall be protected by fencing or other approved method intended to exclude livestock and deer until vegetation is established Perimeter livestock fencing shall be provided and shall be four wires maximum, bottom wire smooth and no closer than 18 inches to the ground with total fence height not to exceed 42 inches. More site-specific deer proof fencing shall also be provided directly around replanting areas.

14. The approved reclamation plan for the Project, and any future amendments thereto, is hereby incorporated into this use permit. Adherence to the provision of the approved reclamation plan, and any County-approved amendments thereto, is hereby made a condition of approval.

15. Topsoil (the top surface layer supporting vegetation) shall be scraped and salvaged concurrent with mining, stockpiled and protected from erosion, and shall be re-applied to disrupted surfaces, to promote revegetation and slope stability upon reclamation.

16. At a minimum, wet suppression shall be used to control dust at all times from excavation, processing activities on haul roads.

17. The disturbed portion of the site, including quarry highwall benches, shall be revegetated with native and/or compatible species per the approved reclamation plan.

18. Onsite fuel tanks shall be placed and kept in impermeable containment structures capable of holding at least 110 percent of the tank capacity pursuant to the County's aboveground fuel storage standards.

19. The operator will participate in the County's mine permit administration and monitoring program by submitting annual fees pursuant to County Code Section 9.60.110.

20. If any historic or pre-historic artifacts are discovered, work in the immediate vicinity shall stop, the lead agency shall be notified and a qualified archaeologist brought in at the operators expense to assess the resource(s) and recommend mitigation.

21. Except in a state of emergency as declared by the local Emergency Services Director and/or the Board of Supervisors and/or the City of Susanville, no grading, excavating, or blasting on the site shall be allowed between January 1 and March 31 annually.

22. Hours of operation, including truck traffic to and from the site on Ward Lake Road shall be limited to 6:00 am. To 7:00 p.m. Monday through Saturday.

23. In the event that the ready-mix concrete plant is allowed and installed onsite, the applicant shall paint that portion of the concrete plant visible from Ward Lake Road and Center Road (A27) as determined by the County, to blend with surrounding background colors.

24. Ready-mix concrete production shall be limited to 12,000 cubic yards per year.

25. The operator shall contract with a California Air Resources Board certified private contractor for an annual compliance test at the Ward Lake operation to determine compliance with APCD permit. The test shall be conducted during facility operations before January 1 every year and the results submitted to APCD for review.

26. Explosives shall be handled by a licensed operator, and shall be stored in an ATF-inspected and approved magazine.

27. No explosives shall be detonated between the hours of 6:00 p.m. and 7:00 a.m.

28. The operation shall not exceed the noise standards for industrial activities as described in the Lassen County Noise Element as follows:

Noise produced by industrial uses shall not exceed 70 dB Ldn/CNEL at the nearest property line. (1989 Noise Element, page 21, #9)

The standards of Table II (1989 Noise Element page 19) are also applicable.

29. The operator shall at the lead agency's request, measure the noise levels in the vicinity of operating equipment, at the nearest property line and at the nearest residential property line and submit the result to the lead agency for review. Measurements shall be taken by a qualified acoustical analyst.

30. The paved access to the site from Ward Lake Road shall serve as the only truck access to and from the site.

31. The operation (except the access road) shall be conducted within the following described area:

Township 30N, Range 14E. MDB & M:

Section 32: SE ¼ of the SE ¼ of the NE ¼;
E ½ of the NE ¼ of the SE ¼
NE ¼ of the SE ¼ of the SE ¼
Section 33: SW ¼ of the NW ¼:
W ½ of the SW ¼

32. The location of equipment, quarry, sand and gravel pits, maintenance areas, etc. shall be as shown in the site maps incorporated into the approved reclamation plan as such plan may be amended from time to time with County approval.

33. The operator shall identify the boundaries of the approved mine activity area and flag the corners so that the boundaries are readily visible to County and State officials authorized to inspect the site.

34. The applicant shall provide the necessary funding to the County Road Department to install speed limit signs on Ward Lake Road, upon determination by the County Engineer, applying accepted traffic safety considerations, that speed limit signs would be beneficial in reducing truck speeds and increasing safety on Ward Lake Road. The applicant shall further provide the County funding to install a stop sign at the intersection of the project access road and Ward Lake Road upon similar determination by the County Engineer that such a sign would be beneficial. The applicant's obligations herein shall be valid for a period not to exceed two years from the date of project approval.

35. In the event that the approval of this Use Permit is legally challenged on grounds including, but not limited to, CEQA compliance and/or general plan consistency or adequacy, the County will promptly notify the applicant of any claim, action, or proceeding, and the County will cooperate fully in the defense of the matter. Once notified that a claim, action or proceeding has been filed to attack, set aside, void or annul an approval by the Planning Commission or the Board of Supervisors concerning

this Use Permit, the applicant agrees to defend, indemnify and hold harmless the County and its agents, officers and employees.

3.6 Proposed Project Operations

The Project includes modifications to existing permitted operations at the Ward Lake Quarry. The Project includes the following changes to existing baseline operations:

- Allow 24-hour mining operations, Monday through Saturday (currently, the Use Permit allows operations from 6:00 a.m. to 7:00 p.m., Monday through Saturday), from April 1 to December 31
- Extend the life of the mine from 2020 to 2030
- Allow annual site production in excess of the permitted 100,000 tons during Federal-, State-, or County-declared emergencies

These changes in currently permitted operations at the Project site will allow the applicant to provide materials for emergency projects and construction projects that could require continuous 24-hour operations. To respond to emergency projects during Federal-, State-, or County declared emergency conditions, 24-hour processing and hauling operations may be required. In addition, in order to respond to emergency projects, the annual removal volume of the mine could exceed 100,000 tons.

Some projects, such as Caltrans road projects, operate during nighttime hours to avoid traffic conflicts. These projects require material production and hauling during nighttime hours. 24-hour operations will occur only on projects where nighttime work is required and is estimated to be 20 to 40 days per year. Generally, under the current operation, the operator is awarded two to four major road construction projects annually with four to five peak days per job. Peak trip days are limited to the periods where aggregate placement and paving is occurring, usually four to five days within a larger project window; however, some jobs may have a longer peak period. These major road construction projects generally occur from May 1 to November 15.

3.6.1 Hours of Operation

The project will extend the hours of operations of the existing operation (Hours of operation, including truck traffic to and from the site on Ward Lake Road, are currently permitted to occur Monday through Saturday, 6:00 a.m. to 7:00 p.m.) to allow for 24-hour operations. The Project will allow for 24-hour operations from April 1 to December 31 (except during Federal-, State-, or County-declared emergency periods). Peak conditions requiring 24-hour operations will occur only during major paving or roadwork operations. During Federal-, State-, or County-declared emergency conditions, operations may be required 24 hours per day, seven days per week.

The Project will continue to comply with Lassen County Board Resolution 97-067 operating conditions contained in Section 3.5.5 (excluding the current permitted hours of operation Monday through Saturday, 6:00 a.m. to 7:00 p.m.). The project will continue to comply with Condition 21 that restricts grading, excavating, and blasting between January 1 and March 31

annually except in a state emergency as declared by the local Emergency Services Director, and/or the Board of Supervisor and/or the City of Susanville. In addition, as required by Condition 27, no explosives shall be detonated between the hours of 6:00 p.m. and 7:00 a.m.

During periods of 24 hour operations, equipment operated onsite from 7:00 p.m. to 6:00 a.m. will include the asphalt batch plant, cement batch plant, crushing operations, lighting, and all associated generators. Truck traffic to and from the site will also occur during extended operational hours.

3.6.2 Nighttime Lighting

No additional lights are proposed to be installed as part of the Project. The Project site contains lighting fixtures used in the early morning and evening hours when needed between 6:00 a.m. and 7:00 p.m. The Project will extend the lighting hours to include the hours between 7:00 p.m. and 6:00 a.m., on days when 24-hour operations are occurring. Hat Creek Construction estimates that they will complete two to four nighttime projects annually, for a total of 20 to 40 nighttime operational days.

3.6.3 Truck Volume

The Project will not result in an increase in truck volumes generated by the existing project. Baseline truck volumes generated by the project include an average of 16 one-way truck trips (16 arriving and 16 departing) per day during the 305-day operating period. Average truck volumes under the Project are not anticipated to change. Project truck volumes will not exceed the maximum baseline truck volume of 350 one-way truck trips (350 arriving and 350 departing) per day that occurs under existing operations. The project would allow for truck traffic to and from the site 24 hours a day when 24-hour operations are required.

3.6.4 Truck Distribution and Routing

Early in to project planning process, issues were identified concerning project impacts to the nearby community of Litchfield. Residences in the community of Litchfield are close to Center Road. The portion of Center Road that runs through the community of Litchfield (Center Road east of Ward Lake Road) is currently utilized for approximately 40 percent of the existing operational truck traffic. These residences could be impacted by traffic, headlights, and traffic noise from trucks traveling on Center Road east of Ward Lake Road during nighttime hours.

The operator has decided to incorporate nighttime truck traffic routing during 24-hour operations as part of the project, so that trucks will not pass through the community of Litchfield on Center Road at night during 24-hour operations of the Project. Truck traffic traveling to and from the site will not use Center Road east of Ward Lake Road between the hours of 6:00 p.m. and 7:00 a.m. During these hours all trucks that will head east on Highway 395 will turn west on Center Road from Ward Lake Road and then south on Leavitt Lane to access Highway 395. Trucks traveling to the site from Highway 395 east of Litchfield will turn north onto Leavitt Lane and then east on Center Road to access the project site. All truck drivers will be informed of the nighttime truck traffic route prior to any periods of 24-hour operations.

3.6.5 Volume Removal

The Ward Lake Pit is permitted to remove 100,000 tons of material per year. The actual amount removed varies by year and product demand. The Project will allow annual site production in excess of the permitted 100,000 tons during Federal-, State-, or County-declared emergencies.

3.7 Required Approvals

The following permits will be required to implement the Project:

- Conditional Use Permit, Lassen County Planning Commission and Board of Supervisors for the proposed operational changes
- Reclamation Plan, Lassen County Planning Commission and Board of Supervisors and Department of Conservation, Division of Mine Reclamation (DMR)
- Permits for Operation, Lassen County Air Pollution Control District (APCD)

4.0 ENVIRONMENTAL SETTING, IMPACT ANALYSIS, AND MITIGATION MEASURES

4.1 Introduction

This section contains discussions of the environmental setting, impacts, and mitigation measures for specific areas identified in the Initial Study Form and by the County that require additional review. Based on the documentation presented previously in Section 1, this section will focus ONLY on the issue areas identified as having significant and potentially significant impacts in the Initial Study or identified by the County. For areas where impacts are determined to be less than significant in the Initial Study, only a summary of the discussion included in the Initial Study will be provided in the impact analysis. The issues are organized to discuss the following:

- **Environmental Setting.** The environmental settings present the existing environmental conditions, in accordance with CEQA Guidelines §15125. The subsection describes the baseline conditions against which the environmental impacts associated with the proposed project and the potential future development of the property are assessed.
- **Regulatory Setting.** The regulatory settings describe the laws, regulations, and policies that affect the resource or the assessment of impacts on the specific resource. The regulatory setting subsection establishes the regulatory framework for the analysis of each resource. This subsection is divided into Federal, State, and Local regulations.
- **Previous CEQA Review.** The previous CEQA review presents the impacts and mitigation measures contained in the two previous EIRs prepared for mining operations at the Project site.
- **Threshold of Significance.** Thresholds of significance describe the criteria used to determine the significance of impacts. The thresholds and criteria for determining the significance of impacts for analysis are based on the Environmental Checklist in Appendix G of the State CEQA Guidelines (Sections 15000 to 15387) and other resource-specific sources as described in each subsection. The thresholds and criteria derived from the checklist have been modified as appropriate to meet the circumstances of the alternatives.
- **Impact Analysis.** The impact analysis presents thresholds of significance used and discusses potential effects of the proposed project on the existing environmental conditions (in accordance with CEQA Guidelines §§ 15126.2(a) and 15143).
- **Mitigation Measures.** Mitigation measures provide measures to reduce potentially significant effects associated with the proposed project to the extent feasible (in accordance with CEQA Guidelines §§15002(a)(3), 15021(a)(2), and 15091(a)(l)).
- **Level of Significance after Mitigation.** This subsection describes whether mitigation measures feasibly would or would not substantially reduce or avoid an impact. This subsection is presented in accordance with State CEQA Guidelines §§ 15091(a)(1), 15092(b)(2)A), and 15126.2(b), which require identification of impacts capable of avoidance or mitigation, as well as those that cannot be avoided.

The section is organized as follows:

- Aesthetics and Visual Resources (4.2)
- Air Quality (4.3)
- Biological Resources (4.4)
- Greenhouse Gas Emissions (4.5)
- Hazards and Hazardous Materials (4.6)
- Hydrology and Water Quality (4.7)
- Land Use (4.8)
- Noise (4.9)
- Public Services (4.10)
- Transportation and Traffic (4.11)
- Utilities and Service Systems (4.12)
- Energy Consumption (4.13)

4.2 Aesthetics and Visual Resources

The County has determined that extending the life of the mining operations and allowing for nighttime operations are substantial changes proposed in the Project that will require revision of the previous EIR due to the involvement of potentially new significant environmental effects pertaining to Aesthetics and Visual Resources which could lead to a substantial increase in the severity of previously identified significant effects under CEQA Guidelines Section 15162.

This section provides a description of existing visual conditions in the Project area, summarizes the previous CEQA analyses of the visual impacts of the current operation at the Project site, and describes the changes to those conditions that would result from the Project, both from nighttime lighting of the facility and headlight impacts from truck traffic. This section also includes Project-related impacts and recommended mitigation measures. The analysis is based, in part, on information contained in the *Visual Simulation Analysis, Ward Lake Pit Proposed Expansion* (Visual Analysis), prepared for the Project by VESTRA in January 2018 and revised in January 2019. The Visual Analysis is included as Appendix E and addresses the impacts to the general area and adjacent residences due to nighttime lighting.

4.2.1 Environmental Setting

The Project site is located at the base of the southwestern slope of Shaffer Mountain at an elevation of approximately 4300 feet above mean sea level. The site lies on the east side of Ward Lake Road, approximately 1 mile north of Center Road (A27). The existing visual character of the project site is that of brush and disturbed mining lands with moderate to steep topography. Mining occurs on approximately 160 acres of a 442-acre parcel. The Bureau of Land Management owns an additional 46-acre quarry (Section 4 Pit) directly south of the Project site. Section 4 Pit is also operated by Hat Creek Construction. Much of the Project site is obstructed from short- and long-distance views by a low ridge bordering the northwest side of the asphalt plant, concrete plant, and pond area at an elevation of 4280 feet. Another ridge at elevation 4360 shields the site from the southwest to some degree (Planning Concepts, 1997).

The character of the area surrounding the Project site is rural residential with homes on large, agricultural-sized parcels. A total of eight homes are located on Ward Lake Road just south of the Project site. These homes are considered "sensitive receptors" and are shown on Figure 4-1.

The Project is located approximately 4 miles east of the California State Correctional Center. The community of Litchfield is located 3 miles to the southeast and is shielded from the Project site by topography. The city of Susanville is located approximately 14 miles to the west. The community of Litchfield contains numerous residences along Center Road (A27) which becomes U.S. Highway 395 in the center of town. The number of residences abutting Highway 395 and Center Road (A27) is estimated at 24 (see Figure 4-2). Traveling farther west along Center Road (A27), toward the Correctional Facility, there are approximately six additional residences (see Figure 4-3). The project includes the condition that all nighttime traffic from 24-hour operations will turn right off of Ward Lake Road onto Center Road (A27), hence to Levitt Lane, and hence to Highway 395, to avoid the community of Litchfield.

Within the immediate Project vicinity, the only source of nighttime lighting is from residences located on Ward Lake Road. At night, light from homes in the community of Litchfield, located approximately 3 miles southeast of the Project site, is also visible. In the larger project area, a major existing source of nighttime lighting includes the California Correctional Center, located approximately 4 miles west of the Project site. The California Correctional Center uses exterior lighting that is bright and visible from a large area.

The facility currently uses artificial lighting in the morning and evening to meet the 6:00 a.m. to 7:00 p.m. operating window.

4.2.2 Regulatory Setting

The following is a description of Federal, State, and local environmental laws and policies that are relevant to the California Environmental Quality Act (CEQA) review process.

4.2.2.1 Federal

National Scenic Byways Program
The National Scenic Byways Program is part of the U.S. Department of Transportation, Federal Highway Administration (FHWA). Established in Title 23, Section 162 of the United States Code, the program is a grass-roots collaborative effort established to help recognize, preserve, and enhance selected roads throughout the United States. FHWA's May 18, 1995, interim policy sets forth the procedures for the designation by the U.S. Secretary of Transportation of certain roads as National Scenic Byways or All-American Roads based on their archaeological, cultural, historic, natural, recreational, and scenic qualities. There are 150 such designated byways in 46 states. There are no federally designated byways in the Project vicinity (Shasta County, 2017).

4.2.2.2 State

California Scenic Highway Program
California's Scenic Highway Program was created by the legislature in 1963. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. The State laws governing the Scenic Highway Program

Residence

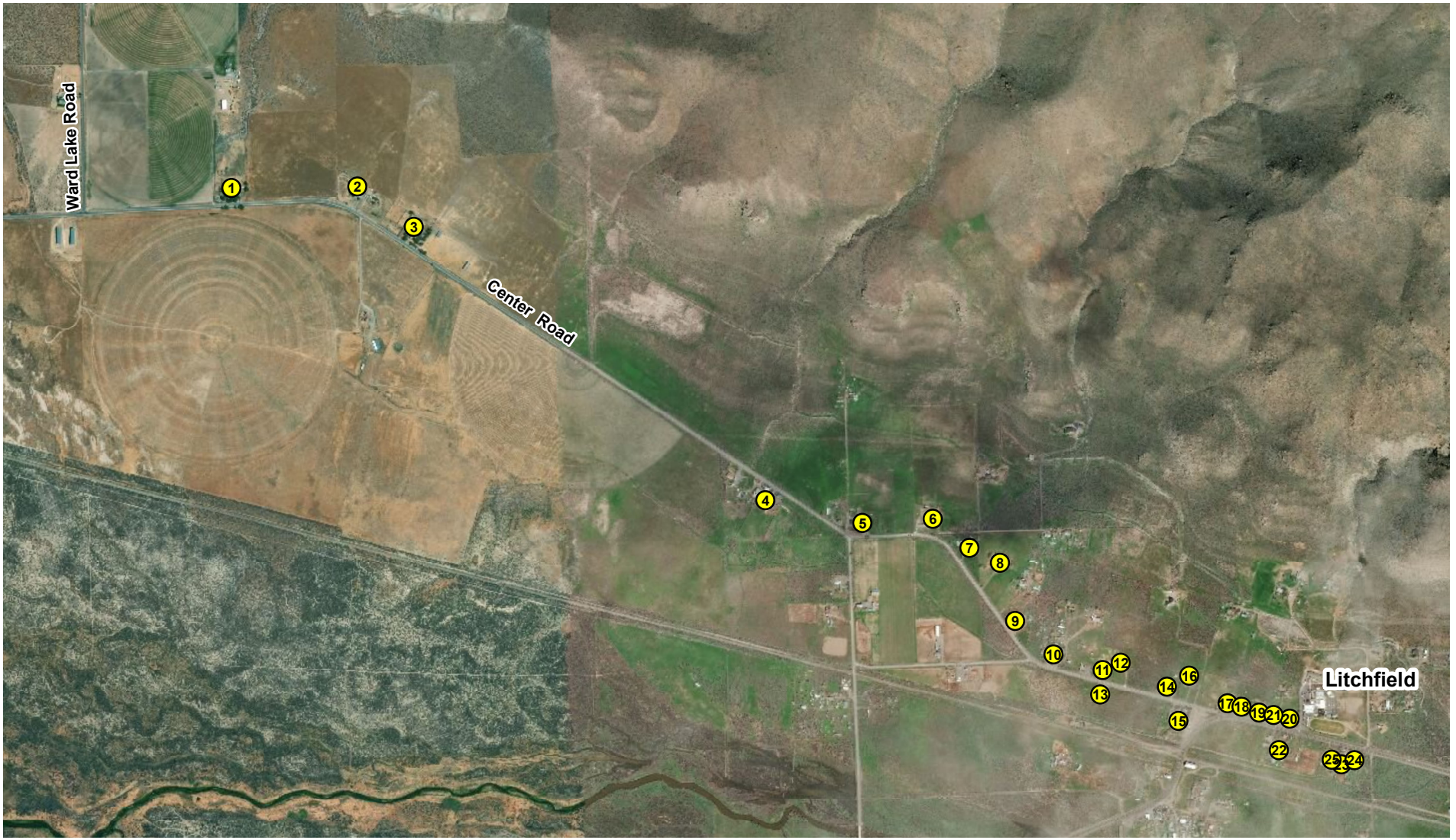
Approximate Project Area

VESTRA

0 500 1,000 2,000 Feet

FIGURE 4-1
SENSITIVE RECEPTORS
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

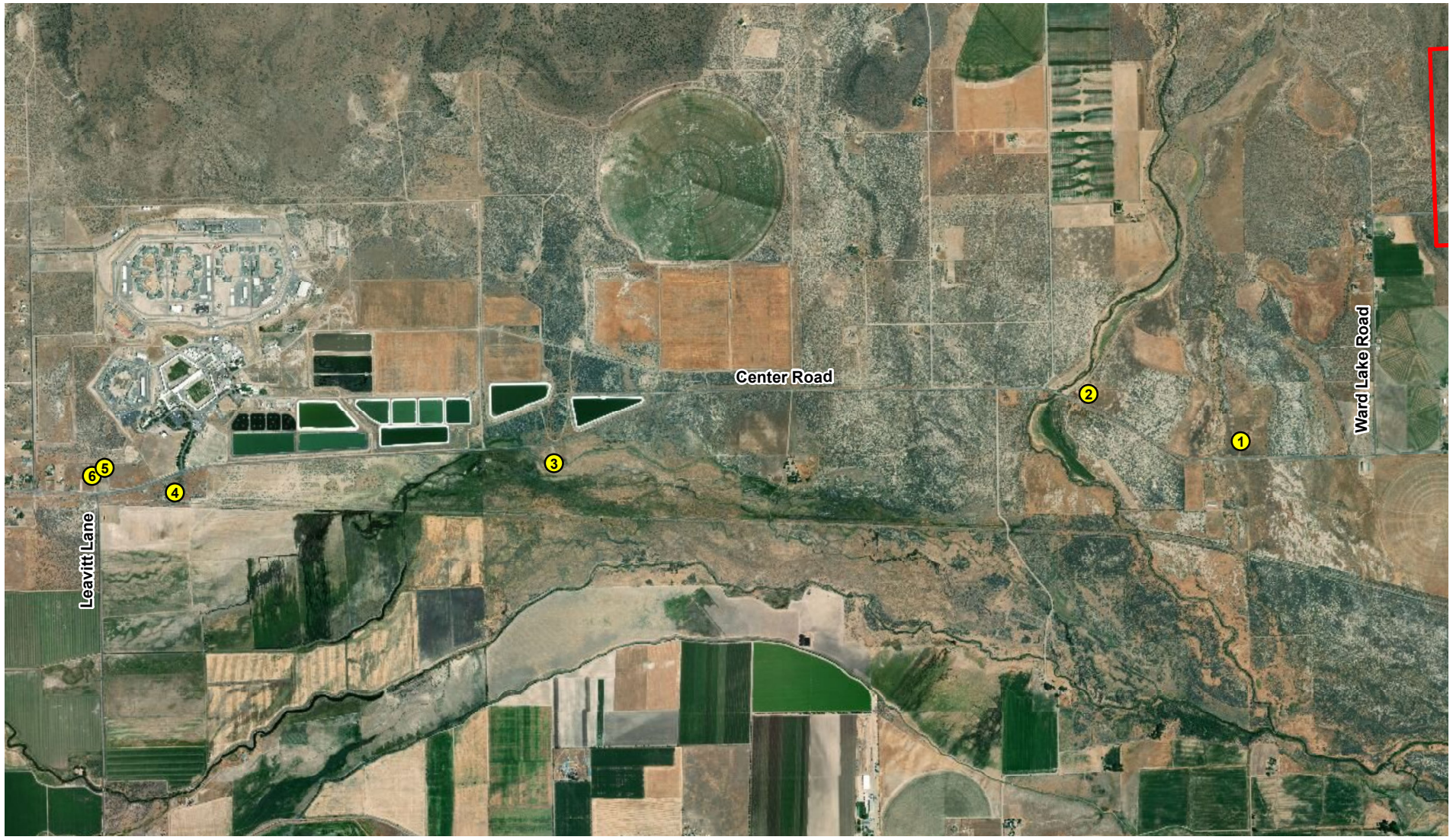
P:\GIS\71305\WardLakeExpansion\Final EIR\71305_SensitiveReceptors.mxd



VESTRA

FIGURE 4-2
RESIDENCES ADJACENT TO CENTER ROAD IN LITCHFIELD
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\Final EIR\71305_ResidencesInLitchfield.mxd



Residence

Approximate Project Area

VESTRA

N

0 1,500 3,000 6,000 Feet

FIGURE 4-3
RESIDENCES WEST ON CENTER ROAD
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\Final EIR\71305_ResidencesInLeavitt.mxd

are found in the Streets and Highways Code, Sections 260 through 263. Caltrans has compiled a list of State highways that are designated as scenic and county highways that are eligible for designation as scenic. There are no state-designated scenic highways in the Project vicinity.

4.2.2.3 Local

Lassen County General Plan
There are no specific General Plan policies that relate to aesthetics. The Standish-Litchfield Area Plan identifies scenic corridors. The Project is not in a scenic corridor identified in the Area Plan.

Lassen County Code
Section 18.108.155, *Lighting*, of the Lassen County Code contains the following policy related to aesthetics that would apply to the proposed project:

> *"Unless otherwise provided in this title, the following lighting requirements shall apply: All lighting, exterior and interior, shall be designed and located so as to confine direct lighting to the premises. A light source shall not shine upon or illuminate directly on any surface other than the area required to be lighted. No lighting shall be of the type or in a location such that constitutes a hazard to vehicle traffic, either on private property or on abutting streets."*

4.2.3 Previous CEQA Review

4.2.3.1 1981 EIR

Visual impacts of the initial mining operation at the site (excavation, crushing, stockpiling and hauling of materials as well as the operation of asphalt concrete batch plant) were analyzed in the 1981 EIR. The EIR determined that increased traffic and the proposed plant activities (even though not directly adjacent to occupied lands) would have and indirect long-term effect on the existent environmental setting (aesthetics) which could not be circumvented. Crusher and hot plant operations are functional rather than decorative. Visual impacts were determined to be significant and unavoidable. The following mitigation was included in the 1981 EIR to reduce the visual impacts of the project:

> *Aesthetic mitigation is limited to the physical location of the proposed project. An outcropping (ridge) of rock exists between County Road 308 (Ward Lake Road) and the fairly level area behind it designated for the plant sites which will, in part, limit some of the direct view of the operations. Areas designated as materials sources are visible from the valley floor in some sections. Mitigation of these areas would consist of the implementation of the reclamation plan calling for reshaping and reseeding of excavated areas on a continuing basis. The ridge between County Road 308 and the plant site is not a part of the materials source and would not be disturbed by the applicant.*

4.2.3.2 1997 EIR

Visual impacts of the currently permitted operation (which included the addition of the concrete batch plant) were evaluated in the 1997 EIR. The 1997 EIR determined that impacts to long-distance views, including those from Center Road (A27), would be less than significant. In addition, impacts to mid-range views, including those approximately 2 miles from the site along

Center Road (A27) and Ward Lake Road, were determined to be less than significant. The EIR determined that views from homes and residential properties closest to the entrance to the quarry off of Ward Lake Road would be significant due to the close proximity of the quarry to viewers which would cause the quarry to dominate views. Short-term impacts were determined to be significant and unavoidable and long-term impacts were determined to be mitigable upon reclamation.

Mitigation measures for impacts to aesthetics and visual resources in the 1997 EIR included:

Reclamation measures recommended in Vegetation/Wildlife chapter (measure 1a)

> *Reclamation of graded areas: The intent of the Reclamation Plan shall be to recreate to the extent possible a viable, self-sustaining plant community similar to that which existed prior to mining.*
>
> *Sand and Gravel Excavation Areas: These areas shall be regraded to maximum slopes of 2H:1V, shall be resoiled with adequate growth medium to support vegetation including fines from the crusher and stockpiled topsoil and shall be vegetated with native species including sage, bitterbrush, and rabbit brush. The success of revegetation in these areas shall be monitored by qualified personnel with reports submitted to the County Community Development Department at least once per year for five years. The final approved species list and planting density must be approved by the County in consultation with the Department of Fish and Game.*
>
> *Rock Quarry Area: This area shall be regraded to a maximum overall slope of 2H;1V and shall be benched with minimum 10 foot wide benches at vertical intervals appropriate for the type of material, but not greater than 15 feet. The benches shall be sloped to drain toward the hillside, shall be resoiled with adequate growth medium to support vegetation including fines from the crusher and stockpiled topsoil and revegetated using native range greases, shrubs, and trees if they can be supported.*
>
> *The operator shall institute a test plot program on the first available rock face bench to determine the best species mix and planting scheme for subsequent benches. The test plots shall be set up and monitored by qualified personnel with reports submitted to the County Community Development Department at least once per year for five years. The final approved species list and planting density must be approved by the County in consultation with the Department of Fish and Game.*
>
> *Timing/Phasing of Reclamation: Reclamation of sub-areas shall take place in a phased manner where possible as excavation is completed.*
>
> *Protection of Replanted Areas: Replanted areas shall be protected by fencing intended to exclude livestock and deer until vegetation is established. Perimeter livestock fencing shall be provided and shall be four wires maximum, bottom wire smooth and no closer than 18 inches to the ground with total fence height not to exceed 42 inches. More site-specific deer proof fencing shall also be provided directly around replanting areas.*

Paint concrete plant to blend with surrounding background color.

4.2.4 Thresholds of Significance

Thresholds of significance that could occur were determined using CEQA Guidelines. These guidelines provide guidance in defining significant aesthetic impacts. Based on this guidance, a project may be deemed to have a significant impact on aesthetics if it will:

- Have a substantial adverse effect on a scenic visa
- Substantially damage scenic resources, including, but not related to trees, rock outcroppings, and historic buildings within a state scenic highway
- Substantially degrade the existing visual character or quality of the site and its surroundings
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area

4.2.5 Impact Analysis

The visual impacts of the existing operation at the Project site have been analyzed in previous EIRs. The Project elements that will affect aesthetic and visual resources at the Project site include the extension of operational hours of the quarry to 24 hours per day and increased nighttime truck traffic. The increase in operational hours would generate increased sources of nighttime light from the Project and headlight impacts from nighttime truck traffic.

The County determined in the Initial Study that the Project would not have a substantial adverse effect on a scenic vista or substantially damage scenic resources as no changes were occurring to the Project footprint.

Impact 4.2.5.1 Substantially degrade the existing visual character or quality of the site and its surroundings through project lighting and nighttime views

The Project will alter the visual character of the site through the use of nighttime lighting during 24-hour operations. The Project site currently has lighting fixtures that are used during the morning and evening hours. The Project will extend the use of the lighting to include the hours between 7:00 p.m. and 6:00 a.m. during periods of 24-hour operation.

A Visual Analysis was conducted in January 2018 to evaluate the potential visual effects associated with expanding Project operations to include lighting during nighttime hours and updated in January 2019. The Visual Analysis for the Project is included as Appendix E. The Visual Analysis included a viewshed analysis showing the visibility of lighting from the Ward Lake Quarry and the nearby California Correctional Center from the surrounding area. The California Correctional Center was included in the assessment since it is an existing source of bright nighttime light in the Project area that currently impacts nighttime views in the Project area.

Based on the simulation, the Project area and light from the mine site is estimated to be visible from approximately 55,000 acres. Figure 4-4 depicts the estimated areas where light from the Project will be visible. Located just 4 miles to the west, the California Correctional Center and the high-intensity light it produces is estimated to be visible from 82,034 acres. The estimated areas where prison light may be visible are also shown on Figure 4-5. Much of the surrounding land that is currently impacted by light produced from the prison and potentially impacted by the proposed Project light is owned and administered by the federal government or State of California for the purpose of resource use; therefore, impacts to a large number of residences is limited (see Appendix E).

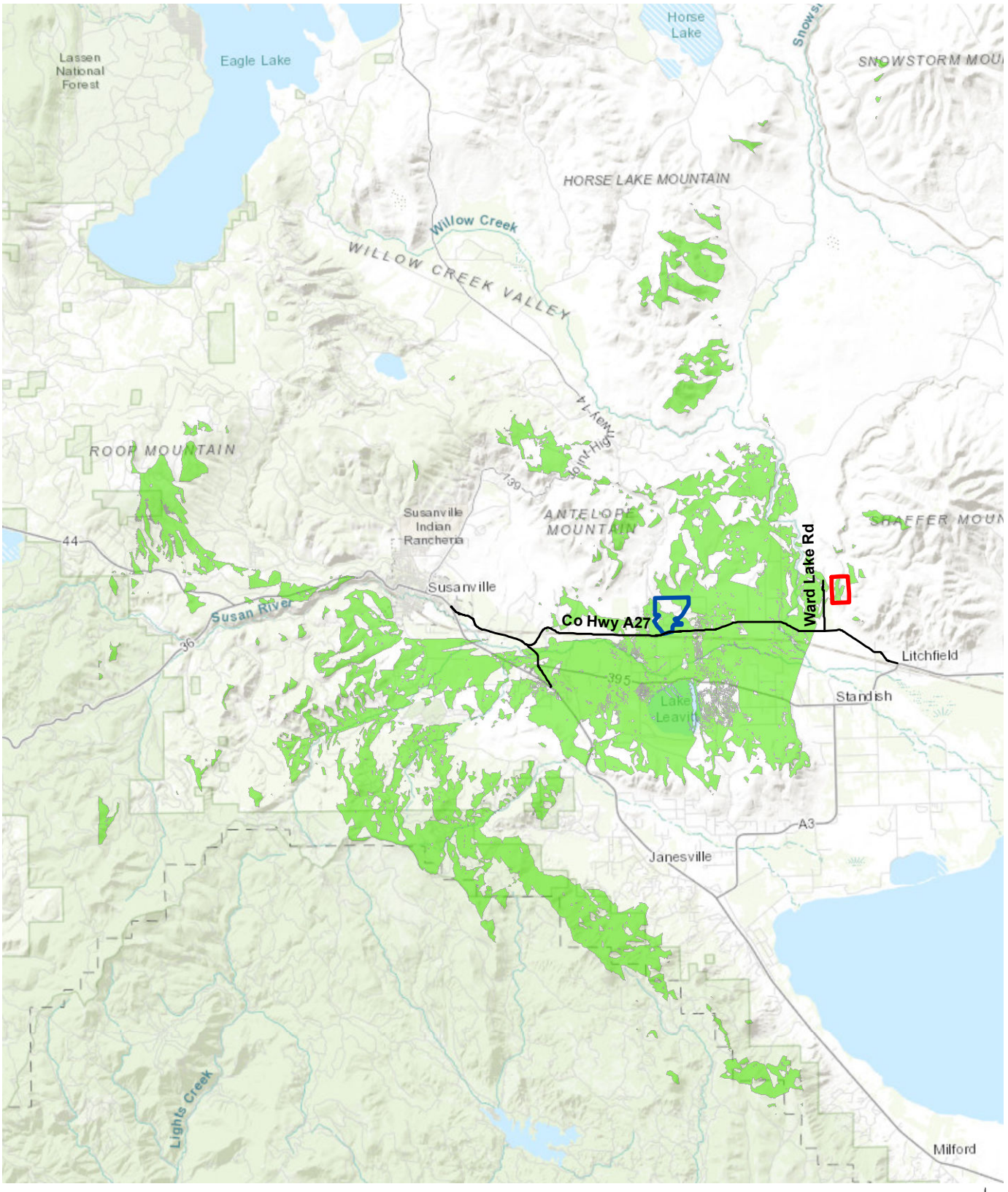


FIGURE 4-4
VIEWSHED ANALYSIS
WARD LAKE PIT ONLY
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\Final EIR\71305_AreasWhereLightIsVisible.mxd

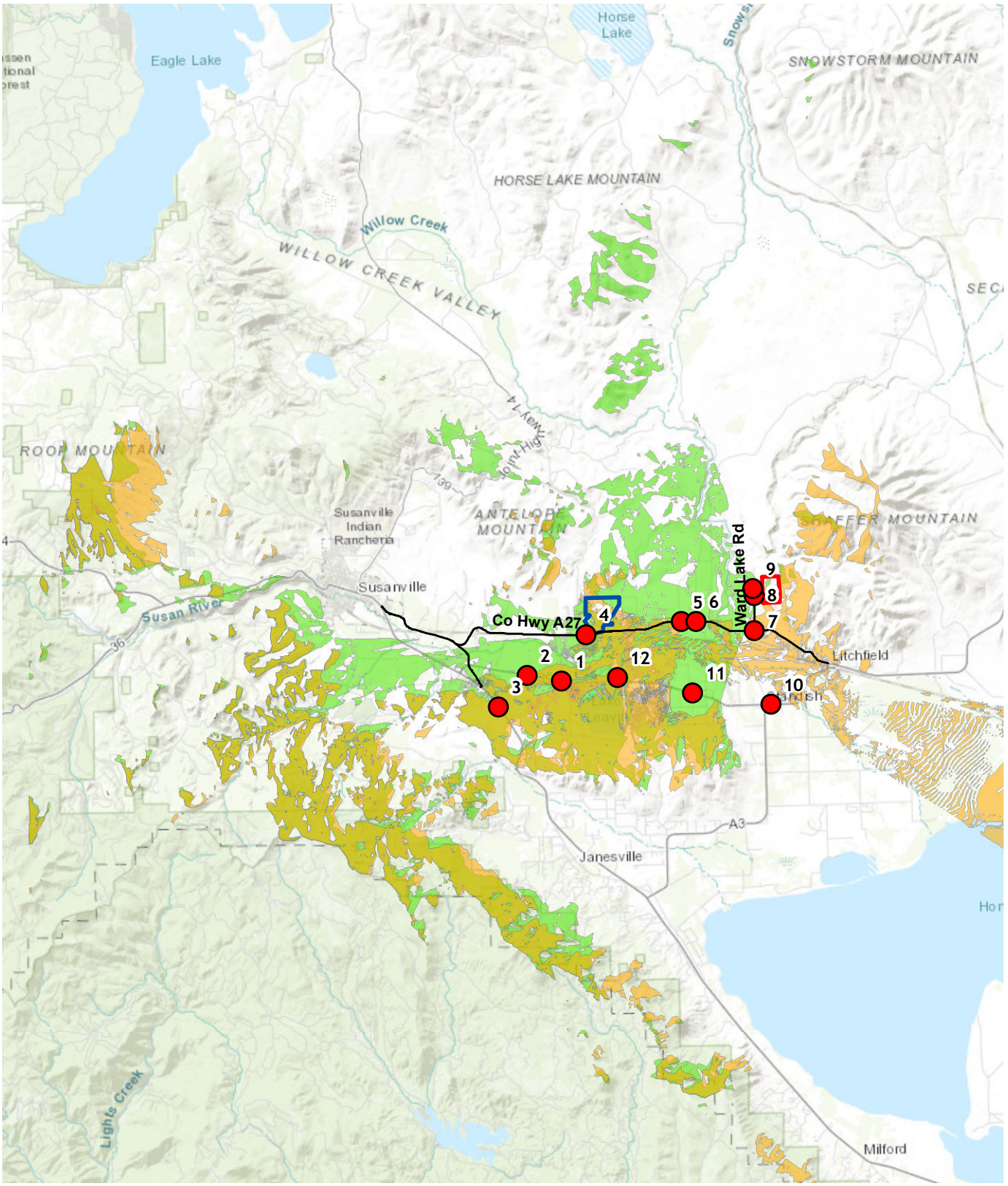


FIGURE 4-5
AREAS WHERE PRISON LIGHT IS VISIBLE AND PHOTO POINT LOCATIONS
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\Final EIR\71305_PrisonLight_PhotoPoints.mxd

The towns of Litchfield and Standish receive light impacts from the California Correctional Center and traffic on Highway 395 and Center Road (A27), but they are shielded from the light of the mine by topographic features. The Visual Analysis determined that the Project would result in impacts to 17,072 acres of land not previously impacted by nighttime lighting. This area is included on Figure 4-6. The majority of the parcels affected are large-tract agricultural properties.

In addition to the viewshed analysis, daytime and nighttime photographs were taken at 12 locations in the area surrounding the Project. These locations were chosen for the purpose of "ground-truthing" the visibility results of the visual simulation and to demonstrate the intensity of light generated from the Project, if visible. Photo point locations are shown on Figure 4-5.

Generally, the Project site, if visible from the surrounding area, is only visible as a small, single dot of light as shown on Photo Point 1. Additional photo points showing daytime and nighttime views are included in Appendix E.

Photo Point 1

The photograph above is a northeast view of the area from Photo Point 1 on Highway 395 North looking northeast toward the Ward Lake Pit. The California Correctional Center dominates the visible landscape. The Project area is visible only as a single dot of light.

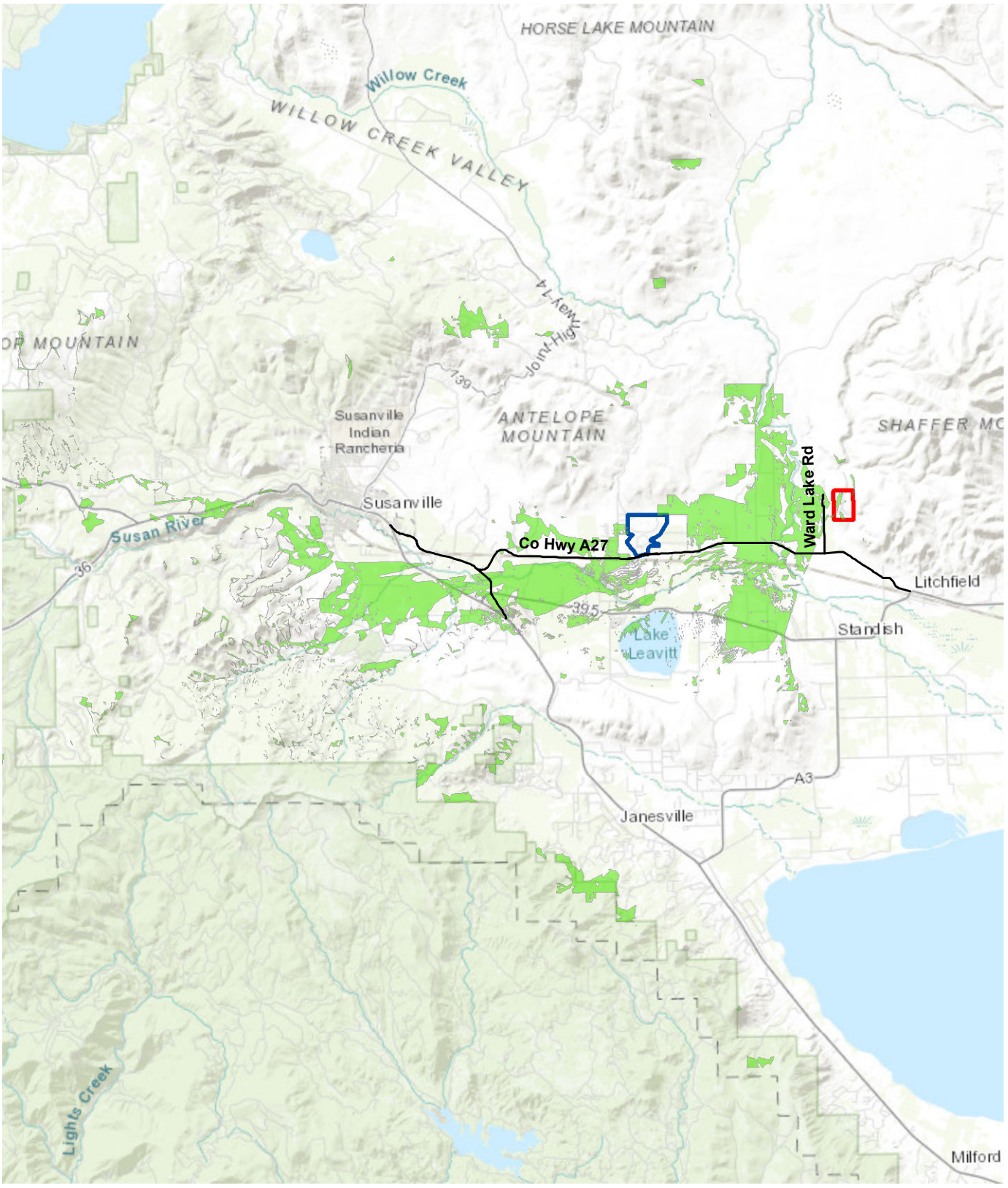
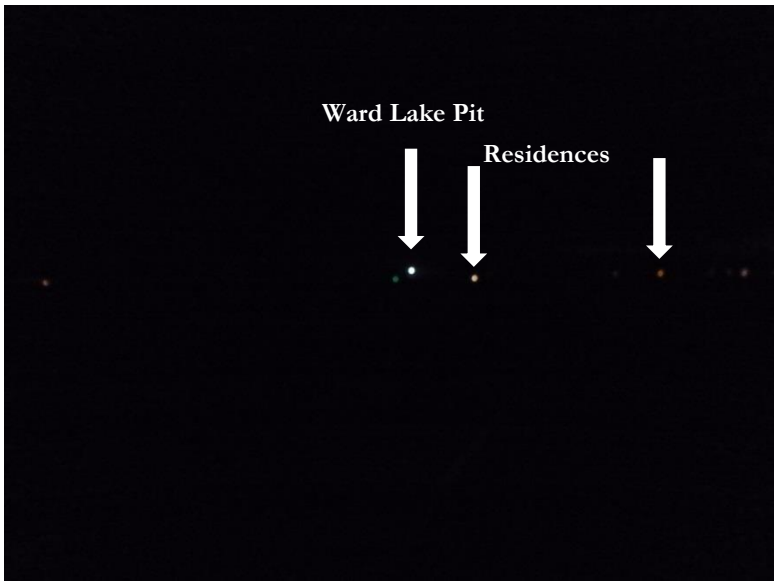


FIGURE 4-6
AREAS OF LIGHT IMPACTS
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

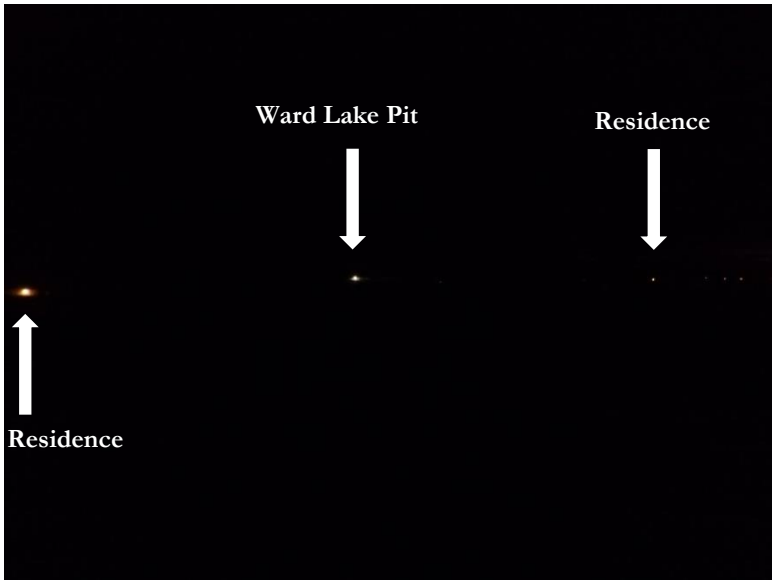
P:\GIS\71305\WardLakeExpansion\Final EIR\71305_AreaOfLightImpacts.mxd

Photo Point 5 (Nighttime)



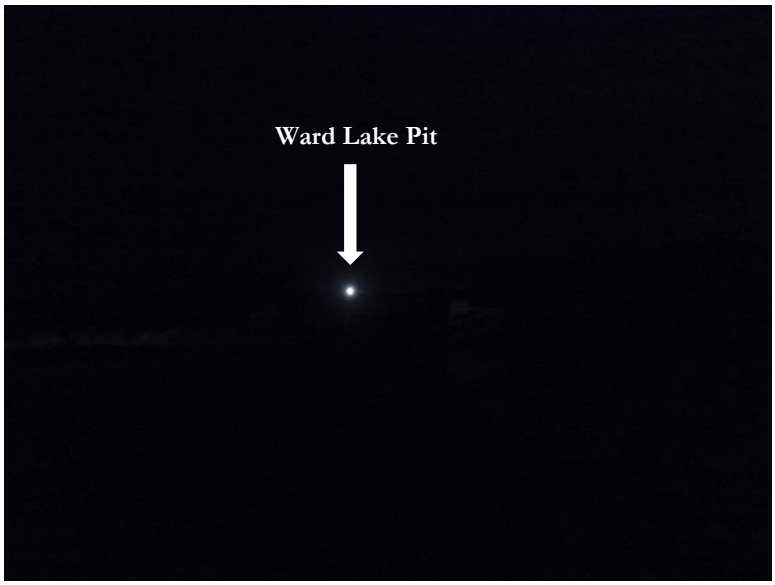
The nighttime photograph above is an eastern view of the area from Photo Point 5 on County Road A27. This location is approximately 2.5 miles from the Project area, and light from the Project area is visible but not significantly more intense than light from adjacent residences.

Photo Point 6 (Nighttime)



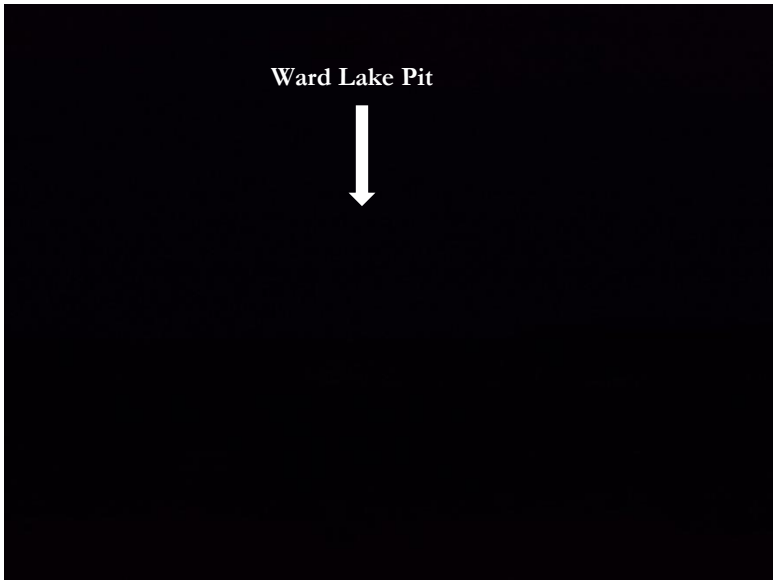
The nighttime photograph above is an eastern view of the area from Photo Point 6 at the intersection of County Road A27 and Juniper Ridge Road. This location is approximately 2.3 miles from the Project area. Light generated from the Project area is visible but it is not significantly more intense than light from nearby residences, as seen above.

Photo Point 8 (Nighttime)



The nighttime photograph above is an eastern view of the Project area from Photo Point 8 on Ward Lake Road. This photo point is adjacent to residences #7 and #8 on Ward Lake Road. This location is approximately 0.25 miles from the Project area and is affected by Project light due to the proximity. There are five residences in proximity of this photo location where Project light will be visible. As seen in the photograph, the light detected at the residences is in the form of a single point.

Photo Point 9 (Nighttime)



The nighttime photograph above is an eastern view of the Project area from Photo Point 9 on Ward Lake Road. This location is approximately 0.25 miles from the Project area and 0.2 miles north of Photo Point 8. The visual simulation estimated that light from the Project would be

visible to most of the area around this photo point. As seen in the photograph above, Project light is undetectable in some areas due to the topography of the surrounding area.

Photo Point 12 (Nighttime)

The nighttime photograph above is a northeastern view of the Project area from Photo Point 12 on Highway 395, at the northeastern end of Lake Leavitt. This location is approximately 5 miles southwest of the Project area. As seen in the photograph, Project light is detectable only as a small dot, contrasted with the California Correctional Center (seen on the left) which is an intense source of light that dominates the landscape.

As shown in the photographs above, at distances farther from the site, the light from the Project site will look similar to the light generated by nearby residences as seen in the nighttime photograph from Photo Point 12. Lighting from the Project does not radiate or result in impacts to the visibility of the night sky.

Nighttime light produced by the proposed Project is visible on close-range views for approximately 2.3 miles of County Road A27 (Center Road). As seen in photographs from photo points, the light from the Project area is visible; however, it appears as a single, dull dot of light, not a significant radiating source. Five residences along Ward Lake Road (adjacent to the Project area) will be impacted by light from the Project; however, the light appears as a dull dot, not a radiating source. The four residences closest to the site will be impacted by nighttime activities. This impact is considered significant and unavoidable.

Impact 4.2.5.2 Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area (headlight impacts)

The Project will result in increased nighttime traffic headlight use on roadways in the Project area. Local roadways used by Project traffic will include Ward Lake Road and Center Road (A27). Homes along Ward Lake Road are as close as 60 feet from the roadway.

Truck headlights will be visible to homes adjacent to the roadways used by Project traffic during nighttime operations. The increased traffic and headlight use will be most apparent on Ward Lake Road and Center Road (A27) where nighttime traffic increases would be the greatest and residences are closest to the road. Headlight use will not impact large-scale nighttime views due to the presence of the California Correctional Center and U.S. Highway 395, but does have the potential to significantly degrade the existing visual quality of areas close to the roadways at night. Approximately eight residences on Ward Lake Road will be affected by nighttime traffic headlights (see Figure 4-1). Although the periods of nighttime traffic will be of short duration (one to four days), and limited to approximately 40 nights per year, the impact to Ward Lake Road residences is considered significant and unmitigable.

Truck traffic from the Project generally must reach U.S. Highway 395 to access infrastructure for transportation to the Project location. From Ward Lake Road, there are two ways to reach U.S. Highway 395: 1) left turn onto Center Road (A27) through Litchfield to U.S. Highway 395 or 2) right on Center Road (A27), past the California Correctional Center, and left on Leavitt Lane (see Figure 4-3). Turning left off of Ward Lake Road will impact greater than 30 residences located in the community of Litchfield. Turning right off of Ward Lake Road will impact six residences along Center Road (A27) and Leavitt Lane. As the project requires nighttime truck traffic to turn right onto Center Road and hence to Levitt Lane, and hence to Highway 395, and the area of Center Road in that direction is already impacted by light from the prison and nighttime prison traffic, the additional impacts due to the truck traffic from the Project are considered less than significant.

4.2.6 Mitigation Measures

The following mitigation measures are proposed for the significant Project impacts:

Impact 4.2.5.1 Project Lighting and Nighttime Views

1. Direct lighting internally into the site and berm site areas to minimize impact when possible
2. Install fully shielded (pointing downward) lighting fixtures

Impact 4.2.5.2 Headlights

1. Use only low beams on trucks in residential areas during nighttime operations

4.2.7 Level of Significance after Mitigation

Impact 4.2.5.1 Project Lighting, Nighttime Views

Following implementation of the above mitigation measures, Project impacts to nighttime views due to lighting at the Project site would be less than significant for the general surrounding area. Lighting from the Project site is barely distinguishable from that of nearby residences at night, and installation of shielded lighting fixtures would further decrease the visibility of the quarry lights. For the general surrounding area, nighttime impacts are determined to be less than significant.

The four residences located closest to the mine site on Ward Lake Road (Residences #1, #2, #3, and #4) will be directly affected during nighttime operations. This impact is considered significant and unavoidable, even with mitigation incorporated.

Impact 4.2.5.2 Nighttime Headlights

Lassen County has requested the Project be modified to re-route nighttime traffic. This mitigation measure results in no headlight impacts for the community of Litchfield and reduced traffic impacts overall. The two residences on Center Road are located away from the road and already sustain nighttime traffic lights and lighting associated with the prison. Additional headlights for approximately 40 days per year is considered a less-than-significant impact. For Ward Lake Road residents, the use of low beams will lessen the impacts of headlights, but will not reduce the impact to a level that is less than significant. The impacts to the residences on Ward Lake Road will remain significant and unmitigable.

4.3 Air Quality

This section discussion the potential air quality impacts of the Project. The Project will increase the maximum number of permitted truck trips and extend the life of the operation by ten years, which will result in an increase in emissions generated by onsite equipment and hauling trucks.

One comment letter was received on the Notice of Early Consultation (Appendix D) pertaining to air quality impacts of the Project. A letter from the Lassen County Air Pollution Control District (LAPCD) dated March 22, 2018, was received by the County concerning fugitive dust emissions and need to address particulate matter from diesel emissions (specifically, stationary) from the onsite diesel generators.

The County determined in the Initial Study for the Project that in several impact areas, including Air Quality, only minor changes to the Project will occur, or only minor changes in circumstances have occurred or will occur, or the new information relating to the impact area does not change the Project under review such that new significant effects would occur or involve a substantial increase in the severity of the previously identified impacts under CEQA Section 15162.

The County determined in the Initial Study that the Project will have no impact to air quality that would conflict with or obstruct implementation of the applicable air quality plan, violate any air quality standard or contribute substantially to an existing or projected air quality violation, or 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). Criteria pollutant for which the Project region in any air quality standard or contribute substantially to an existing or projected air quality violation.

The County determined in the Initial Study that the Project may have a less-than-significant impact to air quality relating to possible exposure of sensitive receptors to substantial pollutant concentrations and possible creation of objectionable odors affecting a substantial number of people. The County also found that, although the extended hours of the asphalt plant had the

potential to expose adjacent residences to additional odors and pollutants, these impacts will be less than significant. No changes are being proposed to the permitted production of the plant, and the total amount of odor and pollutants produced by the plant remain unchanged. An analysis of truck emissions completed by Lassen County using thresholds from the Bay Area Air Quality Management District resulted in values below the CEQA thresholds of significance.

Therefore, additional analysis beyond that contained in the EIR documents from 1981 and 1997 for currently permitted operations at the Project site is not necessary with the exception of an evaluation of human health impacts related to diesel particulate emissions from the generators used onsite and additional truck traffic. This is required because diesel particulate emissions were added to the California Air Resources Board (CARB) Toxic Air Contaminant (TAC) list of compounds in 1999 and are therefore a new requirement to be addressed.

This section provides a brief summary of the air quality setting and air quality regulations related to criteria pollutants, toxic air contaminants, and odor. In addition, this section summarizes the previous CEQA review of air quality impacts at the Project site as well as a discussion of human health impacts related to diesel particulate matter and a summary of the less-than-significant air quality impacts contained in the Initial Study prepared by the County.

4.3.1 Environmental Setting

The Project site is located in the Northeast Plateau Air Basin, which comprises Siskiyou, Modoc and Lassen counties. The Lassen County Air pollution Control District (LCAPD) has jurisdiction over air quality issues throughout Lassen County.

The Northeast Plateau Air basin has a climate regime that is distinct from the rest of California. The basin has sharply defined seasons that follow a continental, rather than marine, pattern. Winters are cold and snowy; summers are warm and dry. The basin includes part of the Klamath Mountains to the west and the Cascade Range and Modoc Plateau, plus a slice of the Great Basin along its eastern edge. Mount Shasta rises 14162 feet, dominating the view from much of the basin. Another volcanic peak, Mount Lassen, stands 10457 feet high. Extensive forestland runs across saddles between the region's peaks. The volcanic Modoc Plateau extends across the northeastern expanse, with an elevation mostly above 4500 feet (Carle, 2006).

The region receives no transported air pollution from major urban areas. As in many rural areas in California, particulates from dust and wood smoke are sometimes a problem. Only the city of Yreka experiences occasional ozone concentrations that approach "near exceedances" (Carle, 2006).

Equipment onsite includes loaders, generators, a concrete batch plant, concrete trucks, service truck, man lift, belly dump, articulated dump truck, crusher and asphalt batch plant. Wet suppression is used when necessary to control dust caused by excavation, processing activities, and materials transport.

The current operation maintains a permit to operation (PTO-18-140) for five onsite diesel generations (two generators associated with the crushing plant, one generator associated with the hot mix asphalt plant, one generator associated with the portable plant, and one generator

associated with the wash plant). The operator is required to submit results of an annual compliance test annually to the Lassen County Air Pollution Control District for review.

Land uses such as residences, schools, children's daycare centers, hospitals, and convalescent homes are considered to be more sensitive than the general public to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. The CARB has identified the following people as most likely to be affected by air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes, and those with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive population groups.

Residential areas (i.e., apartments, houses, and condominiums) are considered more sensitive to air quality conditions than commercial and industrial areas because people generally spend longer periods of time at their residences, resulting in greater exposure to ambient air quality conditions. Recreational users are also considered sensitive, due to the greater exposure to ambient air quality conditions and because the presence of pollution detracts from the recreational experience.

The Project site is surrounded by open grazing lands. Immediately adjacent to and south of the site, a smaller aggregate mine is located on Bureau of Land Management (BLM)-administered land (Section 4 Pit). Other BLM land is located to the east and south and the Wells Ranch is located directly to the north. Eight homes are located on parcels from 10 to 80 acres in size to the west and south along Ward Lake Road. The nearest residence is approximately 875 feet from the western property line of the Project site. Shaffer Elementary School is located 2.4 miles to the southeast of the Project site.

4.3.2 Regulatory Setting

4.3.2.1 Criteria Pollutants (Shasta County, 2017)

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: National Ambient Air Quality Standards (NAAQS) for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor control measures, stratospheric ozone protection, and enforcement provisions. The EPA is responsible for administering the FCAA. The FCAA requires the EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

California Clean Air Act

The California Clean Air Act (CCAA) was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state's air quality goals, planning and regulatory strategies, and performance. CARB is the agency responsible for administering the CCAA. CARB established ambient air quality

standards pursuant to the California Health and Safety Code (CH&SC) [§39606(b)], which are similar to the federal standards.

Air Quality Standards

NAAQS are determined by the EPA. The standards include both primary and secondary ambient air quality standards. Primary standards are established with a safety margin. Secondary standards are more stringent than primary standards and are intended to protect public health and welfare. States have the ability to set standards that are more stringent than the federal standards. As such, California established more stringent ambient air quality standards. Federal and state ambient air quality standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates (PM10), and lead.

Both the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant. The Federal and California State ambient air quality standards are summarized in Table 4-1 for important pollutants. The Federal and State ambient standards were developed independently, although both processes attempted to avoid health-related effects. As a result, the Federal and State standards differ in some cases. In general, the California State standards are more stringent. This is particularly true for ozone and particulate matter between 2.5 and 10 microns in diameter.

Table 4-1
FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	Federal Primary Standard	State Standard
Ozone	1-Hour	--	0.09 ppm
	8-Hour	0.075 ppm	0.070 ppm
Carbon Monoxide	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
Nitrogen Dioxide	Annual	0.05 ppm	--
	1-Hour	--	0.25 ppm
Sulfur Dioxide	Annual	0.03 ppm	--
	24-Hour	0.14 ppm	0.04 ppm
	1-Hour	--	0.25 ppm
PM_{10}	Annual	--	20 ug/m3
	24-Hour	150 ug/m3	50 ug/mg
$PM_{2.5}$	Annual	15 ug/m3	12 ug/m3
	24-Hour	35 ug/m3	--
Lead	30-Day Avg.	--	1.5 ug/m3
	3-Month Avg	1.5 ug/m3	--

In accordance with the California Clean Air Act (CCAA), the CARB is required to designate areas of the state as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. Depending on

the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data do not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for ozone (O3), carbon monoxide (CO), and nitrogen dioxide (NO2) as "does not meet the primary standards," "cannot be classified," or "better than national Standards." For sulfur dioxide (SO2), areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The sub-categories for nonattainment status (serious, severe, and extreme) are also used by U.S. EPA. In 1991, new nonattainment designations were assigned to areas that had previously been classified as Group I, II, or III for PM10 based on the likelihood that they would violate national PM10 standards. All other areas are designated "unclassified." Federal and state air quality laws require identification of areas not meeting the ambient air quality standards. These areas must develop regional air quality plans to eventually attain the standards.

Tanner Air Toxics Act

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for ARB to designate substances as TACs. This includes research, public participation, and scientific peer review before ARB can designate a substance as a TAC. To date, ARB has identified more than 21 TACs and has adopted EPA's list of HAPs as TACs. Diesel PM was added to the ARB list of TACs in 1999. Once a TAC is identified, ARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate BACT to minimize emissions. The AB 2588 requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. Recent milestones include the low-sulfur diesel-fuel requirement, and tighter emission standards for heavy-duty diesel trucks (2007) and off-road diesel equipment (2011) nationwide.

The U.S. EPA uses six "criteria pollutants" as indicators of air quality, and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards (NAAQS). Each criteria pollutant is described below.

> **Ozone (O3)** is a photochemical oxidant and the major component of smog. While O3 in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of O3 at ground level are a major health and environmental concern. O3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic

compounds (VOC) and oxides of nitrogen (NOx) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak O3 levels occur typically during the warmer times of the year. Both VOCs and NOx are emitted by transportation and industrial sources. VOCs are emitted from sources as diverse as automobiles, chemical manufacturing, dry cleaners, paint shops, and other sources using solvents. The reactivity of O3 causes health problems because it damages lung tissue, reduces lung function, and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O3 affect not only people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing, and pulmonary congestion.

Carbon monoxide (CO) is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuels. When CO enters the bloodstream, it reduces the delivery of oxygen to the body's organs and tissues. Health threats are most serious for those who suffer from cardiovascular disease, particularly those with angina or peripheral vascular disease. Exposure to elevated CO levels can cause impairment of visual perception, manual dexterity, learning ability, and performance of complex tasks.

Nitrogen dioxide (NO2) is a brownish, highly reactive gas that is present in all urban atmospheres. NO2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to ozone (O3) and acid rain, and may affect both terrestrial and aquatic ecosystems. The major mechanism for the formation of NO2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO). NO plays a major role, together with VOCs, in the atmospheric reactions that produce O3. NO forms when fuel is burned at high temperatures. The two major emission sources are transportation and stationary fuel combustion sources, such as electric utility and industrial boilers.

Sulfur dioxide (SO2) affects breathing and may aggravate existing respiratory and cardiovascular disease in high doses. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children, and the elderly. SO2 is also a primary contributor to acid deposition, or acid rain, which causes acidification of lakes and streams and can damage trees, crops, historic buildings, and statues. In addition, sulfur compounds in the air contribute to visibility impairment in large parts of the country. Ambient SO2 results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp and paper mills, and from nonferrous smelters.

Particulate matter (PM) includes dust, dirt, soot, smoke and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires, and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as SO2 and VOCs are also considered particulate matter. Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO2) and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing

respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis, and premature death.

Respirable particulate matter (PM10) consists of small particles, less than 10 microns in diameter, of dust, smoke, or droplets of liquid which penetrate the human respiratory system and cause irritation, or in combination with other gases. Particulate matter in Lassen County is caused by many sources, including but not limited to, dust from grading and excavation activities, from agricultural uses, road dust, wildfires, residential fuel combustion, and from motor vehicles, particularly diesel-powered vehicles. PM10 causes a greater health risk than larger particles, since these fine particles can more easily penetrate the defenses of the human respiratory system.

Fine particulate matter (PM2.5) consists of small particles which are less than 2.5 microns in size. Similar to PM10, these particles are primarily the result of combustion in motor vehicles, particularly diesel engines, as well as from industrial sources and residential/agricultural activities such as burning. It is also formed through the reaction of other pollutants. As with PM10, these particulates can increase the chance of respiratory disease and cause lung damage and cancer. In 1997, the EPA created new Federal air quality standards for PM2.5. The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly, and children. Particulate matter also soils and damages materials and is a major cause of visibility impairment.

Lead (Pb) exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil, or dust. Excessive Pb exposure can cause seizures, mental retardation, and/or behavioral disorders. Low doses of Pb can lead to central nervous system damage. Recent studies have also shown that Pb may be a factor in high blood pressure and subsequent heart disease.

4.3.2.2 Toxic Air Contaminants (TACs)

TACs are pollutants that may be expected to result in an increase in mortality or serious illness or that may pose a present or potential hazard to human health. Health effects include cancer, birth defects, neurological damage, damage to the body's natural defense system, and diseases that lead to death. Although ambient air quality standards exist for criteria pollutants, no such standards exist for TACs. Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or because of their acute or chronic health risks. For TACs that are known or suspected carcinogens, the California Air Resources Board (ARB) has consistently found that there are no levels or thresholds below which exposure is free of risk. Individual TACs vary greatly in the risk they present. At a given level of exposure, one TAC may pose a hazard that is many times greater than another. For certain TACs, a unit risk factor can be developed to evaluate cancer risk. For acute and chronic health risks, a similar factor called a Hazard Index is used to evaluate risk. In the early 1980s, ARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Toxic Air Contaminant Identification and Control Act (Assembly Bill [AB] 1807) created California's program to reduce exposure to air toxics. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588)

supplements the AB 1807 program by requiring a statewide air toxics inventory and notification of people exposed to a significant health risk and sensitive receptors.

4.3.3 Previous CEQA Review

4.3.3.1 1981 EIR

The 1981 *Environmental Impact Report for Operation of Aggregate Materials Source Operation of Rock Crushing Plant Operation of Asphalt Concrete Batch Plant (S.C.H. #80062304),* prepared for the original operation at the site, analyzed limited air impacts of the initial mining operation – specifically, the generation of dust from asphalt operation and crushing. The EIR noted concerns that the Project would impact air quality via the generation of dust from mining and crushing and transport of site materials. In addition, odor and emission for asphalt the fuel storage tanks were addressed. The 1981 EIR included the following mitigation measures related to air quality:

- Treating stockpile surfaces with water.
- Providing wind breaks of dirt berms and placement of fine aggregates between coarse aggregate piles to screen from periling winds.
- Planning of plant layout to take advantage of natural topography.
- Careful operation and loading and hauling of equipment to prevent generation of dust.
- Use of conveyor covers or enclosure of the dry feed elevator.
- Installation of secondary control structures (baghouse dry dust and weather systems.
- Minimizing the distance of fall between pugmill and storage hoppers to reduce odors.
- Use of low-sulfur fuels.
- Asphalt and fuel storage tanks being closed at all times and maintained in a clean condition with care taken to avoid spills.
- Application for permit to operate from the APCD office.
- Pave the access and haul roads as well as the plant site as soon as feasible to eliminate the primary complaint of dust which results when equipment and trucks operate on unpaved areas. Actual timing of paving these areas would be governed by the volume of production and hauling warranting this improvement and subject to review and recommendations of the Planning Commission.
- Use of water trucks on any unpaved portions of the area is anticipated; and, vehicle speed within the site controlled at 10 MPH to avoid creation of unnecessary dust.
- Water or dust oils would be applied to County Road 308 (Ward Lake Road) by the applicant as required to alleviate dust from truck traffic and would continue until such time as paving is required.
- Speed on County Road 308 from the plant access point to A-27 (Center Road) would necessarily be limited to approximately 25 MPH due to the road conditions and the short length (approximately one mile) encompassed.

4.3.3.2 1997 EIR

The *1997 Ward Lake Expansion EIR* prepared for the existing permitted operation determined that air impacts of the expansion were less than significant with mitigation incorporated. Similar issues and concerns were noted on the 1997 EIR as in the 1981 EIR. The 1997 EIR noted that the 1996 Initial Study conducted for the Project concluded that the APCD measures included therein, which were included as conditions to the new APCD permit in 1996 and included AB2588 Air Toxics Assessment, were sufficient to reduce impacts to below significant levels. The 1997 EIR included the following mitigation measures to reduce dust and other airborne pollutants:

- Compliance with APCD Permit to Operate Conditions. These conditions are listed below:

  Miller's Custom Work shall apply water to all roads on the plant site which are being used during plant operation. All roads being used shall be wet at all times without exception. Additionally, stockpiles of sand, gravel, etc., should also be watered when feasible.

  Miller's Custom Work shall install or replace any and all metal flashing around hoppers, conveyors or fans in order that fugitive dust resulting from operation of the plant is reduced to a level which is in compliance with District Rule 4:18. Installation or replacement of such metal flashing shall occur prior to strut of the plant in 1991 (and the concrete plant in 1996). Additionally, Miller's Custom Work shall notify the Lassen County Air Pollution Control District at the start or the first days of operation in 1991 (and the concrete plant in 1996), so that an inspection can be made of the plant sites to determine compliance with this conditions.

  Miller's Custom Work shall contract with a California Air Resources Board certified private contractor for an annual compliance test at the Ward Lake facility to determine compliance with Lassen County Air Pollution Control District Rule 4:3 (Grain Loading Rule -0.3 grain per cubic foot gas). This test shall be performed prior to January 1 of every year.

- Additional conditions for the concrete plant:

  Not more than 7,000 cubic yards of concrete shall be processed annually.

  Aggregate charged and/or processed shall be kept sufficiently moist to prevent visible dust emissions.

  Dust collected by the baghouse filter shall be discharged into closed containers only.

  Cloth bags in the baghouse shall be cleaned and/or replaced periodically.

  Annual operation shall be limited to dates as recommended by the wildlife biologist in the EIR and/or as adopted by the lead agency.

4.3.4 Thresholds of Significance

Significant air quality impacts that could occur were determined from the 2018 CEQA Guidelines. These guidelines provide guidance in defining air quality impacts. Based on this guidance, a project may be deemed to have a significant impact to air quality if it will:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Cause a violation of any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations;
- Create objectionable odors affecting a substantial number of people.

4.3.5 Impact Analysis

The County determined in the Initial Study prepared for the Project (see Appendix C) that the Project does not include any changes that would result in impacts to air quality with the exceptions of a potential exposure of sensitive receptors to substantial pollutant concentrations and the potential to create objectionable odors affecting a substantial number of people. These impacts were determined to be less than significant. However, an analysis of the health impacts from diesel particulate matter emissions from diesel generators and haul trucks is included due to concerns raised in early consultation about the health impacts of diesel particulate matter. For this reason, a Health Risk Assessment was prepared for the Project.

As stated previously, the thresholds of significance applied to assess Project-level heath impacts are:

> *Exposure of persons by siting a new source or a new sensitive receptor to substantial levels of TAC resulting in (a) a cancer risk level greater than 10 in one million or (b) a noncancerous risk (chronic or acute) hazard index greater than 1.0. For this threshold, sensitive receptors include residential uses, schools, parks, daycare centers, nursing homes, and medical centers.*

These impacts were not previously addressed. The proposed Project would constitute an emission source of diesel particulate matter (DPM) due to operations associated with generators and haul trucks. Studies have 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.

Impact 4.3.5.1 Exposure of Sensitive Receptors to Substantial Concentrations of Toxic Air Contaminants

A Health Risk Assessment (HRA) was prepared for the Project by RCH Group to address diesel particulate matter emissions from haul trucks associated with the Project and resultant health

impacts on existing residences and schools in the project area. The HRA is included as Appendix F. The HRA was conducted following methodologies in OEHHA's *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. This was accomplished by applying the estimated concentrations of the receptors analyzed to the established cancer risk estimates and acceptable reference concentrations for non-cancer health effects.

Recent OEHHA's revisions to its Guidance Manual were primarily designed to ensure that the greater sensitivity of children to cancer and other health risks is reflected in HRA. For example, OEHHA now recommends that risks be analyzed separately for multiple age groups, focusing especially on young children and teenagers, rather than the past practice of analyzing risks to the general population, without distinction by age. OEHHA also now recommends that statistical "age sensitivity factors" be incorporated into a HRA, and that children's relatively high breathing rates be accounted for. On the other hand, the Guidance Manual revisions also include some changes that would reduce calculated health risks. For example, under the former guidance, OEHHA recommended that residential cancer risks be assessed by assuming 70 years of exposure at a residential receptor; under the Guidance Manual, this assumption is lessened to 30 years. Attachment A of the HRA, Health Risk Assessment Methodology and Assumptions, provides additional assumptions used within the health impact evaluation.

Health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. Individual cancer risk is the likelihood of that a person exposed to air toxic concentrations over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. The maximally exposed individual (MEI) represents the worst-case risk estimate, based on a theoretical person continuously exposed for a lifetime at the point of highest compound concentration in the air. This is a highly conservative assumption, since most people do not remain at home all day and on average residents change residences every 11 to 12 years. In addition, this assumption assumes that residents are experiencing outdoor concentrations for the entire exposure period.

The HRA analyzed the incremental cancer risks to sensitive receptors in the vicinity of the proposed Project, using emission rates (in pounds per hour) from USEPAs AP-42, Compilation of Air Pollutant Emission Factors, and vendor specifications. The receptor locations analyzed in the HRA are shown on Figure 1 included in Appendix F. DPM emission rates were input into the USEPA's AERMOD atmospheric dispersion model to calculate ambient air concentrations at receptors in the proposed Project vicinity. The HRA is intended to provide a worst-case estimate of the increased exposure by employing a standard emission estimation program, an accepted pollutant dispersion model, approved toxicity factors, and conservative exposure parameters.

In accordance with OEHHA Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, this HRA was accomplished by applying the highest estimated concentrations of TAC at the receptors analyzed to the established cancer potency factors and acceptable reference concentrations for non-cancer health effects. Increased cancer risks were calculated using the modeled DPM concentrations and OEHHA-recommended methodologies for both a child exposure (3rd trimester through 2 years of age) and adult exposure. The cancer risk calculations were based on applying the OEHHA-recommended age sensitivity factors and breathing rates, as well as fraction of time at home and an exposure duration of 30 years, to the DPM concentration exposures. Age-sensitivity factors reflect the greater sensitivity of infants

and small children to cancer-causing air pollutants. The supporting methodology and assumptions used in this HRA are provided in Attachment A of Appendix X: Health Risk Assessment Methodology and Assumptions.

These conservative methodologies overestimate both non-carcinogenic and carcinogenic health risk, possibly by an order of magnitude or more. Therefore, for carcinogenic risks, the actual probabilities of cancer formation in the populations of concern due to exposure to carcinogenic pollutants are likely to be lower than the risks derived using the HRA methodology. The extrapolation of toxicity data in animals to humans, the estimation of concentration prediction methods within dispersion models; and the variability in lifestyles, fitness and other confounding factors of the human population also contribute to the overestimation of health impacts. Therefore, the results of this HRA are highly overstated.

The following describes the HRA results associated with existing receptors due to proposed Project activities. The maximum cancer risk from proposed Project emissions for a residential adult receptor would be 0.69 per million and for a residential-child receptor would be 7.97 per million. As shown in Table 4-2, the total maximum cancer risk from proposed Project emissions for a residential receptor would be 8.06 per million. This theoretical individual would be born in 2019 (the start year of the proposed Project) and subsequently be exposed to the full extended operational period. Individuals born after 2019 would be exposed to shorter operational duration and thus, result in a lower risk and health impacts. The maximum concentrations would occur at a residential receptor (also known as the maximum exposed individual or MEI) along Ward Lake Road to the southwest of the proposed Project. A vast majority of the health impacts are due to the generators as the haul trucks emissions occur over a 30-mile route and are thus not near the receptors for much duration. Therefore, the cancer risk due to proposed Project activities are below the significance threshold of 10 per million and thus would be less than significant.

Table 4-2
ESTIMATED HEALTH IMPACTS

Activity/Emission	Cancer Risk	Hazard Impact (acute/chronic)
Generators and Haul Trucks	8.22	0.02/<0.01
Total Proposed Project	8.22	0.02/<0.01
Significant Threshold	10	1
Potentially Significant (Yes or No)?	No	No

According to the PTO-18-140, the five diesel generators are required to be removed and/or replaced with Lassen County APCD-approved engines within specific dates ranging from July 2020 to January 2025. These requirements were incorporated into this HRA.

Both acute (short-term) and chronic (long-term) adverse health impacts unrelated to cancer are measured against a hazard index (HI), which is defined as the ratio of the predicted incremental DPM exposure concentration from the proposed Project to a reference exposure level (REL) that could cause adverse health effects. The REL are published by OEHHA based on epidemiological research. The ratio (referred to as the Hazard Quotient [HQ]) of each

noncarcinogenic substance that affects a certain organ system is added to produce an overall HI for that organ system. The overall HI is calculated for each organ system. The impact is considered to be significant if the overall HI for the highest-impacted organ system is greater than 1.0.

There is no acute REL for DPM. However, diesel exhaust does contain acrolein, formaldehyde and other compounds, which do have an acute REL. Based on DPM speciation data, acrolein emissions are approximately 1.3 percent of the total DPM emissions. The acute REL for acrolein was established by the California OEHHA10 as 2.5 ug/m3. In total, acrolein emissions represent over 90 percent of the acute health impacts from diesel engines.

The acute HI would be 0.02, based on a Project-related maximum 1-hour diesel concentration of 4.64 ug/m3, respectively (per dispersion modeling analysis), and acrolein speciation of 1.3 percent for DPM or 4.64 ug/m3/2.5 ug/m3 times 1.3 percent, which is 0.02. The acute HI would be below the significance threshold of 1 and the impact of the proposed Project would therefore be less than significant.

The chronic reference exposure level for DPM was established by the California OEHHA11 as 5 μg/m3. Thus, the proposed Project-related annual concentration of DPM cannot exceed 5.0 ug/m3; resulting in a chronic acute HI of greater than 1.0 (i.e., DPM annual concentration/5.0 ug/m3).

The chronic HI would be less than 0.01, based on a proposed Project-related maximum annual diesel concentration of 0.02 ug/m3 (per dispersion modeling analysis) or 0.02 ug/m3/5.0 ug/m3, which is less than 0.01. The chronic HI would be below the significance threshold of 1 and the impact of the proposed Project would therefore be less than significant.

4.3.6 Mitigation Measures

Impact 4.3.5.1 Exposure of Sensitive Receptors to Substantial Concentrations of Toxic Air Contaminants

None proposed.

4.3.7 Level of Significance after Mitigation

Air quality impact 4.3.5.1 (Exposure of Sensitive Receptors to Substantial Concentrations of Toxic Air Contaminants) was determined to be less than significant.

4.4 Biological Resources

The County has determined that extending the life of the mining operations and allowing for nighttime operations truck trips at the facility are substantial changes proposed in the Project that will require major revisions of the previous EIR due to the involvement of potentially new significant environmental effects pertaining to biological resources which could lead to a substantial increase in the severity of previously identified significant effects under CEQA Guidelines Section 15162.

Impacts to biological resources were evaluated in the 1981 EIR and the 1997 EIR for the currently permitted operations. Since the preparation of the 1997 EIR, species may have been added to Federal and State special-status listings and require consideration for the proposed operations. As required under CEQA, setting information has been updated where necessary to reflect current conditions. In addition to previously approved operations, the proposed Project includes periods of 24-hour operations. 24-hour operations were not analyzed in the previous EIR. The impact analysis presented is specific to the proposed project.

4.4.1 Environmental Setting

A Biological Resource Evaluation was prepared for the project site in January 2018. In addition, a nighttime wildlife site survey was conducted in April 2018. The site survey conducted during April 2018 focused on special-status species that potentially occurred onsite during nighttime hours. The survey considered possible disturbances to these species that could result from the expansion into 24-hour operations. The survey found no special-status species onsite or in the surrounding area. Some avian species observed onsite are covered under the Migratory Bird Treaty Act of 1918 (MBTA); however, suitable alternate habitat is available outside of the project area. The environmental setting information in this section is based off of information contained in those studies.

4.4.1.1 Site Vegetation

Most of the Project parcel is currently developed for industrial purposes associated with the pit operation and is considered barren. Few small stands of sage brush and associated vegetation exist throughout the project area. The subject parcel is 442 total acres and project operations occur on 160 acres of the property. The remaining areas surrounding the pit consist mainly of shrub (sagebrush, bitter brush, and rabbitbrush) communities, with sparse areas of annual grassland. The dominant habitat type identified through the California Wildlife Habitat Relationships (CWHR) classification is sagebrush (Mayer and Laudenslayer 1988).

Sagebrush habitat is usually large, open, and often discontinuous, and stands are usually dominated by big sagebrush (*Artemisia tridentata*). This habitat occurs over a range of middle and high elevations. Sagebrush is often mixed with other similar shrub species, such as rabbitbrush (*Chrysothamnus* spp.), horsebrush (*Tetradymia* spp.), and bitterbrush (*Purshia* spp.). In some places, the stand may have an understory of perennial grasses and forbs. Sagebrush habitat borders the pit operations area along the northern, western, and eastern boundaries. Habitat types in the project area are shown on Figure 4-7.

4.4.1.2 Special-Status Plant Species

There are no records of federally or California-listed Threatened or Endangered plant species within five miles of the project area; however, six plants, ranked 1B or 2B on the list of California rare plants, are recorded in the CNDDB within five miles. These species include: western seablite (*Suaeda occidentalis);* ornate dalea (*Dalea ornata*); playa phacelia (*Phacelia inundata*); spiny milkwort (*Polygala subspinosa*); winged dock (*Rumex venosus*); and Susanville beardtongue (*Penstemon sudans*). These plant species were not considered in this assessment because no spatial

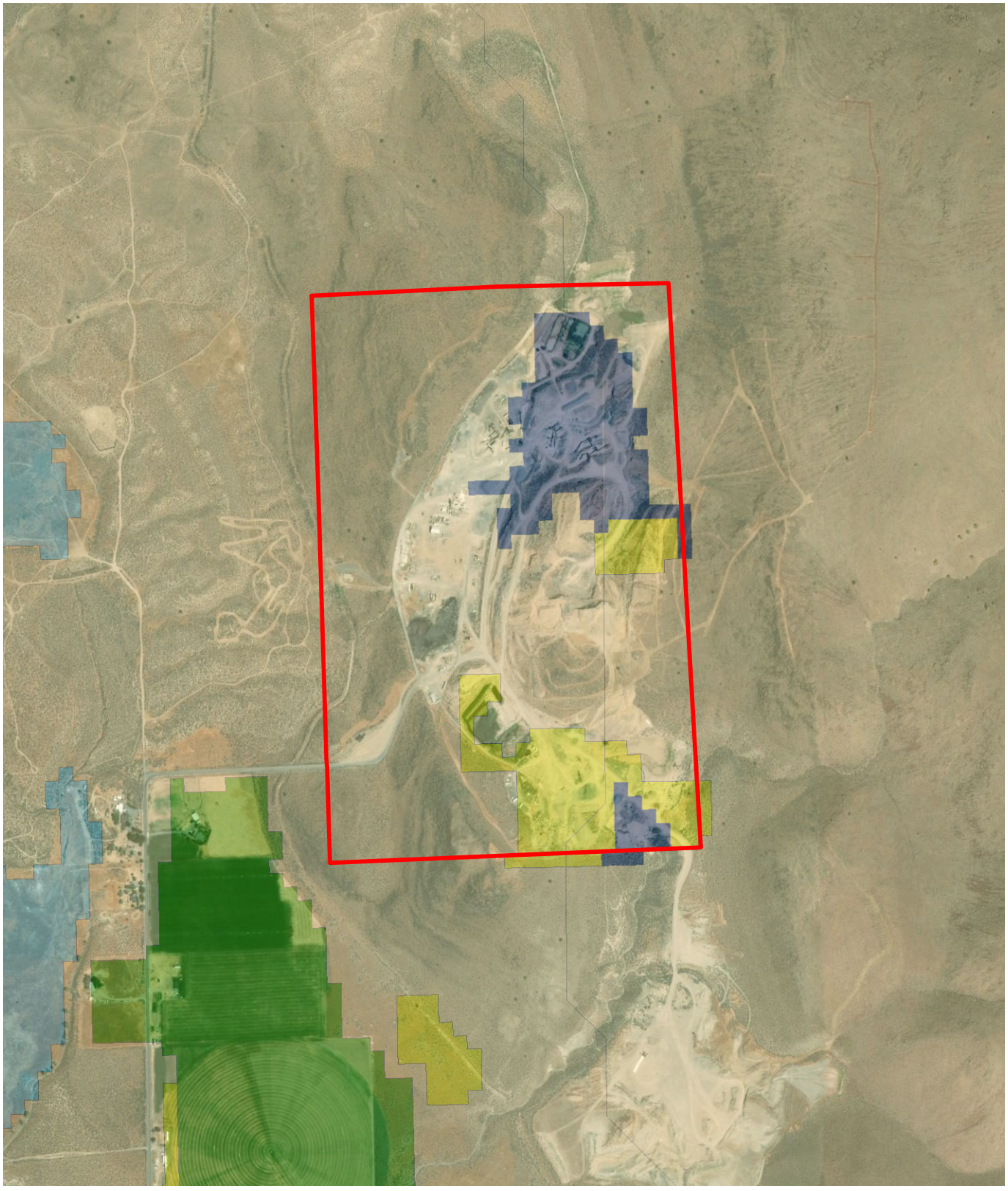


FIGURE 4-7
HABITAT TYPES
IN PROJECT VICINITY
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

SOURCE: USDA NAIP 2016 AERIAL PHOTOGRAPH; USFS 2009

P:\GIS\71305\WardLakeExpansion\Final EIR\71305_HabitatTypes.mxd

expansion is being proposed; thus, plant habitat will not be affected, and individual plants or populations will not be affected by project activities.

4.4.1.3 Special-Status Wildlife Species

Special-status species considered in this assessment meet one of the following criteria:

- Listed, proposed for listing, or candidates for listing as threatened or endangered under the Federal ESA (50 Code of Federal Regulations [CFR] Part 17.12 [listed plants], 50 CFR Part 17.11 [listed animals], 67 Federal Register [FR] 40657 [candidate species]);
- Listed or proposed for listing by the State of California as threatened or endangered under the California ESA (CDFW 2017a);
- Identified by the CDFW as fully protected species, including fish and wildlife that do not have State or Federal threatened or endangered status but may still be threatened with extinction (CDFW 2017b);
- California Species of Special Concern: vertebrate species that have been designated as "species of special concern" by the CDFW because declining population levels, limited range, and/or continuing threats have made them vulnerable to extinction (CDFW 2017b).

A list and summary of wildlife species identified by a California Natural Diversity Database (CNDDB) search within 5 miles of the project, CWHR analysis or literature review, and descriptions of their potential to occur within the project area are included in Table 4-3. CNDDB-documented occurrences within 1 and 5 miles of the site are shown on Figure 4-8. Federally listed species which may occur in the project area were obtained from the U.S. Fish and Wildlife Service (USFWS) and is presented as Appendix G.

Table 4-3
POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES

Common and Scientific Names	Status Fed/State	Preferred Habitats	Known and Potential Occurrence in Project Area
Invertebrates			
Carson wandering skipper	FT/--	Alkaline desert seeps dominated by saltgrass	No potential for occurrence due to lack of suitable habitat
Amphibians			
Foothill yellow-legged frog *Rana boylii*	--/CSC	Slow-moving, gravelly streams and rivers with sunny banks in forests and chaparral	No potential for occurrence due to lack of gravelly streams or waterbodies
Birds			
Tricolored blackbird *Agelaius tricolor*	--/CE	Nest near fresh water in adjacent vegetation, especially near marshes. Forage in grasslands and croplands	Potential for occurrence due to suitable habitat within 5 miles
Golden eagle *Aquila chrysaetos*	--/CFP	Needs open terrain for hunting – grassland, desert, savannah, shrub. Nests on cliffs and in large trees	Potential for occurrence due to suitable foraging habitat in general project area
Northern harrier *Circus cyaneus*	--/CSC	Grasslands, fields, and marshes	Potential for occurrence due to suitable foraging habitat

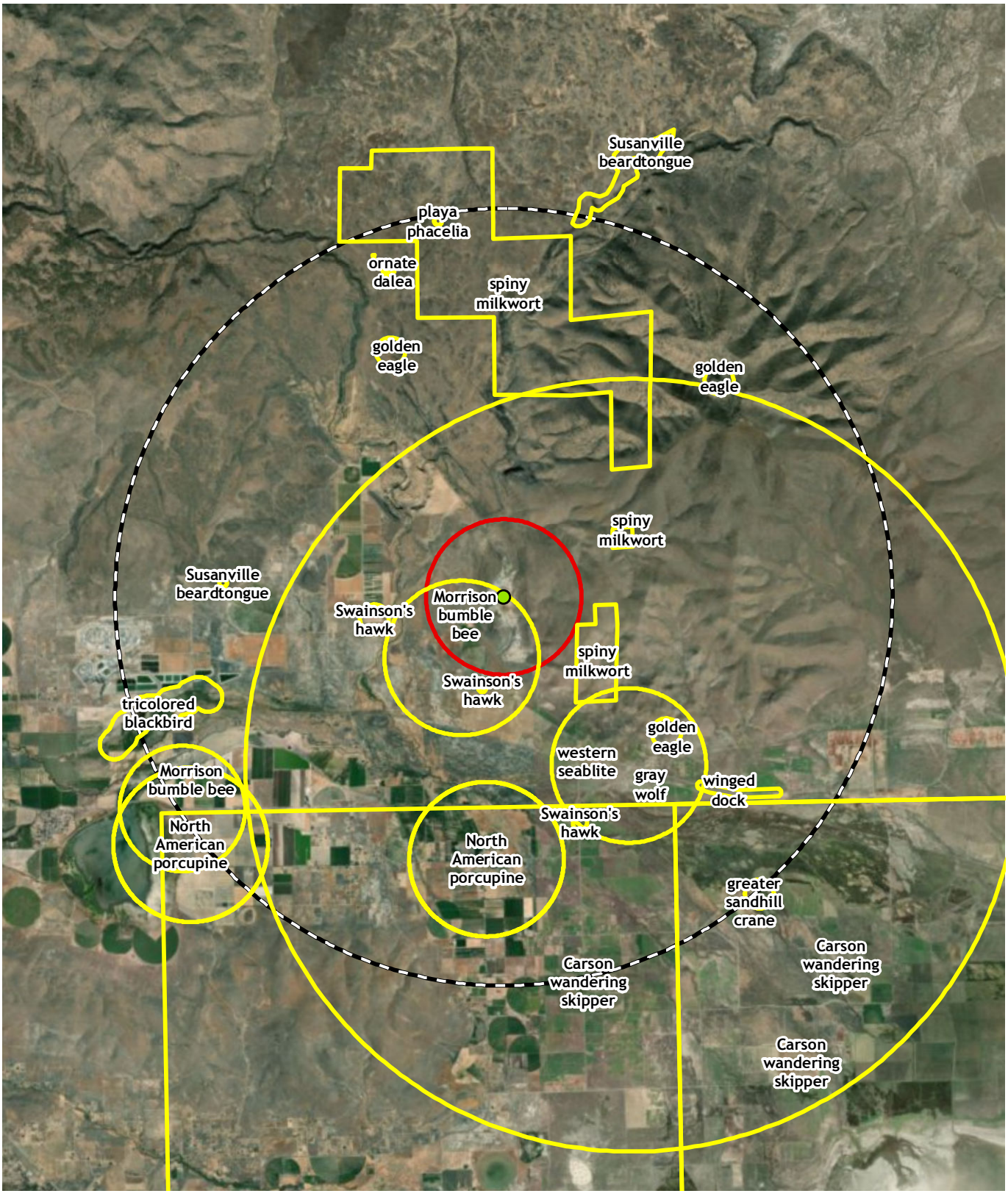


FIGURE 4-8
CNDDB OCCURRENCES
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

SOURCE: NAIP 2016 AERIAL PHOTOGRAPH; CNDDB DECEMBER 2017

P:\GIS\71305\WardLakeExpansion\Final EIR\71305_CNDDB.mxd

Table 4-3
POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES

Common and Scientific Names	Status Fed/State	Preferred Habitats	Known and Potential Occurrence in Project Area
Swainson's hawk *Buteo swainsoni*	--/CT	Large, open grasslands in riparian systems	Potential for occurrence due to some suitable foraging habitat
Greater sandhill crane *Grus canadensis tabida*	--/CT	Shortgrass plains, grain fields and open wetlands for foraging. Nests in wetlands	No potential for occurrence due to lack of suitable habitat
Greater sage-grouse *Centrocercus urophasianus*	--/CSC	Open, continuous sagebrush communities	Potential for occurrence due to suitable habitat
Burrowing owl *Athene cunicularia*	--/CSC	Open, dry grassland, desert, and shrub	Potential for occurrence due to suitable habitat
Long-eared owl *Asio otus*	--/CSC	Roost in dense vegetation and forage in open grasslands or shrublands	Potential for occurrence due to suitable foraging habitat
Short-eared owl *Asio flammeus*	--/CSC	Large, open areas with low vegetation including prairie, grassland, shrubsteppe, agricultural areas	Potential for occurrence due to suitable habitat
Loggerhead shrike *Lanius ludovicianus*	--/CSC	Open areas with short vegetation and well-spaced shrubs or low trees	Potential for occurrence due to suitable habitat
Mammals			
Pallid bat *Antrozous pallidus*	--/CSC	Forages over many habitats; roosts in buildings, trees, rocky outcrops and crevices in mines and caves; also in oak and pine forested areas, usually near a source of water	Potential for occurrence due to suitable habitat
Townsend's big-eared bat *Corynorhinus townsendii*	--/CSC	Found in all but subalpine and alpine habitats. Requires mines, caves, rock piles, and lava tubes for roosting	Potential for occurrence due to suitable habitat
Gray wolf *Canis lupus*	FE/CE	Highly variable	No records in project vicinity in 93 years; has been located recently in other areas of Lassen County
North American wolverine *Gulo gulo luscus*	PFT/CT	Arctic, boreal, and alpine habitats. South of the Canadian border, restricted to high mountain environments near the treeline	No potential for occurrence due to lack of suitable habitat
American badger *Taxidea taxus*	--/CSC	Dry, open stages of shrub and forest with friable soils	Potential for occurrence due to suitable habitat
Pygmy rabbit *Brachylagus idahoensis*	--/CSC	Sagebrush, bitterbrush, and pinyon-juniper	Potential for occurrence due to suitable habitat
White-tailed jackrabbit *Lepus townsendii townsendii*	--/CSC	Sagebrush, subalpine conifer, juniper, alpine dwarf-shrub, and perennial grassland	Potential for occurrence due to suitable habitat

Key: Federally Endangered (FE), Proposed Federally Endangered (PFE); Federally Threatened (FT); Proposed Federally Threatened (PFT); California Endangered (CE); California Threatened (CT); California Fully Protected (CFP); California Species of Special Concern by DFG (CSC)

Special-status wildlife species that are known to occur, or have the potential to occur, within the project area include:

- Tricolored blackbird *(Agelaius tricolor)*
- Golden eagle (*Aquila chrysaetos*)
- Northern harrier (*Circus cyaneus*)
- Swainson's hawk (*Buteo swainsoni*)
- Greater sage-grouse (*Centrocercus urophasianus*)
- Burrowing owl (*Athene cunicularia*)
- Long-eared owl (*Asio otus*)
- Short-eared owl (*Asio flammeus*)
- Loggerhead shrike (*Lanius ludovicianus*)
- Gray wolf (*Canis lupus*)
- American badger (*Taxidea taxus*)
- Pallid bat *(Antrozous pallidus)*
- Townsend's big-eared bat *(Corynorhinus townsendii)*
- Pygmy rabbit (*Brachylagus idahoensis*)
- White-tailed jackrabbit (*Lepus townsendii townsendii*)

Of the 19 special-status species evaluated, 15 were known to occur, or were determined to have a potential to occur, while the rest were determined to have no potential to occur. Species determined to have potential to occur within the project area are discussed below, while species that were determined to be absent are not discussed further.

Birds

Tricolored blackbird
Agelaius tricolor
California Endangered
Tricolored blackbird populations in California stay in the state all year. Tricolored blackbirds nest colonially within densely vegetated habitats including agricultural fields interspersed with grass-covered hills, sagebrush grasslands, and salt-marsh habitats. Nesting takes place in native emergent marshes, agricultural fields, or thickets of dense shrubs such as Himalayan blackberry. The nesting season for tricolored blackbird is March 1 through August 15. Tricolored blackbirds forage diurnally, eating any locally abundant insects. No dense thickets of vegetation characteristic of Tricolored blackbird nesting habitat exists onsite. Emergent vegetation onsite exists in only small patches that are not likely to facilitate a colony of tricolored blackbird nests. The nearest known tricolored blackbird occurrence was approximately 2 miles away from the project site, along Center Road (A27) across from the prison in an emergent wetland.

Golden Eagle
Aquila chrysaetos
California Fully Protected
The golden eagle is listed by the State of California as Fully Protected, which prohibits take or possession of the species. This species is an uncommon resident throughout California and a migrant in the Central Valley during the winter. These birds typically hunt over the open terrain of grasslands, deserts, savannah, shrub, and early successional forests. They nest on cliffs of variable heights and in large trees in open habitats. There is little data on golden eagle abundance in California and the data that does exist does not show strong trends. Threats to

this bird include loss of foraging areas and nesting habitat and historical pesticide poisoning. Potential foraging habitat exists in the open sagebrush areas of the project area.

Northern Harrier
Circus cyaneus
State Species of Special Concern
The northern harrier is listed by the State of California as a Species of Special Concern. This species is a common winter resident and occurs in greater numbers in California during migration and winter, as many populations travel farther north to breed. Some populations remain in California and the historic breeding range extended from the Modoc Plateau south to San Diego. Breeding in California has greatly declined due to loss of suitable wetland habitats. Although most suitable habitat has been destroyed or degraded, the Central Valley still supports the majority of nesting in California. Northern harriers inhabit a variety of open habitats that provide vegetative cover including grasslands, coastal ponds/sloughs, coastal marshes, coastal wetlands, salt marshes, and sagebrush areas. Potential foraging habitat exists in the sagebrush areas of the project area.

Swainson's Hawk
Buteo swainsoni
State Threatened
The Swainson's hawk was listed as a Threatened species in 1983. This species breeds in the western United States and Canada and winters in isolated areas in California, Mexico, and Central and South America, though only a small number have been documented to overwinter in California (Herzog, 1996). Historically found throughout California except in the Sierra Nevada, North Coast Ranges and Klamath Mountains, loss of suitable habitat has now restricted breeding areas to the Great Basin and the Central Valley. Nesting Swainson's hawks require large open areas of grassland for foraging adjacent to riparian forests or corridors, juniper-sage flats, or oak savannah for nesting. The main cause of the decline of this species in California is the significant loss and degradation of open areas, such as agricultural lands and grasslands, due to urban development.

Greater Sage-Grouse
Centrocercus urophasianus
State Species of Special Concern
The greater sage-grouse is listed by the State of California as a Species of Special Concern. The species was considered for listing under the ESA as Endangered or Threatened in 2015, but the USFWS found that listing was not warranted. This species is a permanent resident in northeastern California and ranges from the Oregon border along the east side of the Cascade Range and Sierra Nevada to northern Inyo County. Lassen and Mono Counties have the most stable populations in California. Greater sage-grouse inhabit open areas with a combination of sagebrush, perennial grassland and wet meadow; large, continuous tracts of sagebrush habitat are required for courtship displays. Declining population numbers are due mostly to habitat loss, impacts of non-native invasive species, and overgrazing.

Burrowing Owl
Athene cunicularia
State Species of Special Concern
The burrowing owl is listed by the State of California as a Species of Special Concern. This

species is a permanent resident in the central valley and southern California. These birds inhabit northeastern California during the summer breeding season. Burrowing owl habitat typically consists of open grasslands and shrublands with perches for hunting, and burrows for nesting. Nesting usually occurs in vacant mammal burrows, but where burrows are scarce, these owls may use human structures or dig their own burrows in soft soil. This species exhibits strong site fidelity. These owls forage at all hours of the day and night. Populations are still stable but have been declining, mostly due to habitat loss from agriculture and development, and poisoning of ground squirrels.

Long-Eared Owl
Asio otus
State Species of Special Concern
The long-eared owl is listed by the State of California as a Species of Special Concern. This species is a permanent resident throughout California, except the central valley and southern California. Long-eared owls roost and nest in dense vegetation, typically live oak thickets and other dense tree stands, especially in riparian areas. These owls hunt in open grasslands and shrublands. This species does not build their own nests; nesting usually occurs in old bird and squirrel nests. These are nocturnal owls that forage during nighttime hours. Resident populations have been slowly declining since the 1940s due mainly to habitat loss and fragmentation.

Short-Eared Owl
Asio flammeus
State Species of Special Concern
The short-eared owl is listed by the State of California as a Species of Special Concern. This species is a permanent resident in northeastern California and a widespread winter migrant in the central valley and western Sierra Nevada. Short-eared owls roost on the ground in dense, low vegetation, typically tall grasses, brush, or wetlands. Nests are made on dry ground concealed in vegetation. These owls hunt in open areas including annual and perennial grasslands, shrublands, marshes, and agricultural fields; grasslands are most preferred. Short-eared owls are active mostly at twilight and nighttime hours, but are often active during the day in the breeding season. There is not a lot of available data on short-eared owl populations, but populations appear to be declining over most of the range because of habitat loss and fragmentation and overgrazing.

Loggerhead Shrike
Lanius ludovicianus
State Species of Special Concern
The loggerhead shrike is listed by the State of California as a Species of Special Concern. This species is a permanent resident and winter migrant in lowland and foothill areas throughout California. This species typically inhabits open areas with scattered shrubs, trees and perches, including agricultural fields, pastures, orchards, scrublands, and riparian areas. These birds roost and nest in shrubs or small trees. Loggerhead shrikes are diurnally active. Populations in the Pacific states have remained fairly stable, but numbers have declined elsewhere in their range. Declines are likely due to increased use of pesticides.

Mammals

Gray Wolf
Canis lupus
Federally Endangered; California Endangered
The gray wolf was listed as endangered on March 9, 1978 (USDI FWS 1978). Gray wolves are habitat generalists and can potentially occur in a wide range of habitats including temperate forest, mountains, tundra, taiga, and grasslands, so long as there is suitable prey. Prey species primarily include ungulates, such as moose, caribou, deer, and elk, but they will also take smaller prey such as beaver and small mammals, and will readily scavenge.

This species is highly territorial and defends territories in packs. Territory size is a function of prey density and can range from 25 to 1,500 square miles. Both male and female wolves disperse at equal rate and equal distances, sometimes more than 600 miles. Gray wolves once ranged throughout the northern hemisphere, but widespread trapping and extermination efforts severely reduced their distribution and caused dramatic population declines. Current threats to the gray wolf include continued conflict with humans, primarily resulting from livestock depredation, and habitat loss, degradation and fragmentation due to land development. The last recorded observation of gray wolf in the project vicinity was in 1924 near Litchfield, California. However, it has a large home range and range expansion is documented and could result in wolves reinhabiting the area at some point. CDFW has collected evidence (GPS tracking collar and remote trail camera images in 2016) that suggests that a small number of wolves have traveled into Lassen County (CDFW 2017).

American Badger
Taxidea taxus
State Species of Special Concern
The American badger is listed by the State of California as a Species of Special Concern. These animals are permanent residents throughout most of California, except for the far northern North Coast area. Suitable habitat for this species is characterized by herbaceous, shrub, and open stages of most habitats with dry, friable soils. Dry, friable soils, often sandy, are required because badgers eat mostly fossorial (i.e., occurring underground) rodents, and they also take cover and reproduce in burrows. Badgers are active both day and night, and they may undergo periods of torpor in the winter. Populations are considered to be stable but had declined due to historical trapping, conversion of habitat to intensive agriculture, and rodent poisoning.

Pallid Bat
Antrozous pallidus
State Species of Special Concern
The pallid bat is listed by the State of California as a Species of Special Concern. These are crevice-roosting bats of arid and semi-arid regions across much of the American west. They are a locally common species of low elevations. This species is not known to migrate long distances and they likely hibernate close to summer roosts. They are found in a variety of habitats such as grasslands, shrublands, and woodlands, but are most common in open, dry regions with rocky outcroppings or sparsely vegetated grasslands. Water must be available close by to all sites. They typically will use three different types of roosts: A day roost which can be a warm, horizontal opening such as in attics, shutters or crevices; the night roost is in the open, but with foliage nearby; and the hibernation roost mentioned above, which is often in buildings, caves, or cracks in rocks (Brylski et al. 1998). These bats are very sensitive to roosting site disturbance.

Townsend's Big-Eared Bat
Corynorhinus townsendii
State Species of Special Concern
The Townsend's big-eared bat is listed by the State of California as a Species of Special Concern. This species has a broad range in western North America and is found throughout California. Townsend's big-eared bats occur in a variety of habitats, but they are most commonly associated with desert scrub, mixed conifer forest, and pinion-juniper or pine forest habitat, especially those with a mesic condition. Within these communities, they are specifically associated with limestone caves, mines, lava tubes, or buildings (Brylski et al. 1998). They forage in dense foliage and feed almost exclusively on moths.

Pygmy Rabbit
Brachylagus idahoensis
State Species of Special Concern
The pygmy rabbit is listed by the State of California as a Species of Special Concern. In California, this species is uncommon in the Great Basin areas of Modoc, Lassen, and Mono Counties. These rabbits can be found in sagebrush, bitterbrush, and pinyon-juniper habitats, and they prefer big sagebrush because it makes up the majority of their winter diet. Pygmy rabbits dig burrow for food storage and reproduction. This species is crepuscular and sometimes active during the day. Populations exhibit patchy distributions and are extremely varied across the species range. Because the species is dependent on big sagebrush, it is vulnerable to habitat loss and fragmentation from habitat conversion and fire.

White-Tailed Jackrabbit
Lepus townsendii townsendii
State Species of Special Concern
The white-tailed jackrabbit is listed by the State of California as a Species of Special Concern. This species is an uncommon, permanent resident of northeastern California and the upper eastern slopes of the Sierra Nevada. These rabbits prefer open areas with scattered shrubs, including sagebrush, subalpine conifer, juniper, alpine dwarf-shrub, and perennial grassland, but are also found in wet meadow habitat and early successional stages of conifer forests. These animals move seasonally from higher to lower elevations in winter. Sagebrush is an important part of the winter diet. This species is primarily nocturnal and sometimes crepuscular. There is little available data on the status of populations in California, but evidence indicates sharp declines. It is thought that white-tailed jackrabbits may now be absent from large tracts of its previous range.

4.4.1.4 Critical Habitat

The project site is not located within designated critical habitat for any special-status species; however, the site is within the mule deer critical winter range, and an antelope winter range and kidding ground are also found in the area of the site. These areas are shown on Figures 4-9 and 4-10, respectively.

Seasonal migration patterns of mule deer show utilization of high-elevation montane ranges in summer to low-elevation ranges in fall and winter. Mule deer foraging habitat selection may also

VESTRA

FIGURE 4-9
MULE DEER CRITICAL WINTER RANGE
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

SOURCE: NAIP 2016 AERIAL PHOTOGRAPH; CDFW BIOS

P:\GIS\71305\WardLakeExpansion\Final EIR\71305_DeerHabitat.mxd

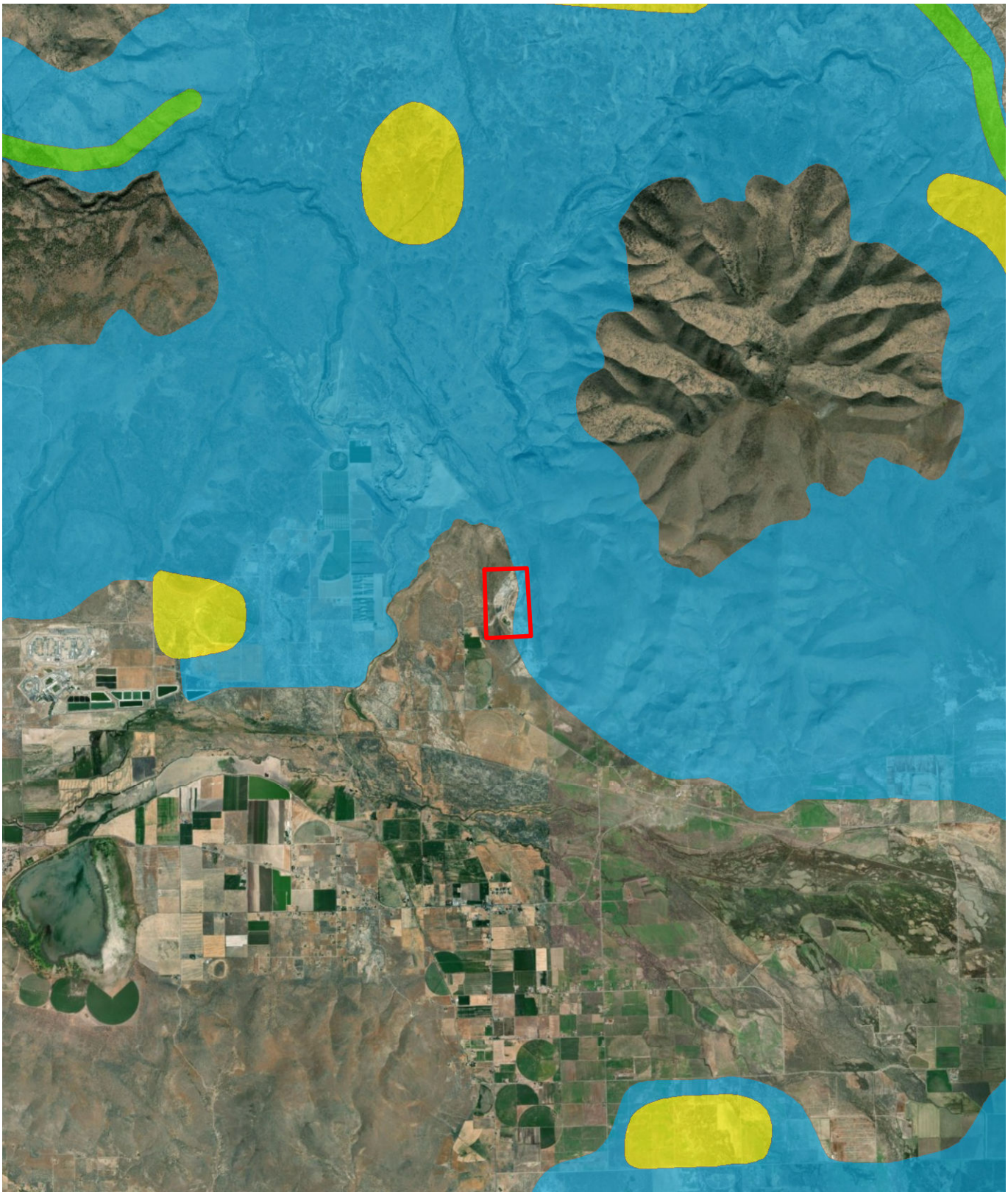


FIGURE 4-10
PRONGHORN ANTELOPE WINTER RANGE AND KIDDING GROUNDS
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

SOURCE: NAIP 2016 AERIAL PHOTOGRAPH; CDFW BIOS

P:\GIS\71305\WardLakeExpansion\Final EIR\71305_PronghornHabitat.mxd

be influenced by proximity to drinking water and presence of cover from predators. According to mule deer population studies, most activity occurs in early morning, late afternoon, and early evening. Mule deer exhibit strong site fidelity; home ranges usually are less than 1 mile in diameter (USDA Forest Service, 2006).

The Ward Lake Pit is located adjacent to known Critical Winter Range of CDFW Region 1 mule deer population. Critical deer winter range can include corridors essential for movement, staging areas where deer temporarily congregate, or habitats containing high quality winter forage. Shaffer Mountain is located at the southwestern corner of the critical winter range, which may provide relatively early-season foraging ground at its lower elevations and southern-facing slopes.

Pronghorn typically migrate between summer and winter ranges and may move up to 93 miles between ranges in California. Pronghorn are active yearlong. They are mostly crepuscular (active at dawn and dusk), but may be active during the day or night. Pronghorn diet is variable throughout the year; pronghorn migrate between summer and winter feeding ranges to follow seasonal forage availability. Previous population studies found that pronghorn kidding grounds are located adjacent to the project area. In the Lassen area, pronghorn typically breed in late summer and give birth in May or June.

4.4.1.5 Wetland Habitat

The project site is located within proximity to three wetland areas as defined in the National Wetland Inventory (NWI) as follows; however, none are directly impacted by site activities.

- R4SBCx: Riverine, intermittent streambed, seasonally flooded, and excavated by humans
- R4SBC: Riverine, intermittent streambed, seasonally flooded
- R5UBF: Riverine, unknown perennial unconsolidated bottom, semi-permanently flooded

4.4.2 Regulatory Setting

4.4.2.1 Federal (Shasta County, 2017)

Endangered Species Act

The Federal Endangered Species Act (FESA) generally prohibits the "taking" of a species listed as endangered or threatened (16 USC 1532, 50 CFR 17.3). Under the FESA, the "take" of a threatened or endangered species is deemed to occur when an intentional or negligent act or omission results in any of the following actions: "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The term "harm" includes acts that results in death or injury to wildlife. Such acts may include significant habitat modification or degradation if it results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. For projects with a federal nexus, Section 7 of the FESA requires that federal agencies, in consultation with USFWS or NOAA Fisheries, use their authorities to further the purpose of FESA and to ensure that their actions are not likely to jeopardize the continued existence of listed species or result in destruction or adverse modification of critical habitat. Section 10(a)(l)(B) allows non-federal entities to obtain permits for incidental taking of threatened or endangered species through consultation with USFWS or NOAA Fisheries.

Critical habitat is defined in Section 3(5)(A) of the FESA as (i) the specific areas within the geographical area occupied by a species, at the same time it is listed in accordance with the FESA, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. Section 3(3) of the FESA defines "conservation" as to use and the use of all methods and procedures which are necessary to bring an endangered species or threatened species to the point at which the measures provided pursuant to the FESA are no longer necessary (i.e., the species is recovered and removed from the list of endangered and threatened species).

The designation of critical habitat directly affects only federal agencies, by prohibiting actions they fund, authorize, or carry out from destroying or adversely modifying critical habitat. Individuals, businesses, and other non-federal entities are not affected by the designation of critical habitat so long as their actions do not require a permit, a license, funding, or other support from a federal agency.

Regulation of Activities in Waters of the U.S. and Wetlands

The Corps has primary federal responsibility for administering regulations that concern "waters of the U.S.," including jurisdictional wetlands. The Corps acts under two statutory authorities: 1) Rivers and Harbors Act (Sections 9 and 10) which governs specified activities in "navigable waters of the U.S.," and 2) Section 404 of the Clean Water Act, which regulate activities in wetlands and other waters. The Corps requires that a permit be obtained if a project proposes placing structures within, over, or under navigable waters and/or discharging dredged or fill material into "waters of the U.S." below the ordinary high-water mark in non-tidal waters. The Environmental Protection Agency (EPA), USFWS, the National Marine Fisheries Services (NMFS), and several other agencies provide comments on Corps permit applications.

Migratory Bird Treaty Act

Migratory birds are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The MBTA is administered by the USFWS and special permits from the agency are generally required for the "take" of any migratory birds.

Federal Magnuson-Stevens Fishery Conservation and Management Act

The Federal Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance EFH for those species regulated under a federal fisheries management plan (FMP). The MSA requires federal agencies to consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agencies that may adversely affect EFH (MSA Section 305[b][2]). A component of this consultation process is the preparation and submittal of an Essential Fish Habitat Assessment (EFHA). The length of the EFHA will vary, based on project complexity and the magnitude of potential impacts on EFH, but all EFHAs must include the following information: (1) a description of the proposed action;

(2) an analysis of the effects, including cumulative effects, of the proposed action on EFH, the managed species, and associated species, such as major prey species, included affected life history stages; (3) the federal agency's views regarding the effects of the proposed action on EFH; and (4) proposed mitigation, if applicable. In instances where MSA and FESA issues overlap, NOAA Fisheries encourages an integrated approach to consultation. The EFH mandate applies to all species managed under an FMP. For the Pacific Coast (excluding Alaska), there are three FMPs covering groundfish, coastal pelagic species, and Pacific salmon.

4.4.2.2 State (Shasta County, 2017)

California Endangered Species Act

Under the California Endangered Species Act (CESA), CDFW has the responsibility for maintaining a list of endangered and threatened species (California Fish and Game Code 2070). The CDFW also maintains a list of "candidate species," which are species that the CDFW formally notices as being under review for addition to the list of endangered or threatened species. In addition, CDFW maintains lists of "species of special concern," which serve as species "watch lists." Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project study area and, if so, whether the proposed project would have a potentially significant impact on any of these species. In addition, the CDFW encourages informal consultation on any proposed projects that may affect a species that is a candidate for state listing. In accordance with Section 15380 of the CEQA guidelines, species of special concern should be included in an analysis of project impacts if they can be shown to meet the criteria of sensitivity outlined by CDFW. "Take" of protected species incidental to otherwise lawful management activities may be authorized under Section 2091 of the Fish and Game Code of California. Authorization from the CDFW would be in the form of an Incidental Take Permit. Under the CESA, project-related impacts of the authorized take must be minimized and fully mitigated, and adequate funding must be in place to implement the mitigation measures and monitor compliance with the measures and their effectiveness. Standard mitigation requirements can include land acquisition, permanent protection and management, and/or funding in perpetuity of compensatory lands.

California Native Plant Protection Act

The California Native Plant Protection Act (California Fish and Game Code Section 1900-1913) prohibits the taking, possessing, or sale within the State of any plants with a state designation of rare, threatened, or endangered, as defined by the CDFW. An exception to this prohibition allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify the CDFW and give the agency at least 10 days to retrieve (and presumably replant) the plants before they are plowed under to otherwise destroyed. Fish and Game Code Section 1913 exempts from the "take" prohibition "the removal of endangered or rare native plants from a channel, lateral ditch, building site, or road, or other right-of-way."

California Fish and Game Code

Raptor species (birds of prey) are protected from "take" according to the California Fish and Game Code (Section 3503.5 1992). Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes 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." Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW. California statutes also accord "fully protected" status to a number of specifically identified birds, mammals, reptiles, amphibians, and fish. These species cannot be "taken," even with an Incidental Take Permit (California Fish and Game Code, Sections 3505, 3511, 4700, 5050, and 5515).

Oak Woodlands Conservation Act

The State of California provides for oak protection through the Oak Woodlands Conservation Act (SB 1334, 2001), last amended in 2004, which applies to actions taken within unincorporated county areas in California. The Act requires the California Environmental Quality Act (CEQA) lead agency (when it is a county) to determine whether a project may result in a conversion of oak woodlands that will have a significant effect on the environment. If an agency determines that the project will have a significant effect on oak woodlands, the agency shall require implementation of one or more oak woodland mitigation alternatives. Oak woodlands supporting oaks exhibiting 5-inch or greater diameter at breast height are subject to the Act and must be evaluated.

State CEQA Guidelines

Although threatened and endangered species are protected by specific federal and state statutes, State CEQA Guidelines §15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the FESA and the Section of the California Fish and Game Code dealing with rare or endangered plants and animals. Section 15380(d) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or the CDFW (e.g. candidate species, species or concern) would occur. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

Regulation of Activities in Waters of the U.S. and Wetlands

The State's authority in regulating activities in "waters of the U.S." and wetlands resides primarily with the CDFW and the State Water Resources Control Board (SWRCB). The CDFW provides comment on Corps permit actions under the Fish and Wildlife Coordination Act. The CDFW is also authorized under the California Fish and Game Code to develop mitigation measures and enter into 1602 Streambed Alteration Agreements with applicants who propose projects that would obstruct the flow of, or alter the bed, channel, or bank of a river or stream in which there is a fish or wildlife resource, including intermittent and ephemeral streams. The SWRCB, acting through the Regional Water Quality Control Board (RWQCB), must certify that a Corps permit authorizing the fill of waters of the U.S. meets State water quality objectives. The State more broadly defines waters of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code Section 13050(e)). This broader definition would allow the State to regulate the discharge of dredge or fill material within waters not regulated by the Corps (e.g., isolated waters).

4.4.2.3 Local

Lassen County General Plan Land Use Element

The 2000 Lassen County General Plan was adopted in September 1999. The 2000 General Plan contains a Land Use Element, Natural Resources Element, Agriculture Element, Wildlife Element, Open Space Element, Circulation Element, and Safety and Seismic Safety Element. The 2000 General Plan Land Use Element and Wildlife Element contain the following goals and policies related to biological resources:

- Goal L-22: Protection and enhancement of important wildlife habitats to support healthy, abundant and diverse wildlife populations.
- LU-49 Policy: The County supports the management and enhancement of wildlife resources in ways that enhance the health and abundance of wildlife populations and the diversity of species and their habitats and which, at the same time, balance management policies and program objectives with the range of social and economic needs for which the County is also responsible.
- Goal W-1: To protect and enhance the overall health of wildlife habitats and special resource areas to maintain healthy, abundant and diverse wildlife populations.
- WE-1 Policy: The County supports the management of wildlife resources in ways that enhance the health and abundance of wildlife populations and the diversity of species and their habitats and which, at the same time, balance management policies and program objectives with the range of social and economic needs for which the County is also responsible.
- WE-2 Policy: The County supports the cooperative identification of "areas of significant wildlife value" or similar designations for areas where it is demonstrated by sound biological science and the habitat values are of significant importance to the health and/or survival of one or more species of wildlife. The county may apply a special designation to these areas, and/or agree to support specific resource management objectives, polices, and voluntary programs to protect wildlife resources within these areas.
- WE-5 Policy: Prior to the imposition of substantial wildlife-related mitigation measures by the County, the County shall review evidence demonstrating that the proposed action or project could otherwise have potentially significant adverse impacts to wildlife and that the proposed measures will, in fact, help to accomplish practical and necessary mitigation objectives.
- WE-6 Policy: Funding for wildlife habitat programs (e.g., wildlife mitigation funds), should be directed to protect and enhance wildlife resources in the county, especially when funds are generated in Lassen County.
- Goal W-2: Protection of rare, threatened, and endangered wildlife species with an ecosystem approach to habitat management which also supports multiple land uses.
- WE10 Policy: Through local coordination, the County encourages programs and actions to remove and avoid the listing of additional wildlife species as threatened or endangered by the state or Federal government. When listings are proposed, sound biology needs to

be applied to the preparation of habitat management plans and/or recovery plans, and the related social and economic impacts of such plans and related measures need to be considered and mitigated.

- Goal W-5: Protect and enhance important upland habitat areas which include bitterbrush, mountain mahogany and aspen.
- WE17 Policy: The County supports cooperative efforts to protect and enhance the wildlife habitat values of upland vegetation communities of bitterbrush, mountain mahogany and aspen.

1986 Standish-Litchfield Area Plan

The Standish-Litchfield Area Plan was adopted in 1986 and was intended to guide decisions regarding land use for an approximate 20-year timeframe. The Area Plan contains three categories: Environmental Safety, Natural and Cultural Resources, and Community Development. The 1986 Standish-Litchfield Area Plan contains the following goals, objectives, and policies related to biological resources:

- **Issue: Wildlife/Fishery Resources**
  Goal and Objective: Recognize and protect wildlife and fishery resources by maintaining a policy for compatible relationships among habitats, parks and residential development. Protect critical habitats from intrusion by incompatible uses.
- **Issue: Rare and Endangered Plants and Animals**
  Goal and Objective: Protect the Planning Area's rare and endangered plants and animals
- **Issue: Natural Vegetation Resources**
  Goal and Objective: Provide for maximum feasible retention of natural vegetation in order to ensure watershed, wildlife, fishery, timberland, and scenic values to the area.
- **Policy 9-A:** Lassen County shall conserve and enhance the wildlife and fisheries of the area. Generally, those lands identified as significant wildlife areas by the Department of Fish and Game shall be designated for Intensive or Extensive Agriculture, Conservation or Open Space.

Implementation

- 9.1: The County Planning Department shall review all proposed projects for their possible adverse or beneficial impacts to fish and wildlife habitats.
- 9.2: Lands designed to protect wildlife should be zoned "E-A", Exclusive Agriculture, or "U-C", Upland Conservation District or "O-S, Open Space. In some instances, these districts should be combined with a "PUD," Planned Unit Development, District to encourage preservation of unique site characteristics or encourage innovative design. One example of how the PUD designation could be applied is by clustering residential units in order to leave more area open to wildlife.
- 9.3: Land designated conservation or open space shall be zoned "O-S," Open Space, or other appropriate zoning districts which further use the intent of policy 11-A.

4.4.3 Previous CEQA Review

4.4.3.1 1981 EIR

The 1981 EIR assessed potential project impacts to non-game birds, mammals, and reptiles likely to occur in the habitat within the project site. Potential effects to pronghorn and mule deer were found to be significant though mitigable due to the animals' seasonal migration patterns. Topographical changes within the project quarry areas were also found to be significant and mitigable. Long-term impacts to wildlife due to levels of noise, disturbance and activity within the project area and upon access roads were found to be significant and not mitigable.

1. **Impacts to Pronghorn and Mule Deer Herds**
    a. Limits on operations from December to March 31 annually. Proposed project operations are governed by weather conditions with an anticipated working season of April through November. Minimal activity could occur on mild winter days. Mitigation of the impact on wildlife was primarily relegated to climatic conditions wherein the effects of cold weather prompt wildlife to move down into lower elevations and coincidentally brings about the winter suspension of the plant operations.

    b. Improving wildlife foraging habitat. Cooperation and assistance from both the California Department of Fish and Game (CA Department of Fish and Wildlife [CDFW]) and the Soil Conservation Service (Natural Resources Conservation Service [NRCS]) would be sought in order to determine the most suitable range grasses to be used in the reseeding process to allow for return of the land to suitable grazing and for efficient erosion control in quarry areas and along roadways.

4.4.3.2 1997 EIR

The 1997 EIR prepared for the currently permitted operation focused on potential effects on deer and antelope herds. The 1997 Environmental Impact Report (EIR) for the expansion of the Ward Lake Pit focused on potential effects on deer and antelope herds. The project area is on the edge of CDFW-designated critical winter-range habitat for mule deer (Figure 4-9) and winter-range habitat for pronghorn antelope (Figure 4-10). Mule deer numbers have increased since the 1997 EIR.

The 1997 EIR also addressed effects to Swainson's hawk and golden eagle. Potential effects of the projects on Swainson's hawks and golden eagles were discounted because the Project only involved the removal of 40 acres of foraging habitat, but no nesting habitat removal. Impacts to deer and antelope herds were determined to be significant and mitigable in the 1997 EIR. In addition, impacts to other wildlife species including Swainson's hawk, golden eagle, and small game and nongame species was determined to be significant and mitigable as well. The 1997 EIR contained the following mitigation measures for Biological Resources:

1. Impacts to Pronghorn and Mule Deer Herds

a. Reclamation of graded areas. The intent of the Reclamation Plan shall be to recreate to the extent possible a viable, self-sustaining plant community similar to that which existed prior to mining.

Sand and Gravel Excavation Areas: These areas shall be regraded to maximum slopes of 2H:1V, shall be resoiled with adequate growth medium to support vegetation including fines from the crusher and stockpiled topsoil and shall be revegetated with native species including sage, bitterbrush, and rabbit brush. The success of revegetation in these areas shall be monitored by qualified personnel with reports submitted to the County Community Development Department at least once per year for five years. The final approved species list and planting density must be approved by the County in Consultation with the Department of Fish and Game.

Rock Quarry Area: This area shall be regraded to a maximum overall slope of 2H:1V and shall be benched with minimum 10 foot wide benches at vertical intervals appropriate for the type of material, but not greater than 15 feet. The benches shall be sloped to drain toward the hillside, shall be resoiled with adequate growth medium to support vegetation including fines from the crusher and stockpiled topsoil and revegetated using native range grasses, shrubs, and trees if they can be supported. The operator shall institute a test plot program on the first available rock face bench to determine the best species mix and planting scheme for subsequent benches. The test plots shall be set up and monitored by qualified personnel with reports submitted to the County Community Development Department at least once every year for five years. The final approved species list and planting density must be approved by the County in consultation with the Department of Fish and Game.

Timing/Phasing of Reclamation: Reclamation of sub-areas shall take place in a phased manner where possible as excavation is completed.

Protection of Replanted Areas: Replanted areas shall be protected by fencing intended to exclude livestock and deer until vegetation is established. Perimeter livestock fencing shall be provided and shall be four wires maximum, bottom wire smooth and no closer than 19 inches to the ground with total fence height not to exceed 42 inches. More site-specific deer proof fencing shall be provided directly around replanting areas.

b. Limits on Operations from December 1 to March 31. No grading or equipment use on the site shall be allowed between December 1 and March 31 annually.

A seasonal restriction of operations was recommended in the 1997 EIR, citing the critical period for pronghorn and mule deer populations in the area; pronghorn and mule deer seasonally migrate to habitat in lower elevations during the late winter and early spring due to reduced food availability at high elevations. Originally, the CDFW proposed a seasonal restriction of operations onsite between December 1 and March 31 annually to reduce impacts to pronghorn and mule deer. In 1997 the Lassen County Planning Commission recommended that the Lassen County Board of Supervisors amend the season of restricted operations due to economic infeasibility of a four month closure. Economic losses said to potentially result from the four month annual closure would impact the mine as well as the surrounding community; a disruption of mining operations would lead to a loss of employee payroll, place a higher demand on social services in the community, and reduce availability of mined materials in the surrounding area. The Lassen County Board of Supervisors proposed the alternative measure as stated in the Conditions of Approval for Use Permit No. 96056:

Except in a state of emergency, as declared by the local Emergency Services Director and/or the Board of Supervisors and/or the City of Susanville, no grading, excavating, or blasting on the site shall be allowed between January 1 and March 31 Annually.

Recognizing that this would result in significant adverse unavoidable impacts to deer and antelope, the County adopted a Statement of Overriding Considerations with respect to these impacts. This restriction maintains in effect for the Project.

4.4.4 Thresholds of Significance

Significant impacts that could occur were determined from CEQA Guidelines. These guidelines provide guidance in defining significant biological resource impacts. Based on this guidance, a project may be deemed to have a significant impact on biological resources if it will:

- 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 DFG or U.S. Fish and Wildlife Service (USFWS);
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by DFG or USFWS;
- 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, rivers, 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.

4.4.5 Impact Analysis

The project will not result in any physical changes in the operations at the project site or increases in daytime activity at the site. The project will expand operating hours of the existing operation from 6:00 a.m. to 7:00 p.m. to 24 hours per day for approximately 20 to 40 days per year. The project will allow 24 hour operations from April 1 to December 31 (except during Federal-, State-, or County-declared emergency periods). 24-hours operations will only occur during major paving or roadwork operations for an estimated duration of 20 to 40 days per year. The project does not change the baseline traffic numbers of the current operation; however, during approximately 20 to 40 days per year, nighttime hauling will occur. The project would redistribute current traffic from the current operational hours of 6:00 a.m. to 7:00 p.m. to 24

hours during these times, and would modify routing so that all traffic turns right off of Ward Lake Road.

Under the worst-case scenario, a maximum of 350 one-way haul truck trips (350 arriving and 350 departing) occur each day, distributed during daytime and nighttime operations. The average number of haul trips generated by the project would remain the same (16 arriving and 16 departing trucks per day) as the current operation.

Onsite equipment that will be operated during 24-hour operations include the asphalt batch plant, cement plant, crushing operations, and associated generators. Onsite lighting would also be used.

The temporal change in operations will create additional noise and light disturbance during night hours for approximately 20 to 40 days per year. The project will also yield greater traffic density during night hours.

During the analysis conducted by Lassen County, the County concluded that there was no riparian habitat present at the site and that there were no federally protected wetlands that would be affected by the project. The County also found that the Project would not conflict with any local polices or ordinances protecting biologically sensitive resources, and that there were no habitat conservation plans, natural community conservation plans, or related documents for which there was a conflict. In addition, comments from CDFW did not include any mention of conflicts with such plans.

The County identified the project area as being in the antelope winter range as "10: Most Important" sensitivity. The impacts to the mule deer and antelope herds are currently addressed by Condition 21 from Board Resolution 97-067. As such, the County determined that impacts from 24-hour operations and nighttime truck traffic on these species was mitigated to a less-than-significant level by the seasonal and nighttime restrictions. In early consultation on the project, CDFW included comments concerning impacts to special-status species due to noise, light, and traffic. CDFW requested the use of noise barrier and downward-facing, fully shielded lighting. CDFW also requested analysis of vehicle collision mortality. As such, this analysis address impacts to special-status species and the movement of resident and wildlife species.

Impact 4.4.5.1 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by DFG or U.S. Fish and Wildlife Service (USFWS)

An assessment of special-status species was conducted for the proposed amendment to examine potential effects on species not addressed in the original EIR. Fifteen special-status wildlife species were identified as having the potential to occur within the project area and to be impacted by project activities. Specific anticipated impacts are discussed below.

Tricolored blackbird (*Agelaius tricolor)*

Lighting required for the proposed nighttime activities are not likely to impact tricolored blackbirds. Although lighting that is proposed for nighttime work onsite is likely to attract insects and therefore present a concentration of food items, this is not anticipated to increase

tricolored blackbird foraging onsite because the birds are diurnally active. Impacts from ambient light pollution from onsite nighttime lighting will not be significant compared to light pollution levels from nearby facilities in the area. The known occurrences of tricolored blackbirds in the area are located within proximity to Center Road, which is a frequently traveled roadway. This shows that tricolored blackbirds have selected nest sites despite the close proximity to traffic.

Proposed nighttime activities will not require an increase in overall traffic volume on these roadways, but may yield increased traffic volume during nighttime hours. Tricolored blackbirds are not active during nighttime hours; therefore, direct mortalities due to nighttime truck trips are not anticipated. Tricolored blackbird colonies may be exposed to headlights required during nighttime travel. The impact from headlights is dependent on the frequency of nighttime truck travel. Because the nighttime travel from Ward Lake Pit will be limited to approximately 20 to 40 days per season, exposure to headlights will not occur every night. Periodic exposure to headlights will have a less-than-significant impact on nesting, site selection, or roosting by tricolored blackbirds.

Golden Eagle (***Aquila chrysaetos)***
Potential foraging habitat exists in the open sagebrush areas of the project area. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in the loss of foraging area for this species. Golden eagles are diurnal foragers; thus, expanding the operating period to night hours (i.e., 24 hours per day) will not disturb foraging birds. No project impacts to golden eagles are anticipated.

Northern Harrier (*Circus cyaneus)*
No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of foraging area for this species. Northern harriers are diurnal foragers; thus, expanding the operating period to night hours (i.e., 24 hours per day) will not disturb foraging birds. No project impacts to northern harriers are anticipated.

Swainson's Hawk (*Buteo swainsoni)*
There are no records of Swainson's hawks within the project area in the CNDDB, but there are three records of nesting hawks within 5 miles of the project area. All of these records are located in irrigated farmland. The mine has operated since 1980. It is assumed that the nesting hawks avoid the area due to noise and lighting. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of foraging area for this species. No project impacts to Swainson's hawks are anticipated.

Greater Sage-Grouse (*Centrocercus urophasianus)*
There are no records of greater sage-grouse within 5 miles of the project area in the CNDDB; the closest record is 58 miles to the north. Although there are no nearby records, there is suitable habitat within the project area and surrounding areas. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of habitat for this species. There are currently no leks located in or near the project area, and nesting birds will likely avoid the area because of ongoing project activities. No project impacts to greater sage-grouse are anticipated.

Burrowing Owl (*Athene cunicularia)*
There are no records of burrowing owls within 5 miles of the project area in the CNDDB. Although there are no nearby records, there is suitable habitat within the project area and surrounding areas. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of habitat for this species. Expanding the project operating period to include additional night hours will cause additional disturbance in the form of light and noise. Burrowing owls forage at all hours of the day; thus, any owls foraging in the area will likely avoid the project area due to the disturbance. There are currently no known nesting sites located in or near the project area. The additional of approximately 40 nighttime operating days will result in ales operation and disturbance on the days of nighttime work so the net effect is no increase in total disturbance. The effects on burrowing owls are considered less than significant.

Long-Eared Owl (*Asio otus)*
There are no records of long-eared owls within 5 miles of the project area in the CNDDB. Although there are no nearby records, there is suitable foraging habitat within the project area and surrounding areas. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of habitat for this species. Expanding the project operating period to include additional night hours will cause additional disturbance in the form of light and noise. Long-eared owls are nocturnal foragers. There are currently no known nesting sites located in or near the project area, and there is no suitable dense nesting vegetation for the long-eared owl in the area. The days of nighttime operations are estimated to be less than 40 per year and will be dispersed over project periods of 4 to 5 days. Although this could result in disturbance to the owls, the timing and duration of the disturbance is small. Project impacts to long-eared owls are determined to be less than significant.

Short-Eared Owl (*Asio flammeus)*
There are no records of short-eared owls within 5 miles of the project area in the CNDDB. Although there are no nearby records, there is some suitable habitat within the open shrubland of the project area and surrounding areas. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of habitat for this species. Expanding the project operating period to night hours will cause additional disturbance in the form of light and noise. Short-eared owls are mostly crepuscular and nocturnal foragers; thus, any owls foraging in the area will likely avoid the project area due to the additional nighttime disturbance. There are currently no known nesting sites located in or near the project area, and there is not enough suitable grassland within the area for nesting. See previous discussion for short-eared owl. Project impacts to short-eared owls are determined to be less than significant.

Loggerhead Shrike (*Lanius ludovicianus)*
There are no records of loggerhead shrikes within 5 miles of the project area in the CNDDB. Although there are no nearby records, there is suitable habitat within the open shrubland of the project area and surrounding areas. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of habitat for this species. These birds are diurnal foragers; thus, expanding the operating period to night hours will not disturb foraging birds. There are currently no known nest occurrences located in or near the project area, and nesting birds will likely avoid the area because of ongoing project activities. No project impacts to loggerhead shrikes are anticipated.

Gray Wolf (***Canis lupus)***
Due to the small project footprint relative to the large home-range size of the gray wolf, the proposed project will not alter an amount of habitat significant enough to have any impact on the species. Further, gray wolves are highly mobile and capable of avoiding project-related disturbance. Although wolves may follow the deer and antelope herds to winter feeding areas, the project impacts to the gray wolf are determined to be less than significant due to the large home range and low density of individuals.

American Badger (***Taxidea taxus)***
There are no records of American badgers within 5 miles of the project area in the CNDDB; however, there is suitable habitat within the open shrubland of the project area and surrounding areas. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of habitat for this species. Expanding the project operating period to night hours will cause additional disturbance in the form of light and noise. American badgers are active during day and night; thus, any badgers in surrounding areas will likely avoid the project area due to the additional nighttime disturbance. Project impacts to the American badger are determined to be less than significant.

Pallid Bat (*Antrozous pallidus)*
These bats are very sensitive to roosting site disturbance. There are no records of pallid bats within 5 miles of the project area in the CNDDB; however, there is suitable habitat within the open shrubland of the project area and surrounding areas. Also, rock crevices in the project quarry are likely suitable roosting and hibernation habitat. However, this site has been operating since 1980, so use of this habitat has most likely been excluded due to project activities. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of suitable habitat for this species. Expanding the project operating period to night hours will cause additional disturbance in the form of light and noise. Pallid bats are nocturnally active. Bats will either avoid the area or be attracted to the food source provided by the nighttime lighting attraction of insects. The days of nighttime operations are estimated to be less than 40 per year and will be dispersed over project periods of 4 to 5 days. Although this could result in disturbance to the bats, the timing and duration of the disturbance is small. Project impacts to pallid bats are determined to be less than significant.

Townsend's Big-Eared Bat (*Corynorhinus townsendii)*
There are no CNDDB records of these bats within 5 miles of the project area. This species may use the project area for foraging, as there is some suitable habitat within the project area, but the lack of water makes it low quality. They are not likely to use the site for roosting or hibernation as there is no required cave habitat available. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of any suitable habitat for this species. Expanding the project operating period to night hours will cause additional disturbance in the form of light and noise. Townsend's big-eared bats are nocturnally active; bats will either avoid the area or be attracted to the food source provided by the nighttime lighting attraction of insects. The days of nighttime operations are estimated to be less than 40 per year and will be dispersed over project periods of 4 to 5 days. Although this could result in disturbance to the bats, the timing and duration of the disturbance is small. Project impacts to Townsend's big eared bats are determined to be less than significant.

Pygmy Rabbit (***Brachylagus idahoensis)***
There are no CNDDB records of these rabbits within 5 miles of the project area; however, there is suitable sagebrush habitat for this species, so they could potentially occur. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of habitat for this species. These animals are mostly active during twilight hours; thus, they likely already avoid the area due to current project operations (6:00 a.m. to 7:00 p.m.). Consequently, expanding the operating period to night hours will likely not affect this species. Any project impacts to pygmy rabbits are anticipated to be less than significant.

White-Tailed Jackrabbit (***Lepus townsendii townsendii)***
There are no CNDDB records of these rabbits within 5 miles of the project area; however, there is suitable sagebrush habitat for this species, so they could potentially occur. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of habitat for this species. Expanding the project operating period to night hours will cause additional disturbance in the form of light and noise. White-tailed jackrabbits are mostly nocturnally active; thus, any rabbits in surrounding areas may avoid the project area due to the additional nighttime disturbance. There is no habitat within the nighttime operating area of the mine site. The possibility of vehicle mortality is unlikely as not known rabbits are known in the area. The days of nighttime operations are estimated to be less than 40 per year and will be dispersed over project periods of 4 to 5 days. Although this could result in disturbance to the rabbits, the timing and duration of the disturbance is small. Project impacts to rabbits are determined to be less than significant.

Impact 4.4.5.2 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; specifically nighttime operations to Pronghorn antelope, mule deer and nocturnal foragers

The project is located within the CDFW-designated critical winter-range habitat for mule deer and winter-range habitat for pronghorn antelope. The project area falls within Deer Hunt zone X5a, which is a zone within the greater Deer Assessment Unit (DAU) 2- northeastern California. In 1996, the population for DAU 2 was estimated to be 25,000; in 2017, the estimated population was 29,289 (CDFG et al. 1998; CDFW 2017). More specific to the project location, the mule deer population within Hunt Zone X5a has increased, with an estimated 544 animals in 2013 and 942 in 2017.

The project is within Pronghorn Hunt Zone 4-Lassen. The population of pronghorn in northeastern California is not well studied. The estimated population size of pronghorn in northeastern California ranged between approximately 1,800 and 3,000 individuals for the period between 1956 and 1970 and then grew to almost 6,000 animals between 1971 and 1978, with the largest numbers of animals found in the Likely Table, Clear Lake and Lassen herds. By 1992, the population had grown to an estimated 8,000 animals before undergoing a decline of nearly 50 percent after the winter of 1992/1993. The population continued to decline over the next 10 years and has not been able to recover over the past 20 years (Hudgens et al. 2016).

A Deer Impact Analysis was conducted for the 1997 EIR. According to the analysis, the mule deer in the project area are seasonal migrants that summer at higher elevations, probably on Shaffer Mountain, where fawns are born. Deer descend to lower elevations in fall and early

winter, where they remain until spring. Pronghorn antelope are less specifically predictable in their seasonal movements and do not have such a pronounced elevational change in summer and winter. On the winter range, deer feed mainly on sagebrush and bitterbrush.

According to the East Lassen Deer Herd Plan prepared by the CDFW in 1982, the area around Shaffer Mountain is identified as "critical" winter range where deer are concentrated during severe winters. The location of the project site at the southwest base of Shaffer Mountain is important because the snow melts rapidly in this area and produces the first green vegetation in late winter and early spring. This early "green-up" is particularly important to wintering deer by providing their first opportunity to reverse the pattern of winter malnutrition and caloric deficit. Pronghorn antelope are less regular and predictable in their movements, but many of the concerns are similar.

a. Additional Noise and Light Levels

The project does not include any spatial expansion that would physically disturb or reduce additional important winter habitat or important vegetation for mule deer or pronghorn antelope. However, the addition of periods of 24-hour operations would result in additional disturbance to these species by extending onsite operational noise to nighttime hours and introducing nighttime lighting. Equipment that would be operated onsite during nighttime hours includes the asphalt batch plant, cement plant, crushing operations, onsite lights, and associated generators. Noise generated during nighttime operations would not exceed noise levels generated during daytime work; however, the increased duration of noise disturbance and additional use of nighttime lighting onsite could result in mule deer and pronghorn antelope avoiding the project vicinity and nearby habitat.

It is anticipated that 24-hour operations will occur mainly during summer months when the operator is supplying materials to large road construction jobs. The operator typically has 2 to 4 highway jobs each year, and anticipates 24-hour operations will be required approximately 20 to 40 days a year. These jobs generally occur in the months of May to November. 24-hour operations will have a lesser impact to deer and antelope during the summer months, since the site is designated as winter habitat for these species and they forage in other areas during the summer period.

24-hour operations could have a significant impact if these operations were to occur in the period from December to March. However, nighttime operations are prohibited for the period of January 1 through March 31. This impact is considered less than significant.

b. Extending Site Life

The project would extend the life of the mine an additional 10 years from 2020 to 2030. As discussed in the previous CEQA Review section (Section 4.4.3.2), the 1997 EIR prepared for existing permitted operations included a seasonal restriction of operations onsite between December 1 and March 31 to reduce impacts to pronghorn and mule deer. In 1997, the Lassen County Planning Commission recommended that the Lassen County Board of Supervisors amend the season of restricted operations due to economic infeasibility of a four-month closure. The Lassen County Board of Supervisors proposed the alternative measure as stated in the Conditions of Approval for Use Permit No. 96056:

Except in a state of emergency, as declared by the local Emergency Services Director and/or the Board of Supervisors and/or the City of Susanville, no grading, excavating, or blasting on the site shall be allowed between January 1 and March 31 Annually.

Recognizing that this would result in significant adverse unavoidable impacts to deer and antelope, the County adopted a Statement of Overriding Considerations with respect to these impacts.

Extension of the life of the mine for 10 years would extend the significant impact of the existing operation to pronghorn and mule deer. The project would not result in any additional impacts to pronghorn or mule deer; however, it would extend impacts that have been determined to be significant and unavoidable. Extending the life of the mine would also prolong the amount of time before the site can be reclaimed back to habitat for these species. Extending the life of the mine would result in significant impacts to pronghorn antelope and mule deer.

c. Increased Traffic Impacts to Wildlife

The proposed expansion of hours of operation to 24-hour operations will yield an increase in nighttime traffic volume on the existing roadways, Ward Lake Road, and County Road 27. The number of total truck trips will not exceed those generated by the current operations, but nighttime trucking will occur approximately 40 days a year. During these times, there could be a maximum of 350 one-way truck trips (350 arriving and 350 departing) per day. No current vehicle mortality data is available from either CDFW or Caltrans for the roadways to be used during this project.

No additional roadways will be constructed, so no habitat fragmentation will result from project activities. Additional truck trips will cause increased traffic noise and lighting, which may cause a disturbance to nocturnally active species. The project includes nighttime traffic routing to reduce noise and visual impacts to members of the community of Litchfield which will direct all nighttime traffic toward the area of the prison. Significant traffic on County Road A27 exists due to the nearby State Correctional Facility, primarily during employee shift changes. Animals are likely deterred by existing noise and lights and will utilize alternative habitat areas. There remains a potential for adverse impacts to wildlife populations due to direct mortality on roadways. This includes mule deer, which forage during dawn and dust, and nocturnal foraging species, such as owls.

The proposed nighttime operations between April 1 and December 31 may overlap with the mule deer utilization of critical winter habitat. Due to the proximity of the mule deer critical winter range, increased traffic volumes during the crepuscular hours (dawn and dusk) could result in an increased potential for encounters on roadways during winter months; however, Hat Creek Construction currently operates during these periods (6:00 a.m. to 7:00 p.m.) and has reported no vehicle deer mortality on Center Road (A27). While the potential for mule deer to cross Ward Lake Road and Center Road (A27) during migration or foraging should be considered, the proposed nighttime operations would occur on a limited number of days a year and occur generally during summer months when materials are in demand for nearby construction projects. During these months, an increase in traffic volume on roads surrounding Ward Lake Pit would have less of an impact on mule deer herds as the herds would have migrated to summer ranges in nearby upland areas.

Peak antelope grazing time is shortly after sunrise and shortly before sunset. Traffic volumes during nighttime hours have the potential to impact pronghorn during these times. The proposed nighttime operations in the later summer and fall may overlap with pronghorn utilization of their critical winter habitat and kidding grounds. Due to the proximity of the project site to seasonal pronghorn habitat, increased traffic volumes during the crepuscular hours (dawn and dusk) could result in an increased potential for encounters on roadways during fall migration and winter season. The proposed nighttime operations would occur on a limited number of days a year and occur generally during summer months May to October when materials are in demand for nearby construction projects. Hat Creek Construction currently operates during antelope feed periods dawn to dusk and has reported no previous antelope mortality.

4.4.6 Mitigation Measures

Impact 4.4.5.1 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by DFG or U.S. Fish and Wildlife Service (USFWS)

None required.

Impact 4.4.5.2 (a) Additional Noise and Light Levels

1. The operator shall continue limits on operations from January 1 to March 31. Impacts can be lessened through continuing seasonal operating restrictions included in the Condition of Approval for Use Permit No. 96056: *Except in a state of emergency, as declared by the local Emergency Services Director and/or the Board of Supervisors and/or the City of Susanville, no grading, excavating, or blasting on the site shall be allowed between January 1 and March 31 Annually.*
2. The operator shall conduct no nighttime operations (7:00 p.m. to 6:00 a.m.) during the period of January 1 to March 31. Applying the existing operational restriction to the proposed nighttime operations would eliminate additional disturbance/displacement of pronghorn antelope and mule deer utilizing the winter habitat during the winter months.
3. Year-round nighttime operation restrictions. No grading, blasting, or excavating shall be allowed onsite between the hours of 6:00 p.m. and 7:00 a.m.
4. Lighting fixture design. To minimize the effects of lighting of artificial light on wildlife, lighting fixtures associated with nighttime project work should be downward facing and fully-shielded. Lighting equipment should be designed and installed to minimize light pollution.
5. Noise reduction barriers. Adverse effects from noise may be reduced through installation of noise berms constructed around the project area where heavy machinery is in use. Barriers can eliminate or minimize the impacts of vibrations that may result from nighttime operations.
6. No "jake brake" usage. This option can significantly reduce the noise impacts from the increased traffic volume. "No use of jake brake" signs shall be posted on the access road and at the Center Road (A27) and Ward Lake Road intersection.

Impact 4.4.5.2 (b) Extending Site Life

No mitigation measures are available for this impact. An increased closure season of all operations onsite was determined to be economically infeasible. In 1997, the Lassen County Planning Commission recommended that the Lassen County Board of Supervisors amend the season of restricted operations due to economic infeasibility of a four-month closure. Economic losses said to potentially result from the four-month annual closure would impact the mine as well as the surrounding community; a disruption of mining operations would lead to a loss of employee payroll, place a higher demand on social services in the community, and reduce availability of mined materials in the surrounding area. An increased closure season of all operations onsite has been determined to be economically infeasible.

Impact 4.4.5.2 (c) Increased Traffic Impacts to Wildlife

1. Wildlife crossing signage on roadways. This option would educate drivers about the potential for wildlife encounters on roads during nighttime hours. Signage will be permanent. This measure can prevent direct mortalities to nocturnal wildlife. Signs will be added along Center Road and Ward Lake Road with County approval.
2. Reduce traffic speed on roadways. This mitigation would reduce the speed limit in order to minimize traffic impacts to wildlife. "Reduce speed to [specify speed limit]" signs would reduce the speed limit on Ward Lake Road during nighttime hours, granting a longer reaction time should any wildlife be encountered on a roadway.
3. Driver education. Hat Creek Construction will conduct education events to increase driver awareness to avoid wildlife vehicle impacts.

4.4.7 Level of Significance after Mitigation

Impact 4.4.5.1 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by DFG or U.S. Fish and Wildlife Service (USFWS)

This impact is determined to be less than significant.

Impact 4.4.5.2 (a) Additional Noise and Light Levels

Implementation of the above mitigation measures would reduce project impacts of nighttime operations to pronghorn and mule deer to a less-than-significant level.

Impact 4.4.5.2 (b) Extending Site Life

Impacts of the extension of mining at the site for an additional 10 years would remain significant and unmitigable.

Impact 4.4.5.2 (c) Increased Traffic Impacts to Wildlife

The addition of the above mitigation measures will reduce the project impacts of nighttime operations to a less-than-significant level.

4.5 Greenhouse Gas Emissions

This section discusses the potential Greenhouse Gas (GHG) impacts of the Project. The impacts of the asphalt batch plant, concrete batch plant, and truck traffic were not addressed previously under CEQA as the requirements for GHG emissions impact evaluation were not required to CEQA until 2007.

The County determined in the Initial Study that the Project will have a less-than-significant impact to GHG that would conflict with or obstruct implementation of the applicable GHG plan, violate any GHG policy or regulation, or contribute substantially to an existing or projected GHG violation, or result in a cumulatively considerable net increase of any criteria for which the Project region is in non-attainment under an applicable federal or state ambient GHG standard.

The County determined in the Initial Study that the Project may have a less-than-significant impact to GHG emissions, directly or indirectly, that may significantly impact the environment. No changes are being proposed to the permitted production of the asphalt or concrete plants, and therefore the total amount of GHG produced by the plant remains unchanged. However, additional analysis is required because GHG emissions were added to the California Environmental Quality Act (CEQA) criteria in 2007 and are therefore a new requirement to be addressed.

This section provides a brief summary of the GHG setting and GHG regulations. In addition, this section summarizes the County CEQA review of GHG impacts at the Project site and a summary of the less-than-significant GHG impacts contained in the Initial Study prepared by the County.

4.5.1 Environmental Setting

The current operation maintains a permit to operation (PTO-18-140) for onsite diesel generations to operate the asphalt plant, concrete plant and crusher. The operator is required to submit results of an annual compliance test annually to the Lassen County Air Pollution Control District for review.

Equipment onsite includes loaders, generators, a concrete batch plant, concrete trucks, service truck, man lift, belly dump, articulated dump truck, crusher and asphalt batch plant. Wet suppression is used when necessary to control dust caused by excavation, processing activities, and materials transport.

The Project site is located in the Northeast Plateau Air Basin, which comprises Siskiyou, Modoc and Lassen counties. The Lassen County Air pollution Control District (LCAPD) has jurisdiction over air quality issues throughout Lassen County.

The Northeast Plateau Air basin has a climate regime that is distinct from the rest of California. The basin has sharply defined seasons that follow a continental, rather than marine, pattern. Winters are cold, with snow being the primary precipitation type; summers warm and dry. The basin includes part of the Klamath Mountains to the west and the Cascade Range and Modoc

Plateau, plus a slice of the Great Basin along its eastern edge. Mount Shasta rises to an elevation of 14,162 feet above sea level, dominating the view from much of the basin. Mount Lassen, stands 10,457 feet above sea level. Extensive forest land runs across saddles between the region's peaks. The volcanic Modoc Plateau extends across the northeastern expanse, with an elevation mostly above 4,500 feet.

The region receives limited transported air pollution from major urban areas. As in many rural areas in California, particulates from dust and wood smoke are sometimes a problem.

Various gases in the Earth's atmosphere, classified as atmospheric greenhouse gases (GHGs), play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high frequency solar radiation to lower-frequency infrared radiation.

Greenhouse gases absorb infrared radiation that otherwise would have escaped back into space. This results in a warming of the atmosphere. Carbon dioxide (CO2), methane (CH4), ozone (O3), water vapor, nitrous oxide (N2O), and chlorofluorocarbons (CFCs) contribute to GHG emissions. Most emissions of GHGs are attributable to human activities. Carbon dioxide equivalents are the measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO2 were being emitted. Generally, GHG emissions are measured in Metric Tonnes of C02e/yr.

4.5.2 Regulatory Setting

4.5.2.1 Federal

The federal government is actively in climate change activities in areas such as science, mitigation, and environmental monitoring. The EPA actively participates in multilateral and bilateral activities by establishing partnerships and providing leadership and technical expertise. The EPA also regulates emissions of GHGs through the Clean Air Act.

In December 2007, Congress passed the first increase in average fleet fuel economy (CAFE) standards. The new cafe standards represent an increase to 35 miles per gallon (mpg) by 2020. In March 2009, the Obama administration announced that for the 2011 model year, the standard for cars and light trucks would be 27.3 mpg, the standard for cars would be 30.2 mpg; and standard for trucks would be 24.1 mpg. In May 2009 President Obama announced plans for a national fuel economy and GHG emissions standard that would significantly increase mileage requirements for cars and trucks by 2016. The new requirements represent an average standard of 39 mpg for cars and 30 mpg for trucks by 2016.

Under the Clean Air Act, EPA is now obligated to issue rules regulating global warming pollution from all major sources. In April 2009, the EPA concluded that GHGs are a danger to public health and welfare, establishing the basis for GHG regulation (Shasta County, 2017).

4.5.2.2 State

California leads most states and the nation in regulation of GHG emissions and the setting of standards and requirements to reduce and control emissions and impacts. Many regulations address GHG emissions directly and many address them indirectly. The following includes a summary of the primary direct regulatory setting for GHG emissions (Shasta County, 2017).

Executive Order S-1-07
The Order requires a 10 percent or greater reduction in the average fuel carbon intensity for transportation fuels in California. The regulation took effect in 2010. The low carbon fuel standard (LCFS) will reduce greenhouse gas emissions by reducing the carbon intensity of transportation fuels used in California by at least 10 percent by 2020.

Executive Order S-3-05
The Order sets forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

Executive Order B-30-15
The Order established a medium-term goal for 2030 of reducing GHG emissions by 40 percent below 1990 levels and requires the Air Resources Board to update its current AB 32 Scoping Plan to identify the measures to meet the 2030 target. The Order supports EO S-03-05, described above.

Assembly Bill 1493
This Bill aims to reduce GHG emissions from noncommercial passenger vehicles and light-duty trucks of model years 2009-2016 by achieving "the maximum feasible reduction of GHG emitted by passenger vehicles and light-duty trucks and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State." CARB approved amendments to the California Code of Regulations in 2004 by adding GHG emissions standards to California's existing standards for motor vehicle emissions. The bill requires automobile manufacturers to meet fleet-average GHG emissions limits for all passenger cars, light-duty beginning with the 2009 model year. Emissions limits are reduced further in each model year through 2016. By 2025, when all rules will be fully implemented, new automobiles will emit 34 percent fewer CO2e emissions and 75 percent fewer smog-forming emissions.

Assembly Bill 2188
The Bill mandates a standardized procedure for solar permitting. Every city and county in the state is required to adopt a simplified procedure for residential rooftop solar panel systems. A streamlined permitting process greatly benefits California homeowners with shorter wait times between contract signing, installation, inspection, and saving on their first month's electricity bill. AB 2188 requires permitting to conform to the most updated version of Office of Planning and Research's Solar Permitting Guidebook.

Assembly Bill 3018
This bill established the Green Collar Jobs Council (GCJC) under the California Workforce Investment Board (CWIB). The GCJC target was to develop a comprehensive approach to address California's emerging workforce needs associated with the emerging green economy.

Senate Bill 375
The bill took effect in 2008 and provides a new planning process to coordinate land use planning, regional transportation plans, and funding priorities in order to help California meet the GHG reduction goals established in AB 32. The bill requires metropolitan planning organizations to incorporate a Sustainable Communities Strategy in their Regional Transportation Plans that will achieve GHG emissions reduction targets by reducing vehicle miles traveled from light-duty vehicles through the development of more compact, complete, and efficient communities.

Renewables Portfolio Standard (Senate Bill 350)
California's Renewables Portfolio Standard requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020. The 33 percent standard is consistent with the RPS goal established in the Scoping Plan. The passage of the Bill in 2015 updates the RPS to require the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources to be increased to 50 percent by December 31, 2030.

Assembly Bill 32
This is the primary act that has driven GHG regulation and analysis in California. It requires CARB to develop and enforce regulations for the reporting and verifying of statewide GHG emissions. The act directed CARB to set a greenhouse gas emissions limit based on 1990 levels, to be achieved by 2020. The bill set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner. CARB adopted the first major update to the Scoping Plan on May 22, 2014. The updated Scoping Plan summarizes the most recent science related to climate change, including anticipated impacts to California and the levels of GHG reduction necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32. The Scoping Plan update also looks beyond 2020 toward the 2050 goal established in Executive Order S-3-05, though not yet adopted as state law, and observes that "a mid-term statewide emission limit will ensure that the State stays on course to meet our long-term goal."

Senate Bill 32
Signed into law on September 2016, SB 32 codifies the 2030 GHG reduction target in Executive Order B30-15 (40 percent below 1990 levels by 2030). The bill authorizes CARB to adopt an interim GHG emissions level target to be achieved by 2030.

AB 398 (E Garcia, 2017) Cap and Trade Reauthorization and Reform
This Bill make numerous, substantive changes to AB 32, and extends ARB's authority to establish and utilize, through regulations, a market-based mechanism. This bill changed the Cap and Trade program, and now requires that a) ARB include specified price ceilings, price containment points, offset credit compliance limits, and industry assistance factors for allowance allocation as part of the regulation, and specifically authorizes a system of market-based

declining annual aggregate emissions limits for sources or categories of sources that emit greenhouse gases (cap-and-trade) until December 31, 2030. b) The amount of offsets be reduced to 4 percent between 2020 and 2025 and 6 percent between 2025 and 2030. c) 50 percent of all offsets to be in California and sets up various oversight mechanisms and committees.

SB 100 (De León, 2018)
Through the existing Renewable Portfolio Standard program, requires 60 percent of California's electricity to come from renewable resources by 2030. Also requires the California Public Utilities Commission (CPUC) to plan for 100 percent renewable or carbon free power by 2045.

4.5.3 Previous CEQA Review

The previous environmental documents prepared to assess operations at the project site were prepared prior to implementation of greenhouse gas emission regulations and did not include analysis related to greenhouse gas emissions.

4.5.4 Thresholds of Significance

The California Office of Planning and Research's (OPR) recommends that lead agencies under CEQA make a good-faith effort, based on available information, to estimate the quantity of GHG emissions that would be generated by a proposed project to determine whether the impacts have the potential to result in a significant project or cumulative environmental impact; and, where feasible mitigation is available, to mitigate any project or cumulative impact determined to be potentially significant.

Specifically, CEQA Guidelines Section 15064.4 states:

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 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.

Per Appendix G of the CEQA Guidelines, climate change-related impacts are considered significant if implementation of the proposed project under consideration would do any of the following:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Few public agencies in California have adopted GHG thresholds of significance for CEQA, and no GHG thresholds have been developed specifically for Lassen County. Consistent with the guidance provided in CEQA Guidelines Section 15064.4, Lassen County has determined that the CEQA significance threshold of 10,000 MT C02e/yr is appropriate for this project (see Initial Study).

4.5.5 Impact Analysis

This GHG analysis was divided into the two separate contributing segments:

1. Impacts from the operation of the asphalt batch plant and fuel truck delivery
2. Impacts from the operation of the concrete batch plant

Impacts from the Operation of the Asphalt Batch Plant

The GHG impacts from the operation of the asphalt batch plant were not analyzed in earlier EIRs as the requirements for GHG analysis were not in place at the time of review. These requirements were added in 2007. As such, the regulatory setting for the Project has changed since previous CEQA review.

This analysis evaluates the operation of the asphalt plant as well as the operation of trucks delivering fuel to the generator that operates the facility.

Asphalt plants are industrial operations that mix liquid asphalt binder with crushed rock, gravel and sand to make pavement materials. The asphalt binder "glues" the aggregate sand mix together. The emissions at these facilities come from the combustion of the fuels used to power combustion of the plant, such as diesel that are used to dry and heat the rock and aggregate, and liquefy the asphalt binder. Asphaltic concrete or pavement is the primary paving product used

for road infrastructure in the United States. Asphaltic concrete or pavement is also a source of sequestered carbon and is recyclable.

In the United States, approximately 100 million tons of old pavement are reclaimed every year, with about 60 million tons reused in new asphalt mixes, and some 40 million used in other pavement-related applications, such as aggregate road base. Asphalt pavement is unique not only in the volume recycled, but also its renewability. It is comprised of approximately 95 percent aggregates (stone, sand and gravel) and about 5 percent asphalt cement. When asphalt pavement is reused in a new asphalt mix, the old asphalt cement is rejuvenated so that it becomes an active part of the glue that holds the new pavement together, just like the old aggregate becomes part of the aggregate content of the new mix. These singular properties make asphalt a uniquely renewable pavement.

This analysis uses the National Asphalt Pavement Association (NAPA) Greenhouse Gas Calculator (https://www.asphaltpavement.org/ghgc/GHGC%20v4%20instructions) to calculate greenhouse gas emissions relating to hot mix asphalt manufacture at the Ward Lake Pit. The tool accounts for carbon dioxide, methane, and nitrous oxide. The Calculator provides for input of three separate fuel type options to be used by the rotary dryer, plus three separate fuel calculations to be used for "inside the gate" emissions by equipment and vehicles. For this model, fuel used for onsite power generation was applied to the plant combustion category. Generally, the more fuel burned and the higher the carbon content, the more CO2-equivalent gases are emitted.

The NAPA calculator allows for emission offset credits for those fuels and activities that either reduce CO2e released from cradle to gate or sequester CO2. Credits are calculated for plant based biofuels, transportation credits for waste derived fuels, and cradle to gate credits for recycled raw materials such as Recycles Asphalt Pavement (RAP) and Recycled Asphalt Shingles (RAS). Credits are also calculated for warm mix asphalt production. Some credits apply to this analysis as discussed below.

Emission factors used to calculate CO2e are taken from tables provided by The Climate Registry (TCR), an independent organization that sets standards for calculating and reporting carbon emissions in North America. It should be noted that TCR factors are not equivalent to EPA's AP-42 emissions factors for hot mix manufacture. AP-42 emission factors were developed using directly measured emissions from stack test data and are expressed in units of tons produced. TCR uses average carbon content of each fuel to calculate carbon dioxide on a mass balance basis. TCR factors are suitable for complying with the EPA Greenhouse Gas Reporting Rule. As mentioned above, commercial fuels have known carbon content on which a CO2e emission factor is based. Many waste-derived fuels, however, such as recycled oil (RO), are not included in TCR due to variations in carbon content. For lack of a more accurate basis, the NAPA calculator assumes that CO2e emissions for recycled oil are equivalent to emissions for No. 2 oil per gallon burned. A fuel credit is generated for recycled oil based on the energy savings from extraction, refining and transportation. The same 285kg CO2e/tonne liquid factor used to calculate recycling credits for RAP and RAS is used for recycled oil.

The inputs for the model include:

Annual average tonnage of asphalt produced:	100,000 tons
Annual red diesel burned for asphalt plant:	998,000 gallons
Annual highway diesel burned for trucks and onsite vehicles:	61,160 gallons

The gallons of diesel used for the analysis were obtained from Ward Lake invoices for fuel purchased for the 2017-2018 year. To be conservative, the 61,160 gallons of white diesel (highway legal) includes all offsite mileage as well as "behind the gate" usage for fuel delivery.

The plant does not yet employ warm asphalt techniques and does not recycle asphalt shingles (RAS). The plant recycles approximately 10,000 tons of asphaltic concrete annually or 10 percent of the mix. Based on the NAPA model, 1,418 Metric tonnes of C02e are generated annually by the plant, supporting power generation source, and support trucking and equipment. Of this amount, 61 percent are generated by the plant combustion and 39 percent are a function of the support vehicles.

Impacts from the Operation of the Concrete Plant

The concrete industry is a large producer of carbon dioxide (CO2). The CO2 emission from the concrete production is directly proportional to the cement content used in the concrete mix; as the manufacturing process for cement is the accounts for 88 percent of the emissions associated with the average concrete mix. One reason why the carbon emissions are so high is because cement has to be heated to very high temperatures in order for a process called clinker to form. Alite is a mineral in concrete that cures within hours of pouring and is responsible for much of its initial strength. However, alite also must be heated to 1,500 °C in the clinker-forming process.

The Ward Lake plant produces approximately 12,000 tons (short US) of concrete per year. Alexander Brown in an article Carbon Footprint of HMA and PCC Pavements from the Proceeding of the International Conference on Perpetual Pavements (2009) estimated the C023 emissions conversion for concrete pavement to be 0.1073 metric Tonnes per Tonne. Converting the annual Ward Lake production to tonnes results in annual production of 10,886 tonnes with an estimated emission rate of 1,168 metric tonnes of CO2 per year.

Impacts from Combined Emissions

The combined annual emissions from the asphalt plant and concrete plant are 2,586 metric tonnes of C02e per year. Adding this emission estimate to that completed by Lassen County for the worst-case scenario for GHG emissions generated by changing truck trips, an estimated 7,535 metric tonnes of C02e is generated per year, well below the 10,000 metric tonnes value selected by Lassen County for this analysis.

Impact Discussion

The analysis of this impact includes two primary areas of focus. The first area of focus in this impact analysis is the quantification and disclosure of the anticipated GHG emissions that would result from operation of the proposed project. GHGs have been quantified in order to show the extent to which the proposed project may increase GHGs as compared to the existing environmental setting.

The second area of focus is the project's consistency with applicable statewide regulations and programs adopted to achieve state and regional reductions in GHG emissions. As described previously in this section, a numerical threshold of significance for GHG emissions has not been established by Lassen County. Rather, Lassen County has determined that the appropriate threshold of significance for this project is current guidance of 10,000 metric tonnes and, in so doing, has determined that this value is consistent with applicable regulations and programs.

Impact 4.5.5.1 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment

The County determined in the Initial Study that the Project may have a less-than-significant impact to GHG emissions, directly or indirectly, that may significantly impact the environment. No changes are being proposed to the permitted production of the asphalt or concrete plants, and therefore the total amount of GHG produced by the plant remains unchanged. An analysis of potential truck emissions completed by Lassen County using thresholds from the Bay Area GHG Management District resulted in values below the CEQA thresholds of significance for GHG (see initial study). The additional analysis including the calculated emissions from the asphalt plant and concrete plant, support the assessment and conclusion that the Project will have a less-than-significant impact to GHG emissions, directly or indirectly, on the environment.

Impact 4.5.5.2 Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases

No specific area plans or numerical threshold of significance for GHG emissions have been established by Lassen County. Therefore, the focus is whether the Project is consistent with applicable federal and state regulations and programs adopted to achieve state and regional reductions in GHG emissions. The Project is not in violation of any State or Federal standard.

Recent increases in GHG concentrations in the atmosphere have led to increased average global temperatures (global warming) through the intensification of the greenhouse effect, and associated changes in local, regional, and global average climatic conditions. Although there is strong scientific consensus that global climate change is occurring and is influenced by human activity, there is less certainty as to the timing, severity, and potential consequences of the climate phenomena. Scientists have identified several ways in which global climate change could alter the physical environment in California. These changes may translate into a variety of issues and concerns that may affect the project area, including, but not limited to:

- Decreased water supply, reliability, and quality;
- Increased frequency and intensity of wildfire as a result of changing precipitation patterns and temperatures; and,
- Increased risk of flooding and landslides associated with changes to precipitation patterns.

The Project does not violate any state or federal plans or standards. In addition, the operation of the facility is a benefit to Lassen County in that the maintenance of roads and other infrastructure requiring the generation of asphalt pavement and concrete are necessary for support of a safe public transportation system within Lassen County. The generation of

pavement material and concrete are required whether located at this facility or other facilities further away. The transportation of materials from facilities further away would result in higher emissions per ton of material produced due to the increased emission from miles traveled by truck. For these reasons, this impact is considered less than significant and no mitigation is required.

4.5.6 Mitigation Measures

Impact 4.5.5.1 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

No additional mitigation is required.

Impact 4.5.5.2 Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

No additional mitigation is required.

4.5.7 Level of Significance after Mitigation

Impact 4.5.51 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

The GHG impacts are considered less than significant.

Impact 4.5.5.2 Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The GHG impacts are considered less than significant.

4.6 Hazards and Hazardous Materials

The County has determined that in several impact areas, including Hazards and Hazardous Materials, only minor changes to the Project will occur, or only minor changes in circumstances will occur, or the new information relating to the impact area does not change the Project under review such that new significant effects would occur or involve a substantial increase in the severity of the previously identified impacts under CEQA Section 15162.

The County determined in the Initial Study that the Project will have no hazards and hazardous materials impacts with exception of the routine transport, use, or disposal of hazardous materials or accident conditions involving the release of hazardous materials into the environment. In addition, the County determined the Project could add to the risk of a fire starting on the site with the introduction of nighttime operations. The County determined that although the Project would slightly change the conditions at the site, these impacts would be less than significant. Therefore, additional analysis beyond that contained in the EIR documents from 1981 and 1997 for currently permitted operations at the Project site is not necessary.

This section provides a brief summary of hazards and hazardous materials at the Project site, summarizes the previous CEQA review of hazards and hazardous materials impacts at the Project site for current operations, and includes a summary of the discussion of impacts to hazards and hazardous materials contained in the Initial Study prepared by the County for the Project.

4.6.1 Environmental Setting

The current mining operation involves the transport, use, and storage and disposal of hazardous materials such as fuels, lubricants and hydraulic fluids for vehicles and equipment onsite. Hazardous materials onsite also include materials used for cement and asphalt production, and explosives used for blasting. All fuel storage tanks onsite have secondary containment structures. Explosive are handled by a licensed operator and are stored in an ATF-inspected and approved magazine onsite.

4.6.2 Regulatory Setting

A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either (1) cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating irreversible illness; or (2) pose a substantial present or potential hazard to human health and safety, or the environment when improperly treated, stored, transported, or disposed of (22 CCR 5 662.60.10).

Hazardous waste is the subset of hazardous materials that has been abandoned, discarded, or recycled and is not properly contained, including contaminated soil or groundwater with concentrations of chemicals, infectious agents, or toxic elements sufficiently high to increase human mortality or to destroy the ecological environment. If a hazardous material is spilled and cannot be effectively picked up and used as a product, it is considered to be hazardous waste. If a hazardous material site is unused, and it is obvious there is no realistic intent to use the material, it is also considered to be a hazardous waste. Examples of hazardous materials include flammable and combustible materials, corrosives, explosives, oxidizers, poisons, materials that react violently with water, radioactive materials, and chemicals.

Various federal and state agencies exercise regulatory authority over the use, generation, transport, and disposal of hazardous substances. The primary federal agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the Environmental Protection Agency (USEPA), Department of Labor Occupational Safety and Health Administration (OSHA), and the Department of Transportation (DOT).

The primary California state agency with similar authority and responsibility is the California Environmental Protection Agency (Cal-EPA), which may delegate enforcement authority to other local agencies with which it has agreements.

Several laws governing the transport, storage, and use of hazardous materials are governed by these agencies as well as oversight for contaminated sites cleanup. Federal laws and regulations, as well as specific legislation and policies, related to hazards and hazardous materials are summarized below.

4.6.2.1 Federal

Code of Federal Regulations
Federal regulations applicable to hazardous substances are contained primarily in the Code of Federal Regulations (CFR) Titles 29 (Labor), 40 (Protection of Environment), and 49 (Transportation). The applicable CFR titles include standards and provisions for the protection of workers, the natural and environment, and the general public from the effects associated with the use, storage, and transport of hazardous materials.

Resource Conservation and Recovery Act (RCRA)
The 1976 Federal Resource Conservation and Recovery Act and the 1984 RCRA Amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous wastes. The legislation mandated that hazardous wastes be tracked from the point of generation to their ultimate fate in the environment. This includes detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities.

The 1984 RCRA amendments provided the framework for a regulatory program designed to prevent releases from underground storage tanks (USTs). The program establishes tank and leak detection standards, including spill and overflow protection devices for new tanks. The tanks must also meet performance standards to ensure that the stored material will not corrode the tanks. Owners and operators of USTs had until December 1998 to meet the new tank standards. As of 2001, an estimated 85 percent of USTs were in compliance with the required standards.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA – Superfund)
The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) introduced active federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. CERCLA was intended to be comprehensive in encompassing both the prevention of, and response to, uncontrolled hazardous substances releases. CERCLA deals with environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for and respond to failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection (Shasta County, 2017).

4.6.2.2 State

The primary state agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the California Office of Emergency Services (OES), California Environmental Protection Agency (Cal-EPA), CalRecycle (formerly the California Integrated Waste Management Board (IWMB), Department of Toxic Substances Control (DTSC), California Department of Transportation (Caltrans), California Highway Patrol (CHP), California Regional Water Quality Control Boards (RWQCB), and the California Air Resources Board (CARB). Several laws governing the generation, transport, and disposal of hazardous materials are administered by these agencies. State laws and regulations that are applicable to hazards and hazardous materials are presented below (Shasta County, 2017).

Hazardous Materials Management

The California Environmental Protection Agency (Cal-EPA) has established regulations governing the use of hazardous materials in the state. Within Cal-EPA, the Department of Toxic Substance Control (DTSC) has primary hazardous materials regulatory responsibility, but can delegate enforcement responsibilities to local jurisdictions that enter into agreements with DTSC, for the generation, transport, and disposal of hazardous materials under the authority of the Hazardous Waste Control Law (HWCL). State regulations applicable to hazardous materials are contained primarily in Title 22 of the CCR. Title 26 of the CCR is a compilation of those chapters or titles of the CCR that are applicable to hazardous materials management.

Also within the "umbrella" of Cal-EPA, CalRecycle (formerly the California Integrated Waste Management Board (IWMB)) is responsible for protecting the public's health and safety and the environment through management of the solid waste generated in California. Solid waste regulations are generally enforced through local enforcement agencies (usually county agencies). CalRecycle works in partnership with local government, industry, and the public to reduce waste disposal and ensure environmentally safe landfills. Solid waste management provisions are outlined in the Public Resources Code (PRC), Division 30.

The California Highway Patrol (CHP) and the California Department of Transportation (Caltrans) are the enforcement agencies for hazardous materials transportation regulations. The California Department of Industrial Relations, Division of Occupational Safety and Health Administration (Cal/OSHA) standards are more stringent than federal OSHA regulations. Cal/OSHA assumes primary responsibility for developing and enforcing workplace safety regulations in Title 8 of the CCR.

The California Office of Emergency Services (Cal/OES) is the state office responsible for establishing emergency response and spill notification plans related to hazardous materials accidents. In addition, Cal/OES regulates businesses by requiring specific businesses to prepare an inventory of hazardous materials, and to prepare risk management plans through the California Accidental Release Prevention Program (Title 19 of the CCR).

The Regional Water Quality Control Boards (RWQCB) regulate surface and groundwater quality according to the provisions of the California Porter-Cologne Water Quality Act, the Toxic Pits Cleanup Act, Underground Tank Law, and federal Clean Water Act. Generally, all petroleum-related sites are handled by the RWQCBs and all underground tank sites are managed by County environmental management agencies. The project site is located within the jurisdiction of the Central Valley RWQCB (Region 5). The RWQCB can delegate responsibilities, such as underground tank permitting and monitoring, to local jurisdictions, such as Lassen County.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (CUPA)

In January 1996, Cal-EPA adopted regulations implementing a "Unified Hazardous Waste and Hazardous Materials Management Regulatory Program" (Unified Program). The six elements of the Unified Program are as follows: 1) hazardous waste generators and hazardous waste onsite treatment; 2) underground storage tanks; 3) aboveground storage tanks; 4) hazardous material release response plans and inventories 5) risk management and prevention programs; and 6) Unified Fire Code hazardous materials management plans and inventories. The Unified

Program is implemented at the local level by a local agency — the Certified Unified Program Agency (CUPA). The CUPA is responsible for consolidating administration of the six program elements within its jurisdiction. The Lassen County Environmental Health Department is the designated CUPA in the County.

Emergency Response to Hazardous Materials Incidents
To coordinate emergency services provided by local, state, and federal agencies, California has developed an Emergency Response Plan pursuant to the Emergency Services Act. The Plan is administered by the state Office of Emergency Services. Local agencies are required to develop area plans for an organized response to releases of hazardous materials that are dependent on Business Plans submitted by handlers of hazardous materials and waste within that agency's area. Pursuant to California Health and Safety Code, Section 25503(a) and CCR Section 2729, any business handling hazardous material must establish and implement a Hazardous Materials Business Plan. These Business Plans are then submitted to the local administering agency.

California Health and Safety Code
Cal-EPA has established rules governing the use of hazardous materials and the management of hazardous wastes. Many of these regulations are embodied in the California Health and Safety Code. The code includes regulations that govern safe drinking water, substances control, land reuse and revitalization, remediation, restoration, and methamphetamine contaminated cleanups.

California Code of Regulations Title 22 and Title 26
The California Code of Regulations (CCR) Title 22 provides state regulations for hazardous materials, and CCR Title 26 provides regulation of hazardous materials management. In 1996, Cal/EPA established the "Unified Hazardous Waste and Hazardous Materials Management Regulatory Program" (Unified Program) which consolidated the six administrative components of hazardous waste and materials into one program.

California Building Code
The 2016 California Building Standards Code (known as the California Building Code or CBC) includes requirements of the Office of the State Fire Marshal for the promotion of fire and life safety. The CBC is currently undergoing changes as part of the 2018 Triennial Code Adoption Cycle, but this review and subsequent updated codes are not expected until 2020. The 2016 building codes and standards reduce the risk of burning embers igniting buildings. Codes already in effect place standards on roofing construction and attic venting. The new building codes require siding, exterior doors, decking, windows, eaves wall vents, and enclosed overhanging decks to meet new test standards. The new ignition resistant codes apply to all fire hazard zones in the State Responsibility Area and in Very High Fire Hazard Severity Zones in Local Responsibility Areas. In addition, new building rules require rural homeowners to clear brush and trees 100 feet around their homes and 10 feet on each side of driveways, rather than 30 feet, which was the previous standard.

The updated fire hazard severity zones will be used by building officials to determine appropriate construction materials for new buildings in the wildland urban interface. The update zones will also be used by property owners to comply with natural hazards disclosure requirements at time of property sale. It is likely that the fire hazard severity zones will be used by local governments as they update the safety elements of their general plans.

4.6.3 Previous CEQA Review

4.6.3.1 1981 EIR

The Initial Study prepared in 1980 for the initial Miller's Custom Work operation determined there was no impact related to risk of upset (risk of an explosion or the release of hazardous substance in the event of accident or upset conditions). Human health impacts (creation of any health hazard or exposure of people to potential health hazard) are also listed as no impact. Hazards and Hazardous materials are not specifically discussed in the Significant Environmental Effects of the Proposed Project section of the 1981 EIR. The EIR does contain the following information under the discussion of mitigation measures proposed to minimize significant effects: Any blasting required would be done by individuals who are State Licensed, crushing operations will have no contaminants to dispose of, and asphalt and fuel storage tanks would be kept closed at all times, maintained in clean condition, and care taken to avoid spillage or leakage. Any contaminants from hot plant and/or fuel tanks would be contained, removed from the site or buried.

4.6.3.2 1997 EIR

Hazardous materials are discussed in the Hydrology/Water Quality section of the 1997 EIR. The potential for the project to introduce hazardous materials into surface and ground water is discussed in the EIR. The EIR determined Project impacts related to hazardous waste/water quality were significant due to an inadequate Spill Prevention and Countermeasure Plan (SPCC Plan). The following mitigation measure relating to hazardous materials was included in the EIR to reduce impacts to less than significant:

b. The Spill Prevention and Countermeasure Plan shall be revised to meet the approval of the Regional Board including:

    - A list of hazardous materials to be used and stored onsite
    - Plans for the washout basin
    - Description of disposal location for water pumped from the secondary containment area
    - A Spill Contingency Plan
    - Provisions for an onsite Spill Cleanup Kit
    - Provisions for employee training on spill prevention and cleanup

4.6.4 Thresholds of Significance

Significant hazards and hazardous materials impacts that could occur were determined from the 2018 CEQA Guidelines. These guidelines provide guidance in hazards and hazardous materials impacts. Based on this guidance, a project may be deemed to have a significant impact related to hazards and hazardous materials if it will:

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

- Create a significant hazard to the public or the environmental through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Coe Section 65962.5 and, as a result, create a significant hazard to the public or the environment.
- 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, the project would result in a safety hazard for people residing or working in the project area.
- For a project within the vicinity of a private airstrip, the project would result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized area or where residences are intermixed with wildlands.

4.6.5 Impact Analysis

The County determined the Project will have no impacts related to hazardous emissions or materials within one-quarter mile of a school, the Project will not be located on a site included on a list of hazardous materials sites, the Project will have no impacts related to airport hazards, and the Project will not impact implementation of an adopted emergency response plan or emergency evacuation plan. The discussion of less-than-significant impacts included in the Initial Study prepared by the County is summarized below.

Impact 4.6.5.1 Create a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials or through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment

The Project does not include changes to mineral or asphalt production. The existing permitted mineral and asphalt production amount were analyzed under a previous environmental document and the impact was concluded to be less than significant. Additionally, the operation is required to have the necessary permits from Lassen County Environmental Health for storing hazardous materials. Operations will continue to follow the applicable laws and regulations regarding hazardous material transport, as defined in Section 353 of the California Vehicle Code. Impacts will be less than significant.

Impact 4.6.5.2 Expose people or structures to a significant risk of loss, injury or death involving wildland fires

The Project includes nighttime operations that may add to the risk of fire starting on site at night. However, wildfire spreading is reduced at night, due to increased relative humidity and decreased temperature and wind. The potential of fire to spread to the few residences in the area is low, due to roads and agricultural use. Additionally, it is expected that operation will move from day to night (project specific), without additional shifts. Because the volume of mining is not increasing, but rather undergoing a change in its timing, the cumulative risk for wildfire will not increase. Impacts related to wildland fires will be less than significant.

4.6.6 Mitigation Measures

Impact 4.6.5.1 Create a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials or through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

No mitigation measures are proposed.

Impact 4.6.5.2 Expose people or structures to a significant risk of loss, injury or death involving wildland fires.

No mitigation measures are proposed.

4.6.7 Level of Significance after Mitigation

Impact 4.6.5.1 Create a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials or through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

The impacts associated with the Project will be less than significant.

Impact 4.6.5.2 Expose people or structures to a significant risk of loss, injury or death involving wildland fires.

The impacts associated with the Project will be less than significant.

4.7 Hydrology and Water Quality

The County has determined that in several impact areas, including Hydrology and Water Quality, only minor changes to the project will occur, or only minor changes in circumstances will occur, or the new information relating to the impact area does not change the Project under review such that new significant effects would occur or involve a substantial increase in the severity of the previously identified impacts under CEQA Section 15162.

The County determined that impacts to hydrology and water quality not will result from the Project since there is no proposed change to the location, type of mining, drainage/sediment ponds or onsite structures. The current operation is subject to Conditions 4 and 5 of Resolution No. 97-067 requiring all necessary permits from the Lahontan Regional Water Quality Control

Board (RWQCB) and State Water Resources Board as well as a Spill Prevention and Countermeasure Plan approved by the RWQCB. The project could result in increased groundwater use for dust suppression onsite. However, based on worst-case scenario water use calculations conducted by the County, the maximum water use of the Project will have a less-than-significant impact on groundwater supplies. Therefore, additional analysis beyond that contained in the EIR documents from 1981 and 1997 for currently permitted operations at the Project site is not necessary.

This section provides a description of the existing hydrology and water quality setting of the Project site and surrounding area, summarizes the previous CEQA review of hydrology and water quality impacts at the Project site, and contains a summary of the discussion of Hydrology and Water Quality impacts contained in the Initial Study prepared by the County for the Project.

4.7.1 Environmental Setting

There are no existing streams or bodies of water within the boundaries of the Project site. In addition, the site is not within a 100-year floodplain. The closest bodies of water to the Project site include Eagle Lake Ditch, located 375 feet west of the Project site, and Ward Lake, located 0.5 miles southwest of the Project site. Willow Creek is approximately 1 mile west of the site, and the Susan River is approximately 2 miles south of the site.

The Project site contains several permitted settling basins near the north end of the Project site, which drain into intermittent channels. The quarry site is made up of mostly fractured and weathered rock; therefore, the site is pervious and a majority of stormwater infiltrates. Concentrated flows are observed only during heavy rain events. These flows are contained and slowed by berms and benches and ultimately directed into settling basins.

The mining operation on the Project site is covered under the *General Permit for Storm Water Discharges Associated with Industrial Activities* (NPDES No. CAS000001). Standard soil erosion control protocols are currently practiced throughout the site include the use of berms, water bars, or rolling dips, rock check dams on roadway ditches, diverting run-on away from stockpile areas, installing stabilizers as necessary (silt fence, wattles, etc.), and directing runoff within quarry to detention ponds

The Project site is located within the Honey Lake Valley Groundwater Basin, which has been identified as a "low priority basin" by the Department of Water Resources, signifying that it is not currently at risk for overdraft. Within this basin, California's *Bulletin 118* estimates the total volume of water stored in the upper 100 feet of saturated basin-fill deposits and volcanic-rock aquifers to be 10 million acre-feet. Estimates of groundwater extraction for agricultural, municipal and industrial, and environmental wetland uses are 51,000, 15,000, and 3,800 acre-feet respectively. Deep percolation from agricultural applied water is estimated to be 14,000 acre-feet.

As seen in the groundwater levels for monitored wells in the Project area, found in the Department of Water Resources (DWR) Water Data Library, there is currently no trend or pattern indicating overdraft in the basin.

Well water is used by the current operation for wet suppression of onsite dust. The applicant estimates 0 to 6 truckloads of water are currently used per day (4,000 gallons/load) during daytime operations with an average of 4 to 5 loads per day, and 0 to 4 truckloads per day during nighttime operations, with an average of 2 to 3 truckloads, for a total of approximately 38 acre-feet/year.

4.7.2 Regulatory Setting

4.7.2.1 Federal

Clean Water Act (CWA)

The CWA is a federal law that protects the nation's surface waters, including lakes, rivers, coastal wetlands, and "waters of the United States." The CWA specifies that discharges to waters are illegal, unless authorized by an appropriate permit. The permits regulate the discharge of dredged and fill materials, construction-related stormwater discharges, and activities that may result in discharges of pollutants to waters of the United States. If waters of the U.S. are located on a project site, a proposed project is likely to discharge to them, and if impacts on them are anticipated, the project must obtain a CWA Section 401 Water Quality Certification from the appropriate RWQCB.

National Pollutant Discharge Elimination System (NPDES)

The NPDES program is administered by the EPA, which delegated oversight in California to the Regional Water Quality Control Boards. The NPDES program provides general permits and individual permits. The general permits are for construction projects that disturb more than one acre of land. The general permit requires the applicant to file a public Notice of Intent (NOI) to discharge stormwater and to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP includes a site map, description of proposed activities, demonstration of compliance with applicable ordinances and regulations, and a description of Best Management Practices (BMPs) that would be implemented to reduce erosion and discharge of construction-related pollutants.

Impaired Waterbodies

The CWA §303(d) and the California's Porter-Cologne Water Quality Control Act (described below) requires the State to establish the beneficial uses of its State waters and to adopt water quality standards to protect those beneficial uses. Section 303(d) establishes a Total Maximum Daily Load (TMDL), which is the maximum quantity of a particular contaminant that a water body can maintain without experiencing adverse effects, to guide the application of State water quality standards. Section 303(d) also requires the State to identify "impaired" streams (water bodies affected by the presence of pollutants or contaminants) and to establish the TMDL for each stream (Shasta County, 2017).

4.7.2.2 State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act acts in cooperation with the CWA to establish the State Water Resources Control Board (SWRCB). The SWRCB is divided into nine regions, each overseen by a RWQCB. The SWRCB, and thus each RWQCB, is responsible for protecting California's surface waters and groundwater supplies. The Porter-Cologne Water

Quality Control Act develops Basin Plans that designate the beneficial uses of California's rivers and groundwater basins. The Basin Plans also establish narrative and numerical water quality objectives for those waters. Basin Plans are updated every three years and provide the basis of determining waste discharge requirements, taking enforcement actions, and evaluating clean water grant proposals. The Porter-Cologne Water Quality Control Act is also responsible for implementing CWA Sections 401-402 and 303(d) to SWRCB and RWQCBs (Shasta County, 2017).

4.7.2.3 Local

Standish-Litchfield Area Plan

The Standish-Litchfield Area Plan, last amended in 1986, serves as the principal land use planning and policy document for that area of the County. Water quality and flood protection policies are listed below.

Flooding

1-A Land uses within the 100-year floodplain shall not jeopardize life or property at either a specific site or downstream.

1-B The types of land uses permitted and County development standards within the 100-year floodplain should conform to the requirements of the National Flood Insurance Program.

Water Quality

5.A The supply and quality of Lassen County water resources shall be preserved and protected.

5.B The County shall develop additional measures to ensure and protect the groundwater supply in the Planning area.

5.1 If it appears that the quality of groundwater could deteriorate, development immediately adjacent to any water courses or body of water should be designed to ensure the water quality is not adversely affected by soil erosion, by direct discharge of potentially harmful substances, by ground leaching from storage of raw materials, or by runoff from the sites.

5.2 New development shall demonstrate adequate quantity and quality of water for consumption and fire protection prior to the approval of new residential lots.

5.3 The County Sanitarian should regularly monitor groundwater quality in the Planning Area and take appropriate measures to prevent health hazards if it appears that the quality of groundwater could deteriorate.

5.4 Geothermal fluids shall be disposed of in a manner that does not affect quality of surface or groundwaters and does not present a hazard to the County's other natural resources.

4.7.3 Previous CEQA Review

4.7.3.1 1981 EIR

The 1981 EIR included a discussion of the hydrology and water quality impacts of the initial Millers' Custom Work, Inc., mining operation (excavation, crushing, stockpiling, and hauling of

materials as well as the operation of asphalt concrete batch plant). Hydrology and water quality impacts were determined to be potentially significant. The need for a water source for aggregate washing at the crusher site was included in the discussion of significant environmental impacts. Daily water use was anticipated to not exceed 10,000 gallons. In conjunction with a washing operation, water reclamation/discharge plans were determined to be required.

The 1981 EIR includes settling ponds for reclamation and drainage controls for wastewater discharged from gravel/aggregate washing operations in the mitigation measures discussion of the EIR. The plant would be sloped for drainage to water reclamation ponds. Hydrology and water quality impacts were determined to be less than significant with mitigation.

4.7.3.2 1997 EIR

Water quality impacts of the currently permitted operation were evaluated in the 1997 EIR. The 1997 EIR analyzed the water quality, hazardous waste, and drainage impacts of the onsite production of ready-mix concrete, increase in the height of the exposed rock quarry face and increase in harvest volume to 1,700,00 cubic yards, and expansion of the season of operation from seven months to year round.

The 1997 EIR determined that water quality, hazardous waste, and drainage impacts of the project were potentially significant. The 1997 EIR contained the following mitigation measures to reduce hydrology/water quality impacts to a less-than-significant level:

Adherence to California Regional Water Quality Control Board Conditions. The applicant shall fully comply with Regional Board requirements prior to continued operation of the concrete plant, including:

a. Implement the following on site and submit plans for washout basin to the Regional Board and detailed overall mining site drainage plans which must include:

    - Segregation of process water from stormwater runoff
    - Pretreatment (sediment, oil/grease removal) of stormwater runoff containing pollutants prior to discharging to percolation/containment basins. Precast sand/oil interceptors may be an acceptable means for providing pretreatment of stormwater runoff.
    - Pretreatment of stormwater runoff from areas subject to hydrocarbon deposition (fueling areas, parking areas, heavy equipment storage areas). Precast drop inlets with inverted outlet and hydrocarbon absorbent pillows may be an acceptable means for hydrocarbon removal.
    - Provide non-percolation containment (such as lined evaporation ponds) for process water runoff
    - Diversion of non-impacted runoff (runoff from upland areas) around areas of industrial activities. Provide diversionary structures (earthen berms, culvers) as necessary to minimize contact with industrial activities.

b. The SPCC Plan shall be revised to meet the approval of the Regional Board including:

- A list of hazardous materials to be used and stored onsite
- Plans for the washout basin
- Description of the disposal location for water pumped from the secondary containment area
- A Spill Contingency Plan
- Provisions for an onsite Spill Cleanup Kit
- Provisions for employee training on spill prevention clean up.

c. Dust control measures (as required in the Air Quality Chapter of the 1997 EIR) to minimize degradation of surface waters from the deposition of fugitive dust

d. Obtain and provide evidence of proper documentation/application/approval related to the Nation Pollutant Discharge Elimination permit system.

4.7.4 Thresholds of Significance

Significant impacts that could occur were determined from the 2018 CEQA Guidelines. These guidelines provide guidance in defining significant hydrology and water quality impacts. Based on this guidance, the Project may be deemed to have a significant impact on hydrology and water quality if it will:

- Violate any water quality standards or waste discharge requirements
- 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 lower groundwater table level (e.g., the production rate of a 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
- 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.
- 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 will result in flooding on- or offsite
- 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
- 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
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows.

- 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
- Inundation by seiche, tsunami, or mudflow

4.7.5 Impact Analysis

As discussed in the Initial Study prepared for the project by the County, the Project does not include any change to the location, type of mining, drainages/sediment ponds, or onsite structures; therefore, no additional impacts to hydrology and water quality are expected to result from the Project. The operation is subject to Conditions 4 and 5 of Resolution No. 97-067, requiring all necessary permits from the Lahontan Regional Water Quality Control Board (RWQCB) and/or the State Water Resources Board be secured and Spill Prevention and Countermeasure Plan be approved by the RWQCB.

The County determined the project would have no impacts related to the violation of water quality standards or waste discharge requirements, the project would not substantially alter the existing drainage patterns of the site or area, create or contribute runoff water which would exceed capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or otherwise degrade water quality. The project will not place housing or structures within a 100-year flood hazard area, or expose people or structures to a significant risk of loss, injury or death involving flooding, inundation by seiche, tsunami, or mudflow.

The Project could result in a change in groundwater use at the project site. A summary of the discussion included for this impact in the Initial Study prepared by the County included below.

Impact 4.7.5.1 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

The project could slightly change the groundwater use at the Project site. Well water is used by the current operation for wet suppression of onsite dust as described in the Setting Section above. The applicant does not anticipate additional shifts, but instead anticipates a portion of the current daytime work changing to nighttime work. Night operations have the potential to decrease groundwater use.

As discussed above, the Project is located within the Honey Lake Valley Groundwater Basin, which is not currently at risk for overdraft. Estimated total water stored in the upper 100 feet of aquifer is estimated to be 10 million acre-feet. Estimates of groundwater extraction for agricultural municipal and industrial and environmental wetland uses are 51,000, 15,000, and 3,800 acre-feet respectively. Deep percolation from agricultural-applied water is estimated to be 14,000 acre-feet. As seen in the groundwater levels for monitored wells in the Project area, found in the Department of Water Resources (DWR) Water Data Library, there is currently no trend or pattern indicating overdraft in the basin.

The project is not expected to create a demand for water in excess of available supplies. Impacts to groundwater supplies will be less than significant.

4.7.6 Mitigation Measures

Impact 4.7.5.1 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.

No mitigation measures are necessary.

4.7.7 Level of Significance after Mitigation

Impact 4.7.5.1 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.

The hydrology and water quality impacts associated with the Project will be less than significant.

4.8 Land Use

The County has determined that extending the life of the mining operations and allowing for nighttime operations are substantial changes proposed in the Project that will require major revisions of the previous EIR due to the involvement of potentially new significant environmental effects pertaining to Land Use which could lead to a substantial increase in the severity of previously identified significant effects under CEQA Guidelines Section 15162.

This section provides a description of the existing land use of the Project Site and surrounding area, summarizes the previous CEQA review of land use impacts of the currently permitted operation at the Project site, and describes the changes to those conditions that will result from the Project. This section also includes Project-related impacts and recommended mitigation measures.

Note that it is nearly, if not absolutely, impossible for a project to be in perfect conformity with each and every policy set forth in any given applicable plan. It is enough that the proposed project will be compatible with the objectives, policies, general land uses, and programs specified in the applicable plan. Pfeiffer v. City of Sunnyvale City Council, 200 Cal.App.4th 1552, 1563, 135 Cal. Rptr. 3d 380 (2011) (Crenshaw Subway Coal. v. L.A. Cnty. Metro. Transp. Auth. (C.D.Cal. Sep. 23, 2015, No. CV 11-9603 FMO (JCx)) 2015 U.S.Dist.LEXIS 143642, at *66.)

4.8.1 Environmental Setting

The Project Site is located in Lassen County and within the area covered by the Standish-Litchfield Area Plan. The Standish-Litchfield planning area extends from the north shore of Honey Lake to the toe slopes of Shaffer Mountain. The Project site is zoned Upland Conservation, Resource Management District. Lands immediately adjacent to the Project area are zoned Open Space District; Upland Conservation District; Upland Conservation, Agricultural Preserve Combining District; and Agricultural Residential 20-Acre Building Site, Agricultural Combining District.

The Standish-Litchfield Area Plan classifies these surrounding lands as Extensive Agriculture, Open Space, and Agricultural Residential. The area surrounding the site is primarily used for agriculture and open space. The nearest residence is approximately 875 feet from the western property line of the Project parcel. The zoning and land use designation of the Project site and adjoining properties are provided in Table 4-4.

Table 4-4
ZONING AND LAND USE OF PROJECT SITE AND ADJOINING PROPERTIES

	Zoning	Parcel Size (acres)	Land Use Designation (Lassen County General Plan)
Site	U-C-2	442	Extensive Agriculture
North	U-C, U-C- A-P	8-212	Open Space (Public Lands)
East	U-C-A-P, O-S	246-350	Open Space (Public Lands)
South	O-S	19-498	Open Space (Public Lands), Extensive Agriculture
West	U-C, A-2-B-20-A	9-269	Agricultural Residential, Extensive Agriculture

4.8.2 Regulatory Setting

2000 Lassen County General Plan
The 2000 Lassen County General Plan was adopted in September 1999. The 2000 General Plan contains a Land Use Element, Natural Resources Element, Agriculture Element, Wildlife Element, Open Space Element, Circulation Element, and Safety and Seismic Safety Element. The Land Use Element of the 2000 Lassen County General Plan designates the proposed general distribution and intensity of uses in the land for housing, business, industry, open space, natural resources, public facilities, waste disposal sites, and other categories of public and private uses. The Land Use Element is intended to serve as the central framework for the entire General Plan, and to correlate all land use issues into a set of coherent development policies

1986 Standish-Litchfield Area Plan
The Standish-Litchfield Area Plan was adopted in 1986 and was intended to guide decisions regarding land use for an approximate 20-year timeframe. In the plan, it is stated, "The plan is long-range in nature and should be reviewed every five years to determine whether it still reflects community values." The Area Plan contains three categories: Environmental Safety, Natural and Cultural Resources, and Community Development. It has been more than 20 years since the Area Plan has been adopted; however, since there have not been any updates since 1986, the goals, policies, and implementation measures are still applicable to the Project.

4.8.3 Previous CEQA Review

4.8.3.1 1981 EIR

The 1981 EIR does not include a specific analysis of the land use impacts of the initial mining operation at the site (excavation, crushing, stockpiling, and hauling of materials as well as the operation of asphalt concrete batch plant).

4.8.3.2 1997 EIR

Land use impacts of the currently permitted operation were evaluated in the 1997 EIR. The project analyzed in the EIR included rezoning the Project site parcel from "U-C" Upland Conservation to "U-C-2" (Upland Conservation/Resource Management) to allow operation of a ready-mix concrete plant upon approval of a use permit. The EIR determined that due to compatibility issues with the 1986 Standish-Litchfield Area Plan (the 1986 Standish-Litchfield Area Plan does not allow secondary processing, such as the production of ready-mix concrete), land use impacts were determined to be potentially significant. The 1997 EIR contained the following mitigation measures to reduce land use impacts to a less-than-significant level.

- **Land Use Compatibility**. Implementing the mitigation measures recommended for individual impacts identified in other section of the EIR will concurrently mitigate any land use impacts.
- **Conflict with Adopted Land Use Plans and Regulations**.
    a) Redesign the project to eliminate the proposed ready-mix concrete plant to avoid conflict with adopted area plan policies and zoning; or
    b) Amend the area plan goal and policy to allow production of ready-mix concrete on approved mine sites within the planning area where allowed by the zoning, and subsequently rezone the site to a zoning district that allows for such production.

4.8.4 Thresholds of Significance

Significant impacts that could occur were determined from the CEQA Guidelines. These guidelines provide guidance in defining significant land use and planning impacts. Based on this guidance, the Project may be deemed to have a significant impact on land use and planning if it will:

- Physically divide an established community
- 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
- Conflict with any applicable habitat conservation plan or natural community conservation plan

4.8.5 Impact Analysis

The Project site consists of an existing mining operation. The Project does not include an increase in the size of the operation and will not physically divide an established community. Lassen County does not have a specific habitat conservation or natural community conservation plan. The Project does not include any changes in land use or zoning at the site, and the use of the Project site (mining operation) will remain the same. The County determined the Project will have no impact related to physically dividing an established community and no impact related to confliction with an applicable habitat conservation plan or natural community conservation plan.

The County has identified several goals and policies contained in the Lassen County General Plan and the Standish-Litchfield Area Plan that the Project has potential to conflict with. The consistency of the Project with the General Plan and Area Plan is addressed in the impact analysis below. The discussion below is limited to the applicable goals, policies, and implementation measures contained in or referenced in the Land Use Element of the Lassen County General Plan or related to Land Use in the Standish-Litchfield Area Plan. The goals and policies contained in the Lassen County Noise Element are addressed separately in the Noise section of this DSEIR.

Impact 4.8.5.1 Conflict with Lassen County General Plan or Standish-Litchfield Area Plan

Lassen County determined that the Project has the potential to conflict with the following goals, policies, and implementation measures related to land use contained in the Lassen County General Plan and Standish-Litchfield Area Plan:

Lassen County General Plan Land Use Element

- Goal L-11: Transportation systems which complement and support the County's land use pattern.
- LU-25 POLICY: The County shall continue to review and, when warranted, formulate improved standards for the necessary improvement and maintenance of roads serving new development of public roads.
- LU-26 POLICY: When proposed projects which would generate a substantial number of large trucks carrying heavy loads, the County shall require special mitigation measures to insure that those projects do not cause significant deterioration of County roads, or will otherwise mitigate such damage with adequate repair.
- Implementation Measure LU-R: Pursuant to impacts evaluated in an environmental impact report or other form of project review, the County may require mitigation measures which will insure that project developers adequately and fairly compensate or participate with the County in the necessary upgrading and/or repair of roads which will be significantly damaged by a project.
- LU-27 POLICY: The County shall refer to the Circulation Element for additional policies and implementation measures which relate to land use issues.
- Goal L-22: Protection and enhancement of important wildlife habitats to support healthy, abundant and diverse wildlife populations.
- LU-49 Policy: The County supports the management and enhancement of wildlife resources in ways that enhance the health and abundance of wildlife populations and the diversity of species and their habitats and which, at the same time, balance management policies and program objectives with the range of social and economic needs for which the County is also responsible.

Lassen County General Plan Circulation Element

- CE-12 POLICY: No public highway or roadway should be allowed to fall or exist for a substantial amount of time at or below a Level of Service rating of "E" (i.e., road at or near capacity; reduced speeds; extremely difficult to maneuver; some stoppages).

Standish-Litchfield Area Plan

- Policy 17-A: It shall be a policy of Lassen County to provide a transportation system that provides safe and efficient service for the travel needs of all citizens, the movement of goods and as a means to implement the goals and objectives of this plan.
- Implementation 17.3: Prior to the approval of all new projects, the County shall evaluate the potential effect on existing traffic patterns and shall require as a condition of approval. Any improvements or in lieu fees necessary to alleviate potential traffic congestion and/or to ensure traffic safety throughout the Planning Area.
- Implementation 17.4: The Planning Commission should determine during the public hearing process which public and private roads should be upgraded and to which standards they should be improved to.

Transportation and traffic impacts are analyzed in the Transportation and Traffic section of this DSEIR. The traffic and transportation section analyzed the potential for the Project to conflict with the Local Circulation policies from the Lassen County General Plan and Standish-Litchfield Area Plan included above.

The Project will not result in any roadways falling at or below Level of Service rating of "E". The Project will not result in traffic congestion or impact traffic safety in the Project area. However, increased truck traffic does have the potential to degrade roadways in the Project area.

Increased deterioration will require additional maintenance to maintain the road in an acceptable condition. The Project will conflict with local circulation policies if the applicant does not mitigate for possible deterioration of County roads, resulting in a potentially significant impact. The implementation of the mitigation measures contained in the Transportation and Traffic section will ensure the applicant adequately and fairly compensates or participates with the County in the necessary upgrading and/or repair of roads which will be significantly damaged by a Project and will result in compliance with the land use and circulation policies contained in the Lassen County General Plan and Standish-Litchfield Area Plan.

Wildlife impacts are addressed in the Biological Resources section of this DSEIR. Goal L-22 contained in the Lassen County General Plan Land Use Element does not contain mention of a specific species or criteria for consistency; however, the Project site does contain critical winter range for pronghorn and mule deer. The impacts of nighttime operations to pronghorn and mule deer and special-status species are discussed in the Biological Resources section of the DSEIR. With implementation of the Biological Resource Mitigation Measures, the Project will not conflict with Goal L-22 of the Lassen County General Plan Land Use Element.

4.8.6 Mitigation Measures

The following mitigation measures are proposed for the significant Project impacts:

Impact 4.8.5.1 Conflict with Lassen County General Plan or Standish-Litchfield Area Plan.

- Implementation of Mitigation Measures from the Biological Resources section of the DSEIR:
    - **Continued limits on operations from January 1 to March 31.** Impacts can be avoided or minimized through continuing seasonal operating restrictions as discussed in the previous EIR reports.
    - **No 24-hour operations from January 1 to March 31.** Impacts can be avoided or minimized through including no nighttime work from January 1 to March 31.
    - **Wildlife crossing signage on roadways.** This option would educate drivers about the potential for wildlife encounters on roads during nighttime hours. Signage will be permanent. This measure can prevent direct mortalities to nocturnal wildlife.
    - **Reduce traffic speed on roadways.** This option would reduce the speed limit in order to minimize traffic impacts to wildlife. "Reduce speed" signs can reduce the speed limit on Ward Lake Road during nighttime hours, granting a longer reaction time should any wildlife be encountered on a roadway.
    - **Driver Education.** Increase operator/driver awareness to avoid wildlife vehicle impacts.
    - **Nighttime Operation Restrictions.** No grading, blasting, or excavating shall be allowed onsite between the hours of 6:00 p.m. and 7:00 a.m., April 1 to December 31.
    - **Lighting fixture design.** To minimize the effects of lighting of artificial light on wildlife, lighting fixtures associated with nighttime Project work should be downward facing and fully shielded. Lighting equipment should be designed and installed to minimize light pollution.
    - **Noise reduction barriers.** Adverse effects from noise may be reduced through installation of noise berms around the Project area where heavy machinery is in use. Barriers can eliminate or minimize the impacts of vibrations that may result from nighttime operations.
    - **No "jake brake" usage.** This option can significantly reduce the noise impacts from the increased traffic volume. "No use of jake brake" signs shall be posted on the access road and at the Center Road (A27) and Ward Lake Road intersection.

4.8.7 Level of Significance after Mitigation

Impact 4.8.5.1 Conflict with Lassen County General Plan or Standish-Litchfield Area Plan

Implementation of the above mitigation measures will ensure that the Project will not conflict with the land use policies contained in Lassen County General Plan or Standish-Litchfield Area Plan. Following implementation of the above mitigation measures, the Project will have a less-than-significant land use impact. As mentioned above, perfect Project conformity is not required under CEQA. (Crenshaw Subway Coal. v. L.A. Cnty. Metro. Transp. Auth. (C.D.Cal. Sep. 23, 2015, No. CV 11-9603 FMO (JCx)) 2015 U.S.Dist.LEXIS 143642.) (San Francisco Tomorrow v. City and County of San Francisco (2014) 229 Cal.App.4th 498 [176 Cal.Rptr.3d 430].) (Pfeiffer v. City of Sunnyvale City Council (2011) 200 Cal.App.4th 1552 [135 Cal.Rptr.3d 380].) With the implementation of the mitigation measures above, the Project is substantially consistent with the General Plan and the Standish-Litchfield Area Plan.

4.9 Noise

The County has determined that extending the life of the mining operations, and allowing for nighttime operations at the facility are substantial changes proposed in the Project that will require major revisions of the previous EIR due to the involvement of potentially new significant environmental effects pertaining to Noise Resources which could lead to a substantial increase in the severity of previously identified significant effects under CEQA Guidelines Section 15162.

This section provides a description of existing noise in the Project area, summarizes the previous CEQA analyses of the noise impacts of the current operation at the Project site, and describes the changes to those conditions that will result from the Project. This section also includes Project-related impacts and recommended mitigation measures. Much of the analysis is based on information contained in the *Hat Creek Materials Facility Expansion Revised Environmental Noise Analysis* prepared for the Project by j.c. brennan & associates, Inc. (Noise Analysis). The Noise Analysis is included as Appendix H.

4.9.1 Environmental Setting

4.9.1.1 Background Information on Noise

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called "sound." The number of pressure variations per second is called the "frequency of sound" and is expressed as "cycles per second" or "Hertz" (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as "dBA") and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as "dB" unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool is the average, or equivalent, sound level (Leq), which corresponds to a steady-state A-weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The Leq is the foundation of the composite noise descriptor, Ldn, and shows very good correlation with community response to noise.

The day/night average level (Ldn) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because Ldn represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Table 4-5 lists several examples of the noise levels associated with common situations. Appendix A of the Noise Analysis provides a summary of acoustical terms used in this report.

Table 4-5 TYPICAL NOISE LEVELS		
Common Outdoor Activities	**Noise Level (dBA)**	**Common Indoor Activities**
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), At 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m(100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area, Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing
Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol. November 2013		

4.9.1.2 Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called "ambient noise level." In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;

- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

4.9.1.3 Vibration Background

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, while vibration is usually associated with transmission through a structure. As with noise, vibration consists of an amplitude and frequency. A person's response to vibration will depend on their individual sensitivity as well as the amplitude and frequency of the source.

Vibration can be described in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities (inches/second). Standards pertaining to perception as well as damage to structures have been developed for vibration in terms of peak particle velocity (ppv). Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events

4.9.1.4 Existing Ambient Noise Levels

The Project site is an existing quarry that includes a materials excavation and crushing operation, recycled asphalt and concrete crushing, and an asphalt batch plant. The current operating hours are 6:00 a.m. to 7:00 p.m., although during data collection on May 3 and May 4, 2018, two shifts were operating from 6:00 a.m. to midnight. At times, the current operations do include peak operations of up to 358 one-way truck trips (358 arriving and 358 departing) during the daytime hours. The primary noise sources associated with the existing operations include the following:

- Cement Batch Plant;
- Excavation and Crushing Operations (this includes mobile equipment associated with the operations);
- Cement and Asphalt Batch Plants;
- Truck Traffic to and from the Site on Area Roadways.

To quantify the existing ambient noise environment in the Project vicinity due to existing operations, j.c. brennan & associates, Inc., conducted continuous hourly noise level measurements for a 24-hour period at two locations. One location was on the Project site and

adjacent to the entrance near the office building.. The other site was adjacent to Ward Lake Road. The noise level measurements were conducted on Thursday, May 3rd, through Friday, May 4th, 2018.

Noise measurement locations are shown on Figure 4-11. A summary of the noise level measurement survey results are provided in Table 4-6. Appendix B of the Noise Analysis contains the complete results of the continuous (24-hour) noise monitoring.

Table 4-6
EXISTING CONTINUOUS BACKGROUND NOISE MEASUREMENT DATA SUMMARY
MAY 3-4, 2018

Site	Ldn	Average Measured Hourly Noise Levels					
		Daytime (7am-10pm)			Nighttime (10pm-7am)		
		Leq	**L50**	**Lmax**	**Leq**	**L50**	**Lmax**
Site A- Entrance to the Site and approximately 215-feet from the scales and 1,160 feet from the Concrete Plant, and 1,875 feet from the crushing plant	53.5 dBA	49.4 dBA	39.0 dBA	65.8 dBA	46.5 dBA	33.1 dBA	56.3 dBA
		L2	**L8**	**L25**	**L2**	**L8**	**L25**
		47.8 dBA	45.1 dBA	41.9 dBA	40.7 dBA	38.7 dBA	35.9 dBA
Site B- 35 feet from the Ward Lake Road centerline	55.6 dBA	**Leq**	**L50**	**Lmax**	**Leq**	**L50**	**Lmax**
		54.6 dBA	32.7 dBA	78.7 dBA	46.9 dBA	26.8 dBA	68.0 dBA
		L2	**L8**	**L25**	**L2**	**L8**	**L25**
		54.6 dBA	42.1 dBA	35.9 dBA	41.5 dBA	34.3 dBA	29.4 dBA

Source: j.c. brennan & associates, Inc., 2019

The sound level meters were programmed to record the maximum, median, and average noise levels at each site during the survey. The maximum value, denoted Lmax, represents the highest noise level measured. The average value, denoted Leq, represents the energy average of all of the noise received by the sound level meter microphone during the monitoring period. The median value, denoted L50, represents the sound level exceeded 50 percent of the time during the monitoring period. In addition, the composite 24-hour average noise level (Ldn) was also calculated from the hourly Leq values. The calculated Ldn for each day applies a +10 dBA penalty to all noise which occurs during the nighttime period, which is defined as the hours between 10:00 p.m. and 7:00 a.m.

Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

X Continuous Noise Measurement Site

Project Site

N

0 400 800 1,600 Feet

VESTRA

SOURCE: J.C. BRENNAN & ASSOCIATES, 2018

FIGURE 4-11
NOISE MEASUREMENT LOCATIONS
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\Final EIR\71305_NoiseMeasurementSites.mxd

4.9.1.5 Existing Hat Creek Materials Facility Plant Operations Noise Levels

On May 3, 2018, j.c. brennan & associates, Inc., staff conducted noise measurements and observations of the Hat Creek Materials individual operations. The noise measurements were conducted with a Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meter, which was equipped with 1/3 octave and 1/1 octave band filters. The equipment was calibrated prior to, and after the measurements with an LDL Model 200 acoustical calibrator to ensure accuracy of the measurement. Octave band data was collected, including the hourly average and maximum noise levels. Statistical noise levels were not collected for each individual piece of equipment. It was determined that the overall noise levels collected at Site B, as shown in Table 4-6 would provide the overall statistical noise levels or the overall operations. The results of the individual operations noise measurements are provided in Table 3 of the Noise Analysis (Appendix H).

During the noise measurements, the loader operated at the Sand Plant generated noise levels of 66.6 dB Leq and 74.8 dB Lmax at a distance of 100 feet. The cement plant (plant operations and trucks) generated noise levels of 67.7 dB Leq and 87.6 dB Lmax at a distance of 100 feet. Crushing operations (crushers and loaders) were measured to be 85.6 dB Leq and 88.7 dB Lmax at distance of 200 feet. The asphalt plant diesel generator was measured to be 85.6 dB Leq and 87.5 dB Lmax from the center of the site at a distance of 50 feet from the burner and 40 feet from the generator. The noise level measurement locations for the individual operations noise levels are provided in Figure 2 of the Noise Analysis (Appendix H).

4.9.1.6 Existing Traffic Noise Levels

To describe existing noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. The model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly Leq values for free-flowing traffic conditions. The FHWA RD-77-108 model was used instead of the newer FHWA Traffic Noise Model (TNM). The TNM model was primarily developed to assess large roadway projects, where multiple barriers may occur or be proposed. It is also very effective for evaluating several rows of residences adjacent to the roadway. The FHWA model uses very similar algorithms and has been found to accurately predict traffic noise levels. The FHWA RD-77-108 model was determined to be the appropriate model to use for the site conditions.

Traffic volumes for existing conditions were obtained from the project traffic consultant. The traffic noise analysis contains the following assumptions:

- Baseline traffic includes an average of 16 one way truck trips per day, which are evenly distributed from 6:00 a.m. to 7:00 p.m.;
- The distribution of truck trips on a typical day (Existing) includes 40 percent traveling east on Center Road, and 60 percent traveling west on Center Road;

- During peak operations, there are up to 350 one way truck trips per day, which are evenly distributed from 6:00 a.m. to 7:00 p.m., with the same trip distribution shown above.

The analysis contained in Table 4-7 includes the overall 24-hour Ldn, the daytime peak hour, and the nighttime peak hour. Existing traffic noise levels are summarized in Table 4-7. Table 4-7 includes predicted traffic noise levels for both average daily baseline haul truck volumes (16 arriving and 16 departing trucks per day) and for the maximum traffic volumes that have occurred during peak operational periods at the site (350 arriving and 350 departing trucks per day). Appendix C of the Noise Analysis shows the inputs to the FHWA Model.

Table 4-7
PREDICTED EXISTING TRAFFIC NOISE LEVELS

Roadway	Location	Traffic Noise Level @ 75'*	Distance to Noise Contours	
			55 dBA	60 dBA
Traffic Noise Levels During an Average Day with 16 one-way truck trips (6:00 a.m. to 7:00 p.m.)				
Ward Lake Road	Entire Length	47.2 dBA Ldn	23-feet	10-feet
Center Road (A27)	West of Ward Lake	51.3 dBA Ldn	43-feet	20-feet
Center Road (A27)	East of Ward Lake	48.7 dBA Ldn	28-feet	13-feet
Center Road (A27)	East of Cutoff Road	48.3 dBA Ldn	27-feet	12-feet
Traffic Noise Levels During Peak Times with 350 one-way daily truck trips (6:00 a.m. to 7:00 p.m.)				
Ward Lake Road	Entire Length	58.8 dBA Ldn	134-feet	62-feet
Center Road (A27)	West of Ward Lake	57.4 dBA Ldn	108-feet	50-feet
Center Road (A27)	East of Ward Lake	54.7 dBA Ldn	71-feet	33-feet
Center Road (A27)	East of Cutoff Road	54.6 dBA Ldn	71-feet	33-feet
Traffic Noise Levels During an Average Day (Peak Hour Daytime Leq)				
Ward Lake Road	Entire Length	46.1 dBA Leq	19-feet	9-feet
Center Road (A27)	West of Ward Lake	52.2 dBA Leq	48-feet	22-feet
Center Road (A27)	East of Ward Lake	50.1 dBA Leq	35-feet	16-feet
Center Road (A27)	East of Cutoff Road	49.6 dBA Leq	33-feet	15-feet
Traffic Noise Levels During Peak Times (Peak Hour Daytime Leq)				
Ward Lake Road	Entire Length	60.2 dBA Leq	166-feet	77-feet
Center Road (A27)	West of Ward Lake	59.3 dBA Leq	145-feet	68-feet
Center Road (A27)	East of Ward Lake	56.6 dBA Leq	96-feet	44-feet
Center Road (A27)	East of Cutoff Road	56.5 dBA Leq	95-feet	44-feet
Traffic Noise Levels During an Average Day (Peak Hour Nighttime Leq)				
Ward Lake Road	Entire Length	45.7 dBA Leq	18-feet	8-feet
Center Road (A27)	West of Ward Lake	48.3 dBA Leq	27-feet	12-feet
Center Road (A27)	East of Ward Lake	48.3 dBA Leq	27-feet	12-feet
Center Road (A27)	East of Cutoff Road	46.9 dBA Leq	22-feet	10-feet
Traffic Noise Levels During Peak Times (Peak Hour Nighttime Leq)				
Ward Lake Road	Entire Length	45.7 dBA Leq	18-feet	8-feet
Center Road (A27)	West of Ward Lake	48.3 dBA Leq	27-feet	12-feet
Center Road (A27)	East of Ward Lake	48.3 dBA Leq	27-feet	12-feet
Center Road (A27)	East of Cutoff Road	46.9 dBA Leq	22-feet	10-feet

Sources: j.c. brennan & associates, Inc. and FHWA RD-77-108
*- Roadway noise levels are calculated from the roadway centerline

4.9.1.7 Materials Facility Onsite Operations Noise Levels at the Nearest Residences

On-site operations associated with Materials Facility on-site activities are generally represented by the measured hourly L50 values. During the daytime, the measured hourly background L50 noise levels due to on-site activities ranged between 27 dBA and 44 dBA at Site B, which represents the nearest residence. The average measured hourly L50 value was 33 dBA at Site B.

During the nighttime hours, the Materials Facility on-site operations resulted in measured background L50 noise levels ranging from 28 dBA to 45 dBA at Site B, while the plant was operating, which represents the nearest residence. (During the noise measurements, the plant operated during the nighttime hours until approximately 12:00 a.m. to 1:00 a.m.). The noisiest hours occurred during the start-up of operations between the hours of 6:00 a.m. and 8:00 a.m. Otherwise plant operations were represented by the average measured L50 value of 33 dBA.

The noisiest operations associated with the materials facility on-site facilities are the crushing operations, and the asphalt plant operations.

4.9.1.8 Overall Measured Background Noise Levels

The overall measured background hourly noise levels at Site B, which represents the nearest residence, ranged between 39 dBA and 61 dBA Leq. This included all background noise sources, including the roadway traffic, Materials Facility onsite operations, aircraft overflights, and neighborhood activities.

The measured 24-hour Ldn at Site B was 55.6 dBA.

Maximum noise levels experienced at the nearest residences are due to truck traffic along Ward Lake Road. Based upon signage at one residence along Ward Lake Road, there is concern about the use of engine brakes (jake brakes) from trucks descending the grade as they exit the site.

4.9.2 Regulatory Setting

Lassen County's General Plan Noise Element includes noise level policies for land use compatibility. The following summarizes the policies and criteria applicable to the proposed Project:

Goal: The overall goals of the Lassen County Noise Element are to protect the citizens of Lassen County from the harmful and annoying effects of exposure to excessive noise, and to protect the economic base of Lassen County by preventing the encroachment of incompatible land uses within areas affected by existing noise-producing uses.

Objectives: The general objectives of the Lassen County Noise Element are to:

1. Develop and adopt specific policies and an effective implementation program to abate and avoid excessive noise exposures in the county by requiring that effective noise mitigation measures be incorporated into the design of new noise-generating and new noise-sensitive land uses.

2. Provide sufficient noise exposure information so that existing and potential noise impacts may be effectively addressed in the land use planning and project review processes.
3. Protect areas within the county where the present noise environment is within acceptable limits.

Implementation

Policy 1: Noise created by locally-regulated noise sources associated with new projects or developments shall be controlled so as not to exceed the noise level standards as set forth below as measured at any affected residentially designated lands or land use situated in either the incorporated or unincorporated areas. New residential development shall not be allowed where the ambient noise level due to locally-regulated noise sources will exceed the noise level standards as set forth in Table 4-8. These standards do not apply to residential units established in conjunction with industrial or commercial uses.

Policy 2: The compatibility of proposed projects with existing and future noise levels due to traffic on public roadways, railroad line operations, and aircraft in flight shall be evaluated by comparison to the current site layout.

Policy 3: Areas within Lassen County shall be defined as noise-impacted if exposed to existing or projected exterior noise levels exceeding either 60 dB Ldn/CNEL or the performance standards summarized in Table 4-8 of this report.

Policy 8: Noise produced by industrial uses shall not exceed 70 dB Ldn at the nearest property line.

Table 4-8
LASSEN COUNTY GENERAL PLAN NOISE LEVEL PERFORMANCE STANDARDS FOR NEW PROJECTS AND DEVELOPMENTS

Category	Cumulative No. of Minutes in Any 1-Hr Time Period	Exterior Noise Level Standard, dBA		
		Interpretation	Daytime (7am-10pm)	Nighttime (7am-10pm)
1	30	L50	50	40
2	15	L25	55	45
3	5	L8	60	50
4	1	L1.5	65	55
5	0	Lmax	70	60

Note: Each of the noise level standards specified above shall be reduced by 5 dBA for simple tone noise sources, noises consisting primarily of speech or music, or for recurring impulsive noises

California Environmental Quality Act (CEQA) guidelines define a significant impact of a Project if it "increases substantially the ambient noise levels for adjoining areas."

The information summarized in Table 4-9 is based upon recommendations made in August 1992 by the Federal Interagency Committee on Noise (FICON) to provide guidance in the

assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been asserted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the Ldn.

Based upon the Table 4-9 criteria, an increase in the traffic noise level of 1.5 dB or more would be significant where the ambient noise level exceeds 65 dB Ldn. The rationale for the Table 4-9 criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause significant annoyance.

Table 4-9
DETERMINATION OF A SIGNIFICANT INCREASE IN NOISE LEVELS

Ambient Noise Level Without Project, Ldn/CNEL	Increase Required for Significant Impact
<60 dBA	+ 5.0 dB or more
60-65 dBA	+ 3.0 dB or more
>65 dBA0	+1.5 dB or more

Source: FICON, August 1992

There are no federal, state, or local regulatory standards for ground-borne vibration. However, various criteria have been established to assist in the evaluation of vibration impacts.

Caltrans has developed criteria for human and structural response to vibrational levels. The Caltrans vibration damage threshold for historic and some old buildings is 0.5 in/sec ppv for transient sources and 0.25 in/sec ppv for continuous or frequent intermittent sources. For older residential structures the vibration limit is 0.5 in/sec ppv for transient sources and 0.30 in/sec ppv for continuous or frequent intermittent sources. The acceptable vibration limits for new residential structures is 1 in/sec ppv for transient sources and 0.5 in/sec ppv for continuous or frequent intermittent sources (Caltrans 2013).

The level at which vibration becomes strongly perceptible to humans is 0.1 in/sec ppv for steady state vibrations. Continuous vibrations from traffic becomes readily perceptible at 0.08 in/sec ppv and begins to annoy at 0.1 in/sec ppv. Transient vibration becomes distinctly perceptible to humans at 0.24 in/sec ppv (Caltrans, 2013).

4.9.3 Previous CEQA Review

4.9.3.1 1981 EIR

Noise impacts of the initial mining operation at the site (excavation, crushing, stockpiling and hauling of materials as well as the operation of asphalt concrete batch plant) were analyzed in the 1981 EIR. The EIR determined that although mitigation measures will be applied to reduce noise levels within the Project area and must be within OSHA regulations for the protection of employees, noise and emission sources not previously existent will be present if operations are commenced. This impact is listed under significant environmental effects which cannot be

avoided in the EIR. Noise generated by the many moving components of crushers and hot plants when in operation cannot exceed 90 db (decibel) level at the property lines in accordance with Federal Regulations.

The following mitigation measures were contained in the 1981 EIR to address noise from the plant:

- General plant noise can be further reduced through application of various corrective measures. Keeping components in good repair and property adjustment, application of noise absorption materials, enclosure of known sources with noise barrier covers, use of exhaust mufflers, vibration isolation mounts, and proper lubrication are among many possible methods of reducing noise within the plants.

4.9.3.2 1997 EIR

Noise impacts of the currently permitted operation were evaluated in the 1997 EIR. The 1997 EIR determined that increased noise related to site operations in the immediate vicinity were less than significant. The 1997 EIR also determined noise from truck traffic was less than significant. Although noise impacts were determined to be less than significant, the following mitigation measure for noise was included in the 1997EIR:

- *At the operator's expense, project noise levels next to equipment and at property lines adjacent to residentially zoned parcels shall be monitored at the request of the lead agency by a qualified acoustical analyst with reports to the Community Development Department to ensure that County and federal noise standards are not exceeded. If noise standards are exceeded, the applicant shall take corrective action under the direction of the Lassen County community Development Department.*

4.9.4 Thresholds of Significance

Significant impacts that could occur were determined from CEQA Guidelines. These guidelines provide guidance in defining significant noise impacts. Based on this guidance, the Project may be deemed to have a significant impact on noise if it will:

- Result in exposure of persons to or generation of noise levels in excess of standards established in the Lassen County General Plan. Specifically, exterior noise levels exceeding 60 dBA Ldn, or the performance standards contained in Table 4-9.
- Result in the exposure or persons to or generation of excessive ground borne vibration or ground borne noise levels. Specifically, a threshold of 0.1 in/sec p.p.v. is considered a safe criterion that would protect against architectural or structural damage and human annoyance
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, as defined by the FICON criteria contained in Table 4-9.
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project, as defined by the FICON criteria contained in Table 4-9.

- 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, where the project would expose people residing or working in the area to excessive noise levels.
- For a project within the vicinity of a private airstrip, where the project would expose people residing or working in the project area to excessive noise levels.

4.9.5 Impact Analysis

The noise impacts of the existing operation at the Project site have been analyzed in previous EIRs. In the initial study for the project, the County determined the project would have no impact related to aircraft noise from public airports or private airstrips since the project is not located near a public airport or private airstrip. The potential for Project operations to result in noise impacts are expected to be due to the extended hours of operations of the onsite plant activities, and the additional material haul trucks on the local roadway system during nighttime operations. The potential noise impacts of the project are discussed below.

Impact 4.9.5.1 Result in exposure of persons to or generation of noise levels in excess of standards established in the Lassen County General Plan

(a) Materials Facility Extended Hours of Operations

The Project includes extended hours of operations. Current permitted hours of operation are 6:00 a.m. to 7:00 p.m. During the extended hours of operations, the asphalt batch plant, cement batch plant and crushing operations are expected to occur. The sand plant will not operate during the extended hours of operations. Based upon the measured background noise levels at Site B, it is expected that the on-site activities, which include the batch plants and crushing operations, will result in hourly noise levels equal to, or less than, 45 dBA L50. As stated earlier, the primary increase in L50 values occurred between 6:00 a.m. and 8:00 a.m. during the start-up operations. Once operations occur, they are generally in the mid 30 dBA L50 range.

Based upon the analysis, the nighttime noise levels could exceed the Lassen County nighttime noise level criteria of 40 dBA L50, if start-up operations occur during the nighttime hours of 10:00 p.m. to 7:00 a.m., resulting in a potentially significant impact.

(b) Materials Haul Truck Operations

To describe project impact noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was once again used. The model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly Leq values for free-flowing traffic conditions. Traffic volumes for existing conditions were obtained from the project traffic consultant. The analysis contained in Table 4-10 includes the Existing plus Project overall 24-hour Ldn, the daytime peak hour, and the nighttime peak hour. Existing plus Project traffic noise levels are summarized in Table 4-10. Appendix C of the Noise Analysis shows the inputs to the FHWA Model.

As stated earlier in this report, the traffic noise analysis contains the following assumptions:

- Baseline traffic includes an average of 16 one way truck trips per day, which are evenly distributed from 6:00 a.m. to 7:00 p.m.;
- Truck trips during peak conditions (Plus Project) includes a maximum of 358 one-way truck trips (358 arriving and 358 departing) per day, which are evenly distributed over a 24-hour period;
- The distribution of truck trips on a typical day (Existing) includes 40 percent traveling east on Center Road, and 60 percent traveling west on Center Road;
- Under Project conditions, there is no change to the existing truck trips (16 arriving and 16 departing);
- Under Project conditions, and during nighttime operations, all nighttime truck traffic will be required to turn west on Center Road from Ward Lake Road.

The predicted existing plus project traffic noise levels for the Project are included in Table 4-10. The predicted traffic volumes are estimated for the maximum traffic that could be allowed by the project (350 arriving and 350 departing trucks occurring over a 24-hour period). It is important to note that the maximum of 350 one-way truck trips (350 arriving and 350 departing) generated by the project will only occur during peak operational periods. The operator receives approximately 2 to 4 roadway construction jobs each year that require a high numbers of truck trips. From 2014 through 2018 the number of days each year with more than 100 one-way truck trips (100 arriving and 100 departing) ranged from 0 to 20. The operator anticipates 24-hour operations for a maximum of approximately 20 to 40 days per year. This analysis includes noise estimates of the worst-case scenario traffic noise that could be generated by the project. Most operating days, the average number of trucks will be closer to the baseline average of 16 one-way truck trips (16 arriving and 16 departing) per day.

Table 4-10
PREDICTED EXISTING + PROJECT TRAFFIC NOISE LEVELS

Roadway	Location	Traffic Noise Level @ 75'*	Distance to Noise Contours	
			55 dBA	60 dBA
Traffic Noise Levels (24-hour Ldn)				
Ward Lake Road	Entire Length	63.6 dBA Ldn	280-feet	130-feet
Center Road (A27)	West of Ward Lake	63.1 dBA Ldn	261-feet	121-feet
Center Road (A27)	East of Ward Lake	54.9 dBA Ldn	74-feet	35-feet
Center Road (A27)	East of Cutoff Road	54.7 dBA Ldn	72-feet	33-feet
Traffic Noise Levels (Peak Hour Daytime Leq)				
Ward Lake Road	Entire Length	57.3 dBA Leq	107-feet	50-feet
Center Road (A27)	West of Ward Lake	57.1 dBA Leq	103-feet	48-feet
Center Road (A27)	East of Ward Lake	54.4 dBA Leq	68-feet	32-feet
Center Road (A27)	East of Cutoff Road	54.2 dBA Leq	67-feet	31-feet
Traffic Noise Levels (Peak Hour Nighttime Leq)				
Ward Lake Road	Entire Length	57.3 dBA Leq	106-feet	49-feet
Center Road (A27)	West of Ward Lake	58.3 dBA Leq	125-feet	58-feet
Center Road (A27)	East of Ward Lake	46.2 dBA Leq	19-feet	9-feet
Center Road (A27)	East of Cutoff Road	43.3 dBA Leq	12-feet	6-feet

Sources: j.c. brennan & associates, Inc. and FHWA RD-77-108
*- Roadway noise levels are calculated from the roadway centerline

Based upon the information in Table 4-10, the Project will exceed the 60 dBA Ldn noise level standard along Ward Lake Road, and a portion of Center Road (A27), west of Ward Lake Road under worst-case operating conditions. As shown in Table 4-10, noise levels at a distance of 75 feet from the road centerline will be 63.6 dBA Ldn along Ward Lake Road and 63.1 dBA Ldn on Center Road west of Ward Lake Road.

Impact 4.9.5.2 Result in the exposure or persons to or generation of excessive ground borne vibration or ground borne noise levels

The project will not introduce any new equipment or processes to the project site that will increase the levels of vibration or ground born noise levels generated by current onsite operations. Blasting is not proposed at night during 24 hour operations, and the operator will continue to comply with the operational conditions contained in Resolution No. 97-067 stating no explosives shall be detonated between the hours of 6:00 p.m. and 7:00 a.m.

The project would result in an increase in truck traffic on roadways during nighttime hours. Loaded trucks can produce vibration levels of 0.076 in/sec ppv at a distance of 25 feet (FTA, 2006). Vibrations produced by loaded trucks on the area roadways will not exceed the 0.1 in/sec ppv threshold at which vibration becomes annoying or levels that could cause damage to any buildings along the material haul route. Project impacts related to ground borne vibration and ground born noise levels will be less than significance.

Impact 4.9.5.3 A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project

Based upon comparison of Table 4-10 to Table 4-7, the project would result in increases in traffic noise levels between 6 dBA and 16 dBA along the Material Haul Truck routes when compared to baseline average traffic (16 arriving and 16 departing trucks per day from 6:00 a.m. to 7:00 p.m). The project would result in increases in peak hour traffic noise levels between 4 dBA and 11 dBA Leq during the daytime hours. During the nighttime hours, the peak hour traffic associated with the project would increase the nighttime peak hour noise level along Ward Lake Road by approximately 12 dBA Leq.

During the nighttime hours, the peak hour traffic associated with the project would increase the nighttime peak hour noise level along Center Road (West of Ward Lake Road) by approximately 10 dBA Leq compared to average baseline traffic volumes. Peak hour traffic noise during the nighttime hours would decrease along Center Road (East of Ward Lake Road). This is due to the fact that no truck traffic would occur along this section of roadway between the 6:00 a.m. and 7:00 a.m. hour, which is considered to be a nighttime hour.

When compared to baseline operational peak traffic conditions that currently occur periodically at the project site (358 arriving and 358 departing trucks occurring from 6:00 a.m. to 7:00 p.m.), the maximum traffic noise levels that could be generated by the Project will increase traffic noise levels between 0 to 5 dBA Ldn along the Material Haul Truck routes.

The project will result in decreases in peak hour traffic noise levels between 2 dBA and 3 dBA leq during the daytime hours from existing peak traffic noise levels. This is due to the fact that

the 358 one-way truck trips (358 arriving and 358 departing) will be distributed throughout a 24-hour day instead of occurring between 6:00 a.m and 7:00 p.m. During the nighttime hours, the peak hour traffic associated with the Project will increase the nighttime peak hour noise level along Ward Lake Road by approximately 12 dBA Leq.

The Project will result in traffic noise increases greater than 5 dB along the Material Haul Routes. The increases in traffic noise levels under peak operations will exceed the acceptable increases in traffic noise as contained in Table 4-9, resulting in a significant impact.

Impact 4.9.5.4 A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project

The traffic impacts associated with the Project could be considered to be permanent or periodic (see impact discussion 4.9.5.3). Increases in traffic noise levels would exceed the FICON criteria contained in Table 4-9 and result in a significant increase in noise levels in the Project vicinity above those existing without the Project, resulting in a significant impact.

4.9.6 Mitigation Measures

The following mitigation measures are proposed for the significant Project impacts:

Impact 4.9.5.1 Result in exposure of persons to or generation of noise levels in excess of standards established in the Lassen County General Plan.

1. The operator shall restrict the start-up operations to between the hours of 7:00 a.m. to 10:00 p.m.
2. No use of "jake" brakes leaving the Project site
3. "Reduce speed" signs will be posted by the operator for tucks on the access road and Ward Lake Road and "no use of jake brake" signs will be posted by the operator on the access road and at the Center Road (A27) and Ward Lake Road intersection
4. Reduce the number of trucks per day to 250 (125 arriving and 125 departing)

Impact 4.9.5.2 Result in the exposure or persons to or generation of excessive ground borne vibration or ground borne noise levels.

No mitigation is required

Impact 4.9.5.3 A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

See mitigation measures for Impact 4.9.5.1

Impact 4.9.5.4 A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

See mitigation measures for Impact 4.9.5.1

4.9.7 Level of Significance after Mitigation

Impact 4.9.5.1 Result in exposure of persons to or generation of noise levels in excess of standards established in the Lassen County General Plan.

Following implementation of the mitigation measures above, Project noise impacts of the material facility extended hours of operations will be reduced to less-than-significant level. If startup operations are not conducted between the hours 10:00 p.m. and 7:00 a.m., noise levels of the onsite operations will not exceed the Lassen County Noise Level Performance Standards contained in Table 4-8 at the nearest residences to the project site. Restrictions on the use of jake brakes along Ward Lake Road are included to address complaints from neighbors. The mitigation measures above will reduce the traffic noise impact of the project to comply with the 60 dB Ldn Lassen County traffic noise level standard along impacted roadways. Impacts related to on-site material facility operations will be less than significant with mitigation.

Impact 4.9.5.2 Result in the exposure or persons to or generation of excessive ground borne vibration or ground borne noise levels.

Project impacts related to ground borne vibration and ground born noise levels will be less than significant.

Impact 4.9.5.3 A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project

The implementation of the mitigation measures for Impact 4.9.5.1 will reduce traffic noise levels along area roadways to 60dB, however, reducing the number of trucks to 250 per day will still result in noise levels more than 5 dB over current traffic noise levels. Traffic will result in a significant increase in traffic noise levels under FICON criteria included in Table 4-9. The Project will result in a significant impact related to permanent increases in baseline noise levels unless overall truck traffic is reduced to 62 total truck trips per 24-hour period. Material haul truck noise impacts will be significant and unavoidable.

Impact 4.9.5.4 A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

The implementation of the mitigation measures for Impact 4.9.5.1 will reduce traffic noise levels along area roadways to 60dB, however, reducing the number of trucks to 250 per day will still result in noise levels more than 5 dB over current traffic noise levels. Traffic will result in a significant increase in traffic noise levels under FICON criteria included in Table 4-9. The Project will result in a significant impact related to temporary or periodic increases in baseline noise levels unless overall truck traffic is reduced to 62 total truck trips per 24-hour period. Material haul truck noise impacts will be significant and unavoidable.

4.10 Public Services

The County has determined that in several impact areas, including Public Services, only minor changes to the Project will occur, or only minor changes in circumstances will occur, or the new

information relating to the impact area does not change the Project under review such that new significant effects would occur or involve a substantial increase in the severity of the previously identified impacts under CEQA Section 15162.

The County determined in the Initial Study prepared for the Project that the Project will have no impact to Public Services with exception of fire protection. The Project does not include any change to the location or type of mining and does not propose expansion or relocation of the mining operation or additional employees. Therefore, the Project will not add to needed services or impact police protection, schools, parks, or other public facilities. The County determined that the addition of nighttime operations could increase the risk of onsite fires. However, this is not anticipated to affect service ratios, response times or other performance objectives for fire protection services and impacts related to fire protection were determined to be less than significant. Therefore, additional analysis beyond that contained in the EIR documents from 1981 and 1997 for currently permitted operations at the Project site is not necessary.

This section provides a brief summary of fire protection services at the Project site, summarizes the previous CEQA analyses of public services at the Project site for currently permitted operations, and includes a summary of the discussion of impacts to public services contained in the Initial Study prepared by the County for the Project.

4.10.1 Environmental Setting

Fire protection is managed by a variety of Federal, State, special districts and municipal organizations in Lassen County. These include Cal Fire, Bureau of Land Management, fire protection districts, and the United States Forest Service. Lassen County has 14 fire departments. The closest fire department to the Project site is the Standish-Litchfield Fire department, approximately 5.3 miles from the Project site.

4.10.2 Regulatory Setting

4.10.2.1 Federal

Federal Clean Water Act
The federal Clean Water Act (CWA) 33 USC§ 1251 et seq. places the primary responsibility for the control of surface water pollution and for planning the development and use of water resources with the states. Although the Act does establish certain guidelines for the states to follow in developing their programs, it also allows the EPA to withdraw control from states with inadequate implementation mechanisms (Shasta County, 2017).

4.10.2.2 State (Shasta County, 2017)

California Department of Water Resources (DWR)
DWR is responsible for the preparation of the California Water Plan and the management of State's surface water and groundwater resources. DWR also oversees the California Water Project and the regulation and protection of dams. Other DWR functions include: assisting local agencies in preparation of their Urban Water Management Plans (UWMPs) and reviewing the plans to ensure compliance with the Urban Water Management Act.

State Water Resources Control Board (SWRCB)

The State Water Resources Control Board (SWRCB) was established in 1967 to administer state water rights and water quality functions. The SWRCB and its nine Regional Water Quality Control Boards administer water rights and enforce pollution control standards throughout the state. The SWRCB is responsible for granting water rights through appropriation process following public hearings and appropriate environmental review by applicants and responsible agencies. In granting water rights permits, the SWRCB must consider all beneficial uses, including water for downstream human and environmental needs. In addition to granting water rights, the SWRCB also issues water-quality-related certification to developers of water projects under Section 401 of the Federal Clean Water Act.

California Water Code

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (California Water Code § 13000 et seq.). The Porter-Cologne Act grants the State Water Resources Control Board (SWRCB) and each of the nine RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt water quality control plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unauthorized discharges of soils, hazardous substances, sewage, and oil or petroleum product, among others.

Each RWQCB must formulate and adopt one or more water quality control plans (Basin Plan) for its region. The regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

The California Water Code also requires urban water suppliers within the state to prepare and adopt Urban Water Management Plans (UWMPs) for submission to DWR. The UWMPs, which must be filed every five years, must satisfy the requirements of the Urban Water Management Planning Act (UWMPA) of 1983, including amendments that have been made to the Act and other applicable regulations. The UWMPA requires urban water suppliers servicing more than 3,000 connections or supplying more than 3,000 acre-feet (AF) of water annually, to prepare a UWMP. The area is not under a UWMP.

Sustainable Groundwater Management Act of 2014

In 2014, California enacted the Sustainable Groundwater Management Act (SGMA; Water Code Section 10720 et seq.). SGMA, and related amendments to California law, require that all groundwater basins designated as high or medium priority in the DWR California Statewide Groundwater Elevation Monitoring (CASGEM) Program, and that are subject to critical overdraft conditions, must be managed under a new Groundwater Sustainability Plan (GSP) or a coordinated set of GSPs, by January 31, 2020. High- or medium-priority basins that are not subject to a critical overdraft must be regulated under one or more GSPs by 2022. Where GSPs are required, one or more local Groundwater Sustainability Agencies (GSAs) must be formed to

implement applicable GSPs. A GSA has the authority to require registration of groundwater wells, measure and manage extractions, require reports and assess fees, and to request revisions of basin boundaries, including establishing new subbasins. GSAs must be formed for high- and medium-priority basins by June 2017.

Each GSP must include a physical description of the covered basin, such as groundwater levels, groundwater quality, subsidence, information on groundwater-surface water interaction, data on historical and projected water demands and supplies, monitoring and management provisions, and a description of how the plan will affect other plans, including city and county general plans. As defined by the Act, "sustainable groundwater management" means that groundwater use within basins managed by a GSP will not cause any of the following "undesirable results": (a) chronic lowering of groundwater levels (not including overdraft during a drought, if a basin is otherwise managed); (b) significant and unreasonable reductions in groundwater storage; (c) significant and unreasonable seawater intrusion; (d) significant and unreasonable degradation of water quality; (e) significant and unreasonable land subsidence; and (f) surface water depletions that have significant and unreasonable adverse impacts on beneficial uses (Water Code Section 10721(w)).

California Drought Regulations

Beginning in January 2014, Governor Jerry Brown issued three Executive Orders (EOs), B-26-14, B-28-14, and B-29-15, regarding water supply, water demand, and water use within the State during severe drought conditions. EO B-29-15, issued April 1, 2015, sets limitations not only for existing land uses and water supply systems, but also for new construction. Some of these restrictions include:

- The Water Board shall prohibit irrigation with potable water of ornamental turf on public street medians. (EO B-29-15, Save Water, Action #6)
- The Water Board shall prohibit irrigation with potable water outside of newly constructed homes and buildings that is not delivered by drip or microspray systems. (EO B-29-15, Save Water, Action #7)
- The California Energy Commission (CEC) shall adopt emergency regulations establishing standards that improve the efficiency of water appliances, including toilets, urinals, and faucets available for sale and installation in new and existing buildings. (EO B-29-15, Increase Enforcement Against Water Waste, Action #16)

On May 9, 2016, Governor Brown issued EO B-37-16, which upheld the previous EOs, and directs local agencies to provide new permanent water use targets for each urban water supplier and concrete improvements to drought preparedness. Local agencies are required to publicly disclose the projections and calculations used to determine their conservation standards, and to continue monthly water conservation reporting. EO B-37-16 calls for wise water use and less water waste to become permanent changes to prepare for more frequent and persistent periods of limited water supply.

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989, or Assembly Bill (AB) 939, established the Integrated Waste Management Board, required the implementation of integrated

waste management plans, and mandated that local jurisdictions divert at least 50 percent of all solid waste generated (from 1990 levels), beginning January 1, 2000, and divert at least 75 percent by 2010. Projects that would have an adverse effect on waste diversion goals are required to include waste diversion mitigation measures to assist in reducing these impacts to less-than-significant levels. With the passage of Senate Bill (SB) 1016 (the Per Capita Disposal Measurement System) in 2006, only per capita disposal rates are measured to determine if a jurisdiction's efforts are meeting the intent of AB 939.

In response to reducing commercial solid waste that is landfilled, the State Legislature passed AB 341 declaring that it is the policy goal of the state that not less than 75 percent of solid waste generated be source-separated, reduced, recycled, or composted by the year 2020. AB 341 sets forth the requirements of the statewide mandatory commercial recycling program which defines that a business, including any commercial or public entity, generating four cubic yards or more of commercial solid waste per week, is required to recycle. Businesses are required to take one or any combination of the following actions in order to reuse, recycle, or otherwise divert solid waste from disposal:

- Subscribe to a source-separated recycling service with a regional franchise hauler authorized to provide service for the area in which the business is located;
- Subscribe to a mixed solid waste recycling service with a regional franchise hauler authorized to provide service for the area in which the business is located;
- Self-recycle and certify compliance.

Additionally, AB 1826, created to drive the recycling of yard trimmings and food scraps, became effective April 2016. The bill requires businesses generating a specified amount of organic solid waste per week to arrange for recycling for that material. This bill will also require the contract or work agreement between a business and a gardening or landscaping service to require the organic waste generated by those services to comply with the requirements of the law.

California Solid Waste Reuse and Recycling Access Act

The California Solid Waste Reuse and the Recycling Access Act of 1991 (AB 1327) is codified in Public Resources Code Sections 42900-42911. As amended, AB 1327 requires each local jurisdiction to adopt an ordinance requiring commercial, industrial, or institutional building, marina, or residential buildings having five or more living units to provide an adequate storage area for the collection and removal of recyclable materials. The size of these storage areas are determined by the appropriate jurisdictions' ordinance. If no such ordinance exists in the jurisdiction, the CalRecycle model ordinance shall take effect.

California Green Building Standards Code

Beginning in January 2010, the California Building Standards Commission adopted the statewide mandatory Green Building Standards Code (hereafter the "CAL Green Code") requiring the installation of water-efficient indoor and outdoor infrastructure for all new projects after January 1, 2011. The CAL Green Code was incorporated as Part 11 into Title 24 of the California Code of Regulations, and was revised in 2013 and again in 2016 with the revisions taking effect on January 1 of the following year. However, these revisions have not had substantial implications to the water use already contemplated by the 2010 CAL Green Code. The primary impact of the 2013 update was applicability of the CAL Green Code to remodels. The focus of the 2016

update was to address changes to the MWELO in response to emergency regulations adopted during the drought.

The CAL Green Code applies to the planning, design, operation, construction, use and occupancy of every newly constructed or remodeled building or structure. The proposed project must satisfy the indoor water use infrastructure standards necessary to meet the CAL Green Code as well as the outdoor requirements described by MWELO. The proposed project will satisfy these indoor requirements through the use of appliances and fixtures such as high-efficiency toilets, faucet aerators, on-demand water heaters, or other fixtures, as well as Energy Star and California Energy Commission-approved appliances.

State CEQA Guidelines - Appendix F

In order to assure that energy implications are considered in project decisions, the California Environmental Quality Act (CEQA) requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy (see Public Resources Code §21100(b)(3)). Energy conservation implies that a project's cost effectiveness be reviewed not only in dollars, but also in terms of energy requirements. Potentially significant energy implications of a project shall be considered in an EIR to the extent relevant and applicable to the project. Refer to Section 4.13, Energy, of this EIR for an evaluation of the proposed project's energy demands.

4.10.2.2 Local

Standish-Litchfield Area Plan and Lassen County General Plan

The Lassen County General Plan contains policies regarding septic systems, wastewater treatment, and solid waste. These policies are intended to provide guidance on operating and maintaining public utilities and service systems so as to ensure adequate water supply and prevent contamination of water resources from wastewater treatment systems, septic systems, and waste disposal sites. The plans also generally address fire suppression and protection of citizens.

4.10.3 Previous CEQA Review

4.10.3.1 1981 EIR

The 1981 EIR does not contain an analysis of impacts to public services, with exception of impacts to public roads. A summary of the traffic and transportation impacts and mitigation measures included in the 1981 EIR are included in Section 4.6.2.1 of this DSEIR.

4.10.3.2 1997 EIR

The 1997 EIR does not contain an analysis of impacts to public services. The Initial Study prepared for the project in 1996 determined that the project would not result in the need for new systems, nor substantial alteration to any utilities.

4.10.4 Thresholds of Significance

Significant public service impacts that could occur were determined from the 2018 CEQA Guidelines. These guidelines provide guidance in public service impacts. Based on this guidance, a project may be deemed to have a significant impact to public services if it will:

> 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 following public services:
>
> Fire Protection
> Police Protection
> Schools
> Parks
> Other Public Facilities

4.10.5 Impact Analysis

As discussed above, the County determined in the Initial Study prepared for the Project (included in Appendix A) that the Project will have no impact related to the need for new or physically altered governmental facilities related to police protection, schools, parks or other public facilities. The County determined that the Project could result in changes related to fire protection services at the site; however impacts would be less than significant. The discussion included in the Initial Study related to fire protection services is included below.

Impact 4.10.5.1 Result in the Need for New or Physically Altered Facilities related to Fire Protection

The addition of nighttime operations could increase the risk of onsite fires, but this is not anticipated to affect service ratios, response times or other performance objectives for fire protection services. As such, this impact is considered less than significant.

4.10.6 Mitigation Measures

Impact 4.10.5.1 Result in the Need for New or Physically Altered Facilities related to Fire Protection.

No mitigation measures are necessary.

4.10.7 Level of Significance after Mitigation

Impact 4.10.5.1 Result in the Need for New or Physically Altered Facilities related to Fire Protection.

The public service impacts associated with the Project will be less than significant.

4.11 Transportation and Traffic

The County has determined that extending the life of the mining operations and allowing for nighttime operations at the facility are substantial changes proposed in the Project that will require major revisions of the previous EIR due to the involvement of potentially new significant environmental effects pertaining to Traffic and Transportation which could lead to a substantial increase in the severity of previously identified significant effects under CEQA Guidelines Section 15162.

The Project will result in the addition of nighttime traffic during 24-hour operations. This section provides a description of existing traffic volumes and Project-area roadways and summarizes the previous CEQA analyses of traffic impacts in the Project area for the currently permitted operation. This section also includes Project-related transportation and traffic impacts and recommended mitigation measures. The analysis is based on information contained in the *Hat Creek Materials Facility Updated Traffic Study* prepared for the Project by Solaegui Engineers, LTD in May 2018 and updated February 2019. The Traffic Studies are included in Appendix I.

4.11.1 Environmental Setting

The Project site and nearby roads are shown on Figure 4-12. The Project site is located east of Ward Lake Road, north of Center Road (A27). The Project site is accessed by Ward Lake Road. Descriptions of roadways and intersections in the Project vicinity as described in the traffic study prepared for the Project (Solaegui Engineers, Ltd, 2018) are included below. Existing traffic volumes for each road are included on Figure 4-12. The existing peak-hour traffic volumes at the intersections were obtained from manual traffic counts conducted by Solaegui Engineers in April 2018. The existing daily traffic volumes were estimated by applying a 10 percent peak-hour factor to the p.m. peak-hour roadway volumes. (see traffic study)

Center Road (A27) is a rural, two-lane roadway with one through lane in each direction in the vicinity of the site. The speed limit is posted for 35 miles per hour generally east of Ward Lake Road, 45 miles per hour west of Ward Lake Road, and 55 miles per hour farther west. Roadway improvements generally include paved shoulders with solid white edge lines and a striped centerline. Existing estimate traffic volumes on Center Road (A27) are 1,250 vehicles west of Ward Lake Road and 566 vehicles east of Ward Lake Road. On Center Road, between Cutoff Road and US-395, existing daily traffic is 506 vehicles.

Ward Lake Road (A27) is a rural, two-lane roadway with one through lane in each direction north of Center Road (A27). The speed limit is not posted. Roadway improvements generally include paved travel lanes with a striped centerline. The estimated existing daily traffic volumes on Ward Lake Road is 896 vehicles.

Cutoff Road is a rural, two-lane roadway with one through lane in each direction from US-395 to north of Center Road (A27). The speed limit is not posted except for a 25 mile per hour zone on a curve. Roadway improvements generally include paved travel lanes with a striped centerline. Existing daily traffic on Cutoff Road is estimated to be 120 vehicles.

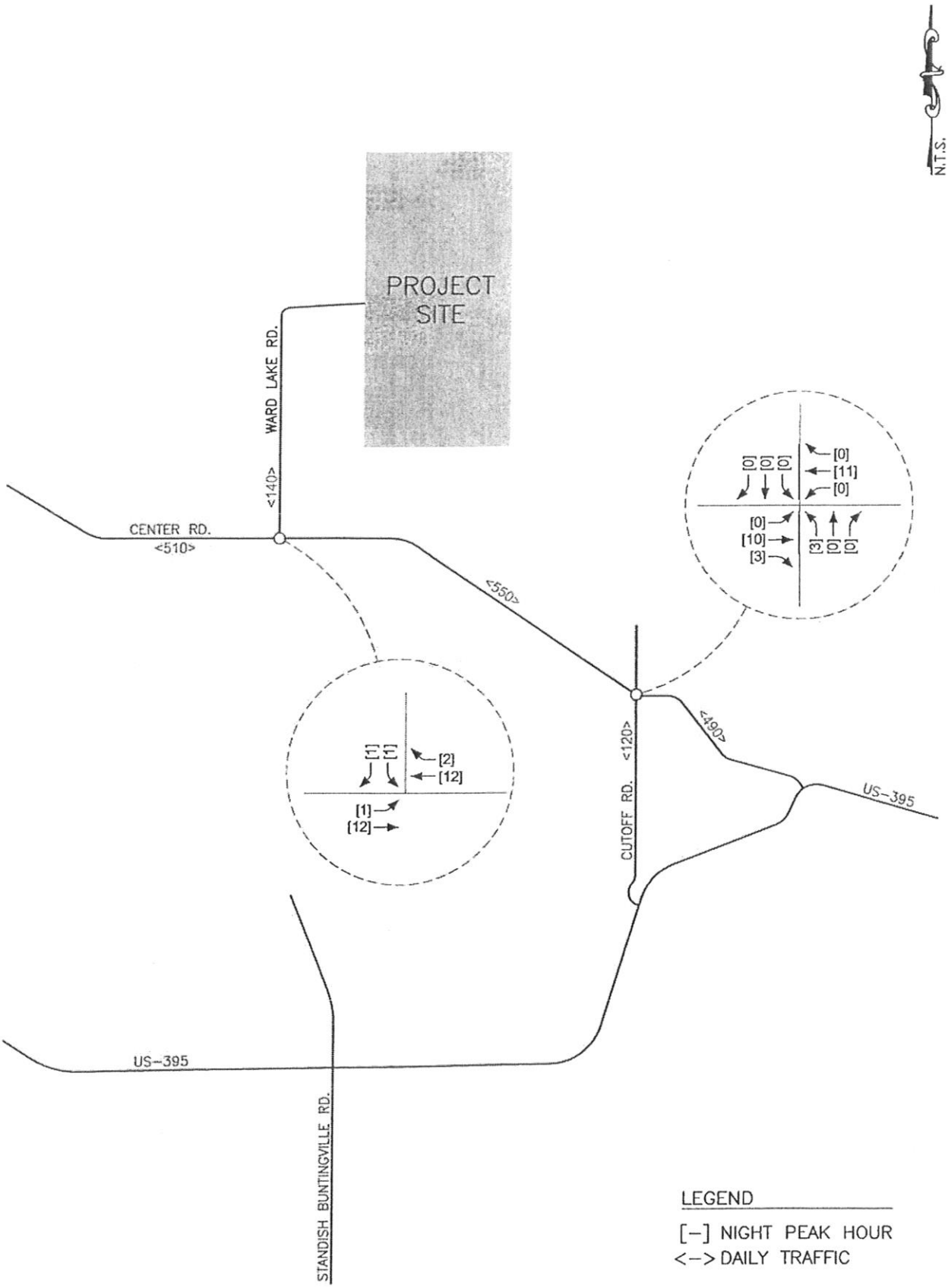


FIGURE 4-12
EXISTING TRAFFIC VOLUMES
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

VESTRA
SOURCE: SOLAEGUI ENGINEERS LTD.

P:\GIS\71305\WardLakeExpansion\Final EIR\71305_ExistingTrafficVolumes.docx

The Center Road (A27)/Ward Lake Road intersection is an unsignalized three-leg intersection with stop control at the north approach. The north approach contains one shared left turn-right turn lane. The west approach contains one shared left turn-through lane. The east approach contains one shared through-right turn lane.

The Center Road (A27)/Cutoff Road intersection is an unsignalized four-leg intersection with stop control at the north and south approaches. All approaches contain a shared left turn-through-right turn lane.

Peak traffic hours identified by Lassen County Department of Public Works staff on the Project area roadway network occur from 7:00 to 8:00 a.m., 4:00 to 5:00 p.m., and 9:00 to 10:00 p.m.

4.11.2 Regulatory Setting

Traffic analysis in the State of California is guided by policies and standards set at the State level by the Caltrans and at the local level by local jurisdictions. The Lassen County General Plan and Standish-Litchfield Area Plan provide the necessary framework to guide the growth and development of the County's transportation-related infrastructure.

4.11.2.1 State

California Department of Transportation
Caltrans policies are applicable to SR-299 and SR-44 and are summarized in the *Guide for the Preparation of Traffic Impact Studies* (December 2002). These guidelines identify when a traffic impact study is required, what should be included in the study, analysis scenarios, and guidance on acceptable analysis methodologies. Caltrans endeavors to maintain a target service level of between LOS C and LOS D on State highway facilities; however, this may not always be feasible and a lower service level may be acceptable.

4.11.2.2 Local

The General Plan Circulation Element contains the following policies related to circulation that are applicable to the Project:

Policy
CE-6: The County shall review and, when warranted, formulate improved standards for the necessary improvement and maintenance of roads serving new development, including standards for the incremental improvement or development of public roads.

CE-10: In consideration of proposed projects which would generate a substantial number of large trucks carrying heavy loads, the County shall require special mitigation measures to ensure that those projects do not cause, or will adequately mitigate, significant deterioration of County roads.

> Implementation measure CE-E: Pursuant to impacts evaluated in an environmental impact report or other form of project review, the County may require mitigation measures which will ensure that project developers adequately and fairly compensate or

participate with the County in the necessary upgrading and/or repair of the affected roads.

CE-12: No public highway or roadway should be allowed to fall to or exist for a substantial amount of time at or below a Level of Service rating of "E" (i.e., road at or near capacity; reduced speed; extremely difficult to maneuver; some stoppages).

The Standish-Litchfield Area Plan states the following policy and implementation items related to circulation that are applicable to the Project:

Policy
17-A: It shall be a policy of Lassen County to provide a transportation system that provides safe and efficient service for the travel needs of all citizens, the movement of goods and as a means to implement the goals and objectives of this plan.

Implementation
17.1 Rural and agricultural residential uses, other than those shown on the land use map, should not be allowed along State highways.

17.2 The County shall require applicants for new development projects to construct or upgrade the roads which will serve their projects to County standards.

17.3 Prior to the approval of all new projects, the County shall evaluate the potential effect on existing traffic patterns and shall require as a condition of approval, any improvements or in-lieu fees necessary to alleviate potential traffic congestion and/or to ensure traffic safety throughout the County.

4.11.3 Previous CEQA Review

4.11.3.1 1981 EIR

The 1981 *Environmental Impact Report for Operation of Aggregate Materials Source Operation of Rock Crushing Plant Operation of Asphalt Concrete Batch Plant (S.C.H. #80062304)* prepared for the original operation at the site analyzed traffic impacts of the initial mining operation. The 1981 EIR stated that it was impossible to accurately predict the amount of aggregates or asphaltic concrete which would be produced and hauled during an anticipated working season. The EIR described paving projects that could generate an estimated 105 truck trips per day. Traffic impacts were determined to be significant and unavoidable in the 1981 EIR.

The 1981 EIR determined that volumes on a previously "little-used" road and noise created by same cannot be eliminated or effectively reduced if the project was approved. Exposure to the increased traffic would require new awareness on the part of the occasional users of County Road 308 (Ward Lake Road); and, safety measures, including speed limitations, established to minimize the adverse effects of heavier usage.

The 1981 EIR included the following mitigation measures related to traffic:

- *Pave the access and haul roads as well as the plant site as soon as feasible to eliminate the primary complaint of dust which results when equipment and trucks operate on unpaved areas. Actual timing of paving these areas would be governed by the volume of production and hauling warranting this improvement and subject to review and recommendations of the Planning Commission.*
- *Use of water trucks on any unpaved portions of the area is anticipated; and, vehicle speed within the site controlled at 10 mph to avoid creation of unnecessary dust.*
- *Water or dust oils would be applied to County Road 308 (Ward Lake Road) by the applicant as required to alleviate dust from truck traffic and would continue until such time as paving is required.*
- *"Stop" sign would be installed at the junction of the access road with County Road 308 by the applicant and if warranted "Truck Crossing" warning sings placed along the County Road.*
- *Speed on County Road 308 from the plant access point to A-27 (Center Road) would necessarily be limited to approximately 25 MPH due to the road conditions and the short length (approximately one mile) encompassed.*
- *Trucks hauling materials would not exceed the legal load limit allowed of 80,000 lbs. gross weight.*

4.11.3.2 1997 EIR

The 1997 Ward Lake Expansion EIR prepared for the existing permitted operation determined that traffic impacts of the expansion were less than significant. The 1997 EIR analyzed the traffic impacts of approximately 26 aggregate haul per day and determined that truck volumes would have a less-than-significant traffic impact. Although the 1997 EIR found traffic impacts to be less than significant, the EIR included the following mitigation measures:

a. *Safety Measures. No measures were recommended in the 1996 Initial Environmental Study for this less than significant impact. However, the 1981 EIR recommended the use of a number of measures if they become warranted as the project progresses. The County should continue to monitor the project traffic flow for safety concerns and institute any of the following or other appropriate measures if it becomes necessary:*
    - *Installation of a "Stop" sign at the junction of the access road with County Road 308 by the applicant if warranted, "Truck Crossing" warning signs along County Road 308.*
    - *Decrease speed limits on Ward Lake Road to 25 mph due to the road conditions and the short length encompassed (approximately one mile).*
b. *Load limits. Trucks hauling materials should not exceed the legal allowable load limit of 80,000 lbs. (40 tons) gross weight.*

4.11.4 Thresholds of Significance

Significant transportation and traffic impacts that could occur were determined from CEQA Guidelines. These guidelines provide guidance in defining significant transportation and traffic impacts. Based on this guidance, a project may be deemed to have a significant impact to transportation and traffic if it will:

- 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
- 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
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks
- Substantially increase hazards due to a design feature e.g., sharp curves or dangerous intersections) or incompatible land uses (e.g., farm equipment)
- Result in inadequate emergency access
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance of safety of such facilities

4.11.5 Impact Analysis

In the Initial Study for the Project, the County determined that there would be no changes or impacts to air traffic patterns, no changes or impacts in design features, no changes in policies, plans, or programs regarding public transit, bicycle or pedestrian features, no changes or impacts to parking facilities, and no changes or impacts to rail, water, or air traffic. The baseline traffic impacts from the Project changed since the County Initial Study, and no new vehicle trips are proposed under the Project. Therefore, the Project will also have no change to emergency access.

The Project will not result in increased traffic to and from the Project site, only the transfer of traffic from daytime to nighttime use. A traffic study was prepared for the Project by Solaegui Engineers, Ltd., and was updated in February 2019. A copy of the traffic study is included as Appendix I. The study addressed the Project's impact on the adjacent street network. The traffic study analyzed impacts to Center Road (A27) and Ward Lake Road. Hat Creek Construction will not haul under the Project on Cutoff Road.

Trip Generation

The distribution of the Project traffic to the key roadways and intersections was based on existing peak hour traffic patterns and the locations of attractions and productions in the area. The daily traffic and peak hour trips were subsequently assigned to the key roadways and intersections based on the trip distribution percentages.

In order to assess the magnitude of traffic impacts of the Project's expanded operation on the adjacent street network, daily and peak-hour trip generation volumes had to be determined. The night peak hour occurring from 9:00 p.m. to 10:00 p.m. was analyzed.

The proposed night operation is to include a maximum of 358 material-hauling trucks per day, which amounts to 358 arriving trucks and 358 departing trucks per day. The daily trip generation is therefore 716 material-hauling trucks per day. These material-hauling trucks are assumed to be equally dispersed throughout an eleven-hour work period (7:00 p.m. to 6:00 a.m.) resulting in 33 trips entering and 33 trips departing during the 9:00 p.m. to 10:00 p.m. peak hour.

Additional traffic entering and departing the site includes employees. The proposed operation will include up to 20 seasonal employees resulting in daily trip generation volumes of 40 employee trips per day (20 entering and 20 exiting). The employees will enter the site before and depart the site after the 9:00 p.m. to 10:00 p.m. peak hour, so they generate no peak hour trips. The night operations will not generate supplier trucks.

Table 4-11 shows a summary of the daily traffic volumes and peak hour volumes generated by the expanded operation.

Table 4-11
TRIP GENERATION

Land Use	Daily	Night Peak Hour	
		In	Out
Material-Hauling Trucks	716	33	33
Seasonal Employees	40	0	0
Total	**756**	**33**	**33**

Figure 4-12 shows the daily trip assignment volumes on the key roadways and the peak-hour traffic at the key intersections.

Trip Distribution and Assignment

The distribution of the project traffic to the key roadways and intersections was based on estimated truck numbers. Figure 4-12 shows the updated trip distribution. The daily traffic and peak hour trips shown in Table 4-11 were subsequently assigned to the key roadways and intersections based on the trip distribution percentages. Figure 4-13 shows the updated daily trip assignment volumes on the key roadways and the peak hour traffic volumes at the key intersections.

Existing Traffic Volumes

Figure 4-12 shows the existing traffic volumes at the key intersections during the 9:00 p.m. to 10:00 p.m. peak hours. The existing a.m. and p.m. peak hour traffic volumes at the intersections were obtained from manual traffic counts conducted by Solaegui Engineers on Tuesday, April 17, 2018, and Wednesday, April 18, 2018.

Figure 4-12 also shows the existing daily traffic volumes on the adjacent roadway segments. The existing daily traffic volumes were not counted but were instead estimated by applying a 10 percent peak hour factor to the p.m. peak hour roadway volumes. The peak hour factor is the ratio of hourly traffic volume to the daily traffic volume. The daily traffic volumes on the various roadway segments were therefore calculated by dividing the peak hour link volumes by 10 percent. This method of estimating daily traffic volumes was discussed with and

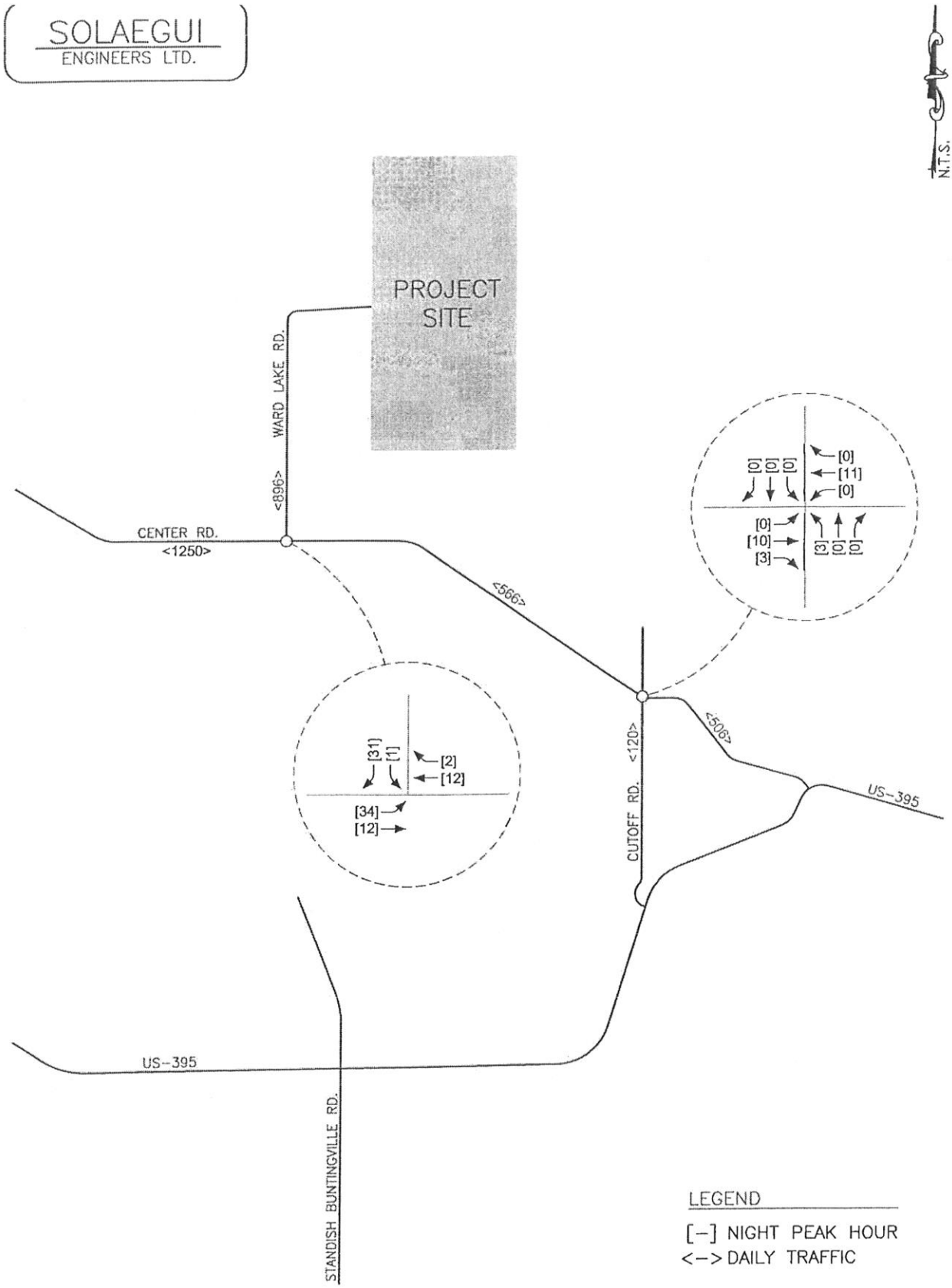


FIGURE 4-13
EXISTING PLUS PROJECT TRAFFIC VOLUMES
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

VESTRA

SOURCE: SOLAEGUI ENGINEERS LTD.

P:\GIS\71305\WardLakeExpansion\Final EIR\71305_ExistingPlusTraffic.docx

subsequently approved by Lassen County Department of Public Works staff (Bob McGarva) during the scoping of the traffic study.

The California Department of Transportation (Caltrans) publishes actual daily traffic volumes on some of their roadways. However, our research of Caltrans traffic volumes indicates that no count information is available on Center Road or Ward Lake Road. Actual traffic counts by Caltrans indicate peak hour factors of 12 to 14 percent on US-395 east of the Project site. The 10 percent peak hour factor was used to estimate average daily traffic volumes in order to ensure conservative volumes.

Figure 4-13 shows the existing-plus-Project traffic volumes at the key intersections during the 9:00 p.m. to 10:00 p.m. peak hour and the existing-plus-Project daily traffic volumes on the key roadways. The existing-plus-Project traffic volumes were obtained by adding the trip assignment volumes to the existing traffic volumes.

Intersection Capacity Analysis

The Center Road/Ward Lake Road and Center Road/Cutoff Road intersections were analyzed for capacity based on procedures presented in the *Highway Capacity Manual (6th Edition)*, prepared by the Transportation Research Board, for unsignalized intersections using the Two-Way Stop-Controlled (TWSC) Version 7.4 of the Highway Capacity software.

The result of capacity analysis is a level of service (LOS) rating for each unsignalized intersection minor movement. Level of service is a qualitative measure of traffic operating conditions where a letter grade "A" through "F," corresponding to progressively worsening traffic operation, is assigned to the intersection minor movement.

The *Highway Capacity Manual* defines level of service for stop-controlled intersections in terms of computed or measured control delay for each minor movement. Level of service is not defined for the intersection as a whole. The level of service criteria for unsignalized intersections is shown in Table 4-12.

Table 4-12
LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Level of Service	Delay Range (Sec/Veh)
A	≤ 10
B	>10 ≤ 15
C	>15 and ≤ 25
D	>25 and ≤ 36
E	>35 and ≤ 50
F	>50

Impact 4.11.5.1 Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)

No increase in total truck trips will occur as part of the project. There will be no change in existing traffic load and capacity. For the duration of 2 to 4 nighttime-required highway projects per year, the traffic volume will be redistributed to nighttime hours (7:00 p.m. to 6:00 a.m.). This redistribution will result in less daytime traffic loading. No impact to traffic load and capacity of the street system is anticipated.

Impact 4.11.5.2 Exceed, either individually or cumulatively, a level of service standard established by the County congestion management agency for designated roads or highway

The Traffic Study prepared for the Project by Solaegui Engineers, Ltd., included an analysis of intersection capacity for roads in the Project area that will be impacted by Project traffic. The Center Road (A27)/Ward Lake Road and Center Road (A27)/Cutoff Road intersections were analyzed for capacity based on procedures presented in the *Highway Capacity Manual (6th Edition)*, prepared by the Transportation Research Board, for unsignalized intersections using the latest version of the Highway Capacity software.

The result of capacity analysis is a level of service (LOS) rating for each unsignalized intersection minor movement.

The *Highway Capacity Manual* defines level of service for stop-controlled intersections in terms of computed or measured control delay for each minor movement. Level of service is not defined for the intersection as a whole. The level of service criteria for unsignalized intersections was shown in Table 4-12.

Center Road (A27)/Ward Lake Road Intersection

The Center Road (A27)/Ward Lake Road intersection was analyzed as an unsignalized, three-leg intersection with stop-sign control at the north approach for the existing and existing-plus-Project traffic volumes. The intersection minor movements currently operate at LOS A during the night peak hour. For the existing-plus-Project traffic volumes, the intersection minor movements continue to operate at LOS A during the night peak hour. The intersection was analyzed with the existing approach lanes for both scenarios.

Table 4-13 shows the level of service and delay results at the key intersections for the existing and existing-plus-Project scenarios. Capacity worksheets are included in Appendix I.

Table 4-13
INTERSECTION LEVEL OF SERVICE AND DELAY RESULTS

Intersection/Movement	Existing 9:00-10:00 PM	Existing + Project 9:00-10:00 PM
Center Road & Ward Lake Road		
Eastbound Left	A7.3	A7.8
Southbound Left-Right	A8.5	A9.0
Center Road & Cutoff Road		
Eastbound Left	A7.3	A7.3
Westbound Left	A7.3	A7.3
Northbound Left-Thru-Right	A8.7	A8.7
Southbound Left-Thru-Right	A0.0	A0.0

Center Road (A27)/Cutoff Road Intersection
The Center Road (A27)/Cutoff Road intersection was analyzed as an unsignalized, four-leg intersection with stop-sign control at the north and south approaches for the existing and existing-plus Project traffic volumes. The intersection minor movements currently operate at LOS A during the a.m., p.m., and night peak hours. For the existing-plus Project traffic volumes, the intersection minor movements continue to operate at LOS A during the night peak hours. The intersection was analyzed with the existing approach lanes for all scenarios. The intersection capacity level of service delay results are included in Table 4-13 and worksheets are included in the Traffic Study. The Project will not result in a degradation of the level of service at the Center Road (A27)/Cutoff Road Intersection. The Project will have a less-than-significant impact to the level of service at the Center Road (A27)/Cutoff Road intersection.

Impact 4.11.5.3 Need for Additional Turn Lanes

At the request of Lassen County Department of Public Works, the Traffic Study prepared for the Project also included an analysis of the need for additional turn lanes at the intersections of roads in the project vicinity.

Center Road (A27)/Ward Lake Road Intersections
The need for an exclusive eastbound left-turn lane on Center Road at the Ward Lake Road intersection was reviewed based on Table 9-23 of the AASHTO publication *A Policy on Geometric Design of Highways and Streets.* A copy of this table is included in the traffic study in Appendix I. Table 9-23 shows traffic volumes and operating speeds which may trigger the need for a left-turn lane on a two-lane highway. The traffic volumes to be considered include the advancing traffic volume (eastbound left-turn lane plus eastbound-through volumes), opposing traffic volume (westbound-through plus westbound right-turn volumes), and the percent of advancing traffic which is turning left (eastbound left-turn volume divided by the sum of the eastbound left-turn and through volumes). As shown in Table 9-23 (Appendix I), for an estimated operating speed of 50 mph on Center Road with 30 percent left turns, the volume threshold to warrant an exclusive left-turn lane would be 135 advancing vehicles and 800 opposing vehicles of 295 advancing vehicles and 100 opposing vehicles. As shown on Figure 4-13, the advancing volume amounts to 46 vehicles per hour, the opposing volume amounts to 14 vehicles per hour, and the percent of advancing traffic which is turning left is approximately 74 percent. The left-turn percentage is higher than the 30 percent maximum percentage shown in Table 9-23, but the existing-plus-Project traffic volumes are well below the AASHTO volume thresholds, and therefore an exclusive left-turn lane on Center Road is not recommended.

The need for an exclusive westbound right-turn lane on Center Road at the Ward Lake Road intersection was reviewed based on the *Caltrans Highway Design Manual.* The manual states that right-turn lanes can be justified on the basis of capacity, analysis, and frequent read-end and sideswipe crash experiences. Other factors, such as a high volume of right-turn traffic causing backup in the through lanes and pedestrian conflicts with right-turn traffic, may also contribute to the need for right-turn lanes. A copy of Section 405.3 "Right Turn Channelization" from the *Caltrans Highway Design Manual* is included in Appendix I. The *Caltrans Highway Design Manual* does not specifically identify thresholds for intersection capacity, pedestrian and bicycle counts, and right-turn volume; however, an exclusive right-turn lane is not recommended at this location based on 1) the intersection is anticipated to operate well below capacity, LOS A, as shown in

Table 4-13; 2) right-turn conflicts with pedestrians and bicycles are not anticipated due to the fact that no pedestrians or bicycles were observed at the intersection when the existing counts were performed; and 3) the projected right-turn traffic is extremely low, with only 2 vehicles during the peak hour. Traffic crash data was not made available to us at this location.

Center Lake Road/Cutoff Road Intersection
The Traffic Study did not analyze the need for an exclusive eastbound right-turn lane on Center Road (A27) at the Cutoff Road intersection since the Project developer has committed to send no trucks onto Cutoff Road. The Project will not result in the need for additional turn lanes at this intersection.

Impact 4.11.5.4 Conflict with Local Circulation Policies

The Lassen County General Plan Circulation Element and the Standish-Litchfield Area Plan Circulation Element contain goals, policies, and implementation measures related to circulation in the project area. Pursuant to CEQA Guidelines, only policies establishing measures for effectiveness for the performance of the circulation system are applicable for CEQA review.

The Lassen County General Plan 2000 Circulation Element contains the following policies applicable to the Project:

- CE-6 Policy: The county shall review and, when warranted, formulate improved standards for the necessary improvement and maintenance of roads serving new development, including standards for the incremental improvement or development of public roads.
- CE-10 Policy: In consideration of proposed projects which would generate a substantial number of large trucks carrying heavy loads, the County shall require special mitigation measures to ensure that those projects do not cause, or will adequately mitigate, significant deterioration of County roads.
- Implementation Measure CE-E: Pursuant to impacts evaluated in an environmental impact report or other form of project review, the County may require mitigation measures which will ensure that project developers adequately and fairly compensate or participate with the County in the necessary upgrading and/or repair of the affected roads.
- CE-12 Policy: No public highway or roadway should be allowed to fall to or exist for a substantial amount of time at or below a Level of Service rating of "E" (i.e., road at or near capacity; reduced speed; extremely difficult to maneuver; some stoppages).

The 1986 Standish-Litchfield Area Plan Circulation Element contains the following policies and implementation measures applicable to the Project:

- Policy 17-A: It shall be a policy of Lassen County to provide a transportation system that provides safe and efficient service for the travel needs of all citizens, the movement of goods and as a means to implement the goals and objectives of this plan.
- Implementation 17.3: Prior to the approval of all new projects, the County shall evaluate the potential effect on existing traffic patterns and shall require as a condition of

approval, any improvements or in lieu fees necessary to alleviate potential traffic congestion and/or to ensure traffic safety throughout the Planning Area.

- Implementation 17.4: The Planning Commission should determine during the public hearing process which public and private roads should be upgraded and to which standards they should be improved to.

As discussed previously, Project traffic will not degrade the level of service on any of the project roadways. The Project will have no impact the level of service at the Center Road (A27)/Ward Lake Road and Center Road (A27)/Cutoff Road intersections. Center Road (A27)/Cutoff Road will not be utilized as part of the Project for nighttime hauling. Currently, 60 percent of the total truck traffic from Ward Lake Pit turns right off of Ward Lake Road. This will become 100 percent under the Project, but will be completed during daytime, off-peak hours, thereby reducing overall peak hour impacts. Level of service at these intersections will remain at LOS A under existing-plus Project traffic conditions. In addition, no additional turn lanes were determined to be required to accommodate additional traffic generated by the Project.

The project will not result in any roadways falling at or below Level of Service rating of "E." The Project will not result in traffic congestion or impact traffic safety in the project area.

4.11.6 Mitigation Measures

Impact 4.11.5.1 Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections).

No mitigation proposed.

Impact 4.11.5.2 Exceed, either individually or cumulatively, a level of service standard established by the County congestion management agency for designated roads or highway.

No mitigation proposed.

Impact 4.11.5.3 Need for Additional Turn Lanes.

No mitigation proposed.

Impact 4.11.5.4 Conflict with Local Circulation Policies.

No mitigation proposed.

4.11.7 Level of Significance after Mitigation

Impact 4.11.5.1 Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections).

No impact.

Impact 4.11.5.2 Exceed, either individually or cumulatively, a level of service standard established by the County congestion management agency for designated roads or highway.

The impact is less than significant. No standard will be exceeded; however, there will be a slight increase in nighttime truck traffic on Center Road west of the Project site 20 to 40 days per year. The impact is less than significant.

Impact 4.11.5.3 Need for Additional Turn Lanes.

The evaluation for additional turn lanes was negative. No impact.

Impact 4.11.5.4 Conflict with Local Circulation Policies.

There will be a slight increase in nighttime truck traffic on Center Road west of the Project site 20 to 40 days per year. The impact is less than significant.

Implementation of the mitigation measure will ensure that the County has adequate funding to properly maintain pavement conditions on the County roads in the Project vicinity and will substantially reduce or lessen any traffic and transportation impacts of the project to a less-than-significant level.

4.12 Utilities and Service Systems

The County has determined that in several impact areas, including Utilities and Service Systems, only minor changes to the Project will occur, or only minor changes in circumstances will occur, or the new information relating to the impact area does not change the Project under review such that new significant effects would occur or involve a substantial increase in the severity of the previously identified impacts under CEQA Section 15162.

The County determined in the Initial Study that the Project will have no impact to utilities and service systems with exception of water use. The Project does not include any changes to wastewater at the site, or require new or expanded waste or wastewater treatment facilities. The Project does not included expanded stormwater drainage facilities. The Project does not include any changes that will affect solid waste at the site. The Project could result in a change of groundwater used for dust suppression at the Project site; however, the Project will not create a demand for water in excess of available supplies and this impact was determined to be less than significant. Therefore, additional analysis beyond that contained in the EIR documents from 1981 and 1997 for currently permitted operations at the Project site is not necessary.

This section provides a brief summary of existing water use at the Project site, summarizes the previous CEQA review of utilities and service system impacts at the Project site for current operations, and includes a summary of the discussion of impacts to utilities and services contained in the Initial Study prepared by the County for the Project.

4.12.1 Environmental Setting

Well water is used by the current operation for wet suppression of onsite dust. The applicant estimates up to 6 truckloads of water are currently used per day (4,000 gallons/load) during daytime operations with an average of 4 to 5 loads per day, and up to 4 truckloads per day during nighttime operations, with an average of 2 to 3 truckloads, amounting to approximately 38.3 acre-feet per year.

A discussion of the groundwater supply at the Project site is included in Section 4.7 (Hydrology and Water Quality) of the DSEIR.

4.12.2 Regulatory Setting

See discussion in Section 4.10.

4.12.3 Previous CEQA Review

4.12.3.1 1981 EIR

The 1981 EIR addressed the need for additional utilities at the Project site to serve the initial Miller's Custom Work, Inc., mining operation. These included the extension of power lines to the Project site, need for a well to fulfill water requirements, and need for settling and recirculation ponds. Water use requirements for aggregates were estimated to be 10,000 gallons per day, which would be less than agricultural water use at the site. No impacts or mitigation measures specifically related to Utilities and Service Systems are identified in the 1981EIR.

4.12.3.2 1997 EIR

Utility and service system impacts of the currently permitted operation were analyzed in the Public Facilities section of the 1997 EIR. The EIR determined that the currently permitted operation would not result in substantial use of energy, demand for new services, nor substantial alteration to the following utilities: power or natural gas, communication systems, water, sewer or septic tanks, stormwater drainage, and solid waste and disposal. Impacts were determined to be less than significant and no mitigation measures were included in the 1997 EIR.

4.12.4 Thresholds of Significance

Significant utilities and service systems impacts that could occur were determined from the 2018 CEQA Guidelines. These guidelines provide guidance in defining utilities and service system impacts. Based on this guidance, a project may be deemed to have a significant impact to utilities and service systems if it will:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board
- 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

- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- Have sufficient water supplies available to serve the project from existing entitlements and resources
- 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
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs
- Comply with federal, state, and local statutes and regulations related to solid waste

4.12.5 Impact Analysis

As discussed above, the County determined in the Initial Study prepared for the Project (included in Appendix A) that the Project does not include any changes that would result in impacts to utilities and service systems with exception of a potential change in groundwater use. Therefore, with the exception of water use, the Project will have no impact. The analysis of the Project impact to water supplies included in the Initial Study for the Project is included below.

Impact 4.12.5.1 Require New or Expanded Water Supply Entitlements

Well water is used by the current operation for wet suppression on onsite dust. While the amount of groundwater used by the surface mining operation may be impacted by the proposed Project amendment, the Project is not expected to create a demand for water in excess of available supplies and said impacts are expected to be less than significant (see Section 4: Hydrology and Water Quality (Section 4.7 of this DSEIR)).

4.12.6 Mitigation Measures

Impact 4.12.5.1 Require New or Expanded Water Supply Entitlements

No mitigation measures are necessary.

4.12.7 Level of Significance after Mitigation

Impact 4.12.5.1 Require New or Expanded Water Supply Entitlements

The Utility and Service System impacts associated with the Project will be less than significant.

4.13 Energy Consumption

Public Resources Code Section 21100(b)(3) and State CEQA Guidelines 15126.4 require EIRs to describe, where relevant, the wasteful, inefficient, and unnecessary consumption of energy caused by a project. In 1975, largely in response to the oil crisis of the 1970s, the California

legislature adopted Assembly Bill (AB) 1575, which created the California Energy Commission (CEC). The statutory mission of the CEC is to forecast future energy needs, license thermal power plants of 50 megawatts or larger, develop energy technologies and renewable energy resources, plan for and direct state responses to energy emergencies, and – perhaps most importantly – promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code Section 21100(b)(3) to require EIRs to consider the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F of the State CEQA Guidelines.

State CEQA Guidelines Appendix F is an advisory document that assists EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. For the reasons set forth below, this EIR concludes that the proposed project would not result in this type of energy consumption and therefore would not create a significant impact on energy resources.

4.13.1 Environmental Setting

The project currently uses generators to run the asphalt batch plant, concrete plant, and crusher onsite. This is a baseline condition and will not change.

Likewise, no change in baseline truck trips is planned, only the transfer of truck trips from daytime to nighttime hours. Energy impacts are associated with increased lighting (also run by generators) and extension of the operating life of the site by ten years.

Current vehicle fuel use was calculated under greenhouse gas emissions as 61,160 gallons per year and used the following assumptions:

Employees/day	40
Deliveries/day	10
Heavy-duty trucks/day	270

Currently, the mine consumes 998,000 gallons of diesel per year to fuel onsite generators and lighting.

The following is a description of state and local environmental laws and policies that are relevant to the CEQA review process.

4.13.2 Regulatory Setting

4.13.2.1 State

California's Energy Efficiency Standards for Residential and Non-Residential Buildings (Title 24)

Title 24, California's energy efficiency standards for residential and non-residential buildings, was established by the CEC in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption, and provide energy efficiency standards for residential and non-residential buildings. California's energy efficiency standards are updated on

an approximate three-year cycle. On January 1, 2017, the 2016 Title 24 standards became effective with more stringent requirements. The 2016 standards are expected to substantially reduce the growth in electricity and natural gas use. Additional savings result from the application of the standards on building alterations. For example, requirements for cool roofs, lighting, and air distribution ducts are expected to save additional electricity. These savings are cumulative, doubling as years go by.

California Green Building Standards

The California Green Building Standards Code (California CCR, Title 24, Part 11), commonly referred to as the CAL Green Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development. The CAL Green standards require new residential and commercial buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. CAL Green also provides voluntary tiers and measures that local governments may adopt which encourage or require additional measures in the five green building topics. The most recent update to the CAL Green Code was adopted in 2016 and went into effect January 1, 2017.

Recent CEQA Litigation

In California, Clean Energy Committee v. City of Woodland (2014) 225 Cal.App.4th 173 ("CCEC"), the Court observed that state CEQA Guidelines Appendix F lists environmental impacts and mitigation measures that an EIR may include. Potential impacts requiring EIR discussion include:

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
- The effects of the project on local and regional energy supplies and on requirements for additional capacity.
- The effects of the project on peak and base period demands for electricity and other forms of energy.
- The degree to which the project complies with existing energy standards.
- The effects of the project on energy resources.
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives (Shasta County, 2017).

4.13.3 Previous CEQA Review

Energy consumption was not directly reviewed in previous EIR documents.

4.13.4 Thresholds of Significance

In accordance with state CEQA Guidelines, the effects of a project are evaluated to determine whether they would result in a significant adverse impact on the environment. An EIR is

required to focus on these effects and offer mitigation measures to reduce or avoid any significant impacts that are identified. The criteria used to determine the significance of impacts may vary depending on the nature of the project. According to Appendix F of the state CEQA Guidelines, the proposed project would have a significant impact related to energy if it would:

- Develop land uses and patterns that cause wasteful, inefficient, and unnecessary consumption of energy or construct new or retrofitted buildings that would have excessive energy requirements for daily operation.

And requires evaluation of:

1. The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
2. The effects of the project on local and regional energy supplies and on requirements for additional capacity.
3. The effects of the project on peak and base period demands for electricity and other forms of energy.
4. The degree to which the project complies with existing energy standards.
5. The effects of the project on energy resources
6. The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives

4.13.5 Impact Analysis

Project implementation (change to nighttime operations and extension of site life) would not use fuel or energy in a wasteful manner and/or cause land use development that results in wasteful and inefficient consumption of energy.

Impact 4.13.5.1 The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials may be discussed

The use of diesel fuel for generators is an ongoing, baseline condition. Because project work during operations will be transferred from daytime to nighttime use, there will be only a slight increase in generator fuel consumption. The increase in generator use for lighting represents a small draw on generator power and will be for limited duration, two to four times per year. This is considered less than significant.

The project would not result in any unusual characteristics that would result in excessive long-term operational fuel consumption. Fuel consumption associated with vehicle trips generated by the project would not be considered inefficient, wasteful, or unnecessary; in fact, the local nature of the facility results in fewer vehicle trips for local construction projects. This is considered less-than-significant impact.

The extension of the project for a 10-year period will continue the use of diesel fuel for generators and heavy-duty trucks. All new trucks must meet new emission control guidelines. The Hat Creek Construction fleet is in change-out period for trucks. In addition, Hat Creek Construction will be making improvements to the mixes of asphalt to be more energy and resource efficient, such as using RAP in mixes.

The extension of time is not anticipated to increase the use of fuel and energy in a wasteful manner, and is considered a less-than-significant impact.

Impact 4.13.5.2 The effects of the project on local and regional energy supplies and on requirements for additional capacity

The project will not have a negative impact on local and regional energy supplies. The use of locally produced asphalt and aggregate will reduce overall energy demand due to decrease in miles from the location of final use.

Impact 4.13.5.3 The effects of the project on peak and base period demands for electricity and other forms of energy

The are no project impacts on peak and base period demand for electricity and other forms of energy.

Impact 4.13.5.4 The degree to which the project complies with existing energy demands

The project is in compliance with existing energy standards.

Impact 4.13.5.5 The effects of the project on energy resources

The project has diesel for onsite fuel. No other alternatives are available.

Impact 4.13.5.6 The projects projected transportation energy use requirements and its overall use of efficient transportation alternatives

No transportation alternatives are available for product delivery at this time. Energy use is not anticipated to increase over time.

4.13.6 Mitigation Measures

Impact 4.13.5.1 The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials may be discussed.

Impact 4.13.5.2 The effects of the project on local and regional energy supplies and on requirements for additional capacity.

Impact 4.13.5.3 The effects of the project on peak and base period demands for electricity and other forms of energy

Impact 4.13.5.4 The degree to which the project complies with existing energy demands

Impact 4.13.5.5 The effects of the project on energy resources

Impact 4.13.5.6 The projects projected transportation energy use requirements and its overall use of efficient transportation alternatives.

None required.

4.13.7 Level of Significance

Impact 4.13.5.1 The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials may be discussed.

Impact 4.13.5.2 The effects of the project on local and regional energy supplies and on requirements for additional capacity.

Impact 4.13.5.3 The effects of the project on peak and base period demands for electricity and other forms of energy

Impact 4.13.5.4 The degree to which the project complies with existing energy demands

Impact 4.13.5.5 The effects of the project on energy resources

Impact 4.13.5.6 The projects projected transportation energy use requirements and its overall use of efficient transportation alternatives.

There is less-than-significant impact.

5.0 OTHER CEQA CONSIDERATIONS

CEQA Guidelines section 15126 requires that all phases of a project must be considered when evaluating the impact on the environment: planning, acquisition, development, and operation. The growth-inducing impacts, significant and unavoidable adverse impacts, and significant irreversible environmental changes of the Project are discussed in this section. Cumulative impacts are also discussed in this section as required by CEQA Guidelines Section 15130. Significant environmental effects and the mitigation measures proposed to minimize the significant effects are included in Section 2 of the DSEIR.

5.1 Growth-Inducing Impacts

The Project will not result in any direct growth-inducing impacts. The Project consists solely of operational changes at an existing mining operation. The Project does not involve the construction of any new housing. In addition, the Project will not create a substantial new permanent employment opportunity that will encourage people to move to the area for employment or result in the construction or extension of infrastructure to areas not previously served. For these reasons, the Project will not result in substantial growth inducement.

5.2 Significant and Unavoidable Adverse Impacts

Many of the impacts of the Project will be less than significant or will be mitigated to a less than significant level with the implementation of mitigation measures. The Project impacts below will remain significant and unavoidable after mitigation.

- Aesthetics: The project will substantially degrade the existing character or quality of the site and its surrounding as well as nighttime views through project lighting. The project will also create a new source of substantial light or glare which would adversely affect day or nighttime views in the area (headlight impacts). These impacts are significant and unavoidable to residences along Ward Lake Road.
- Biological Resources: The Project will extend the life of the mine an additional 10 years. Extending the life of the mine will extend impacts to pronghorn and mule deer that have been previously determined to be significant and unavoidable for existing operations (loss of winter habitat and disturbance/displacement from onsite activities). Extending the life of the mine will also prolong the amount of time before the site can be reclaimed back to habitat for these species. Extending the life of the mine would result in significant impacts to pronghorn antelope and mule deer.
- Noise: The Project will result in a significant increase in ambient noise levels in the project vicinity above levels existing without the project during period of 24-hour operations when nighttime hauling trips occur.

The Project is proposed, notwithstanding these effects, since 24-hour material hauling is required to meet demand for some construction and roadway projects. It is not possible for trucks to use local roadways at night without headlights, and no mitigation measures are available to reduce the visibility of headlights or onsite lighting from residences on Ward Lake Road.

5.3 Significant Irreversible Environmental Changes

The Project includes operational changes to an existing mining operation. The Project will result in an increase in the volume of nighttime truck traffic. The Project includes increasing the operational period of the mine by ten years. The commitment of fuel for increased Project-related truck trips and extended use of equipment will not commit future generations to similar uses. In addition, mining operations at the site will cease at the end of the mine life in 2030, truck hauling will cease, equipment will be removed from the site, and reclamation will be completed. Fossil fuel use by the Project will end in 2030.

Irreversible damage from accidents caused by the Project is unlikely. The Project transfers the truck haul trips to and from the site to nighttime hours, which could result in increased likelihood of wildlife-vehicle collision at night, however the Project would reduce the risk of daytime wildlife-vehicle collisions. However, it is not likely the Project will result in accidents causing significant irreversible environmental damage. The Project will not result in significant irreversible environmental changes.

5.4 Cumulative Impacts

A cumulative impact is an effect on the environment which results from the incremental impact of the proposed project when combined with the effects of other past, present, and reasonably foreseeable future projects. The significance of a cumulative impact may be greater than the significance of individual effects resulting from the individual actions. This section evaluates the reasonably foreseeable potential effects of other existing activities in the area (including other planned projects) when added to the impacts of the Project.

Criteria for evaluating the significance of adverse effects are also applicable to cumulative impacts. The timing and duration of each activity is an important consideration for evaluating the potential cumulative effects of activities that occur only for a limited period. In those cases, a cumulative effect may occur only when two or more of the activities are occurring simultaneously.

The CEQA Guidelines provide that "Cumulative impacts shall be discussed when they are significant," and that "the discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence..." (Section 15130 a and b). This section considers the likelihood of such impacts and evaluates any significant effects. These effects, where they occur, are then evaluated for their impact in combination with other activities in the area for cumulative impact.

5.4.1 Other Projects in the Area

According to the County, there are currently no known projects that might result in cumulative impacts with the project aside from any previously approved permits for the pit or potential future applications for expansion of the pit or its operations.

In addition, a search of the State Clearinghouse database was conducted for projects within Lassen County and the City of Susanville. Many of the projects in Lassen County include repair or replacement of existing facilities and are short term in duration (sign placement, culvert replacement, surveys, stream restoration, etc.). These projects were not listed unless they were located within a few miles of the Project site or could increase traffic on the local roads utilized by Project traffic. The following development or longer-term projects were identified from documents received by the State Clearinghouse since August 2017.

The following projects were identified within the County:

- Use Permit #2018-009- Proposal to construct a mini-storage facility (composed of eight storage buildings totaling 21,200 square feet) over a four-phase period. The existing 10-lot R.V. park spaces at the site and related utilities will be removed during development. The project site is located approximately one mile north of Doyle along U.S. Highway 395 at 436-945 Riverview Drive, Doyle, California 96109 (address for APN 141-093-01); the other APNs do not have assigned addresses: APNs: 141-091-02, 141-091-03, 141-093-01, and 141-093-02.
- Honey Lake Wildlife Area Diversion Dam Repairs Project- The project proponent plans to stabilize eroding stream banks threatening two existing diversion dam structures on the Susan River and Fleming Creek.
- Goodfred Bridge Replacement and Roadway Rehabilitation Project- Caltrans proposes to rehabilitate an 8.6-mile stretch of SR-36 in Lassen County.
- Lassen Volcanic Park North Fork Feather River Headwaters Management Project- The Sierra Nevada Would provide funding for the Lassen Volcanic National Park North Fork Feather River Headwaters Fire Management Project, which is a landscape-scale project restoring low- to moderate-severity fire regimes to the wilderness headwaters of the North Fork of the Feather River. The Lassen National Park and the Sierra Nevada Institute for Community and Environment would implement fuel-reduction strategies in three areas of Lassen National Park around park infrastructure, inholdings, and along existing roads and trails in strategic locations across the headwaters. The proposed fuels reduction would reduce fuel accumulation, reduce the risk of high-intensity wildfire, and restore a diverse forest composition and structure over multiple years.
- Initial Study #2018-008- Placement of 12 temporary storage buildings to be displayed for offsite sale located on the frontage of U.S. Highway 395 South and Janesville Main Street in Janesville, California 96114.
- Use Permit #2017-002 HL Solar, LLC- Addition of a 2.75-meagawatt, ballasted, single-axis tracker pv solar array to a permitted (but unconstructed) 5-megawattt AC pv solar array and replace an unconstructed substation permitted at APN 119-350-77 to APN 119-350-85 on approximately 28.8 acres.
- Rezone #2018-003- Rezone 5 legal parcels and 259.02 acres of land zoned A-3 with a LUD of intensive agriculture to A02, B04, BA-2, B-9, and A-2-B-19 and change the GPD to rural residential. This project is located near Sears Road and Janesville Main Street.

- Parcel Map 2018-002 Ethridge- Divide a 20-acre parcel into parcels and rezone from A-2-B-19 to A-2-B-10. The site is located 1.25 miles west of the intersection of Wingfield Road and Janesville Main Street at 465-445 Elysian Road, Janesville, California 96114.

- Bieber Fire Station and Helitack Base Relocation Project- The goal of the Pine Creek Restoration Project is to increase the resiliency and overall function of the Pine Creek watershed by improving water quality and quantity, timing and duration of flows, and riparian condition on lands managed by the Eagle Lake Ranger District of Lassen National Forest. The project would reduce impacts from dug-out waterholes, decommissioned and unauthorized roads, and conifers that have encroached into meadows on Pine Creek and tributaries.

- Adin Maintenance Facility- Improve the maintenance crew and equipment facilities at the Adin Maintenance Station. The purpose of the project is to provide modern efficient facilities and equipment which meet operational needs and safety building codes for general safety and accessibility.

- Hog Flat Fuel Break Project- This project will be the maintenance of a 412-acre shaded fuel break adjacent to Hwy 44 in Lassen County. The project will consist of fuels reduction projects that will utilize fire-crew brush cutting, pile burning, and broadcast prescribed fire. The fuels treatment mechanism that is most favored is broadcast prescribed fire. The project will consist of a series of small, low-intensity prescribed burns conducted in cooperation with Sierra Pacific Industries and Caltrans. Individual burns will generally be single-day events and less than 50 acres in size.

- BLM Land Tenure Actions- The BLM Eagle Lake Field Office submitted a grant application to the OHMVR Division to purchase the following parcels as covered in the attached Land Tenure 2018-17 Environmental Assessment, FONSI and DR; Fort Sage Off-Highway Vehicle (OHV) Area near Doyle, California, and Herlong, California: APN Numbers 139-180-25-11, 120 Acres; 139-170-05-11, 40 acres; 139-260-25-11, 11.48 acres; and Wendel, California, within the BLM-managed lands where OHV recreation is currently occurring: APN Number 121-050-10-11, 44 Acres.

- Hamilton Branch Indian Ole Dam Leakage Repair- PG&E proposes to reconstruct the right wing wall of Indian Ole Dam, which impounds Mountain Meadows Reservoir. Seepage has been observed along the right abutment of the Dam, which PG&E proposes to repair.

- Diamond Mountain Watershed Restoration and Wildland Urban Interface- The Lassen County Fire Safe Council in partnership with the Eagle Lake Ranger District of the Lassen National Forest are proposing watershed restoration, forest health, and fuels treatments in the Diamond Mountain watershed. The Diamond Mountain Watershed Restoration and Wildland Urban Interface (WUI) Project planning area encompasses approximately 8,195 acres of National Forest System lands administered by the Eagle Lake Ranger District of the Lassen National Forest. The entire project area lies within a wildland urban interface zone, which is an area where human habitation is mixed with areas of flammable wildland vegetation.

- Lower Antelope Curve Realignment- The California Department of Transportation plans to realign a segment of State Route 139 to improve public safety and road drainage.
- South Susanville Gateway- The City of Susanville, in cooperation with the California Department of Transportation, proposes to improve pedestrian facilities from post mile 26.2 to 26.5 on State Route 36 in the City of Susanville, Lassen County, California. The purpose of the project is to improve the continuity of pedestrian access along this segment of SR-36.
- Pine Creek Restoration- The goal of the Pine Creek Restoration Project is to increase the resiliency and overall function of the Pine Creek watershed by improving water quality and quantity, timing and duration of flows, and riparian condition on lands managed by the Eagle Lake Ranger District of Lassen National Forest. The project would reduce impacts from dug-out waterholes, decommissioned and unauthorized roads and conifers that have encroached into meadows on Pine Creek and tributaries.
- Riverside Drive Storm Damage Project- The project is proponent plans to stabilize a 70-foot section of river bank on the Susan River with rip-rap and vegetation in order to protect an existing roadway from future damage. The river bank erosion threatening the road occurred during the January and February 2017 storm events.

5.4.2 Cumulative Impact Analysis

The Initial Study evaluated the impacts of the Project. The following resources were found to have no impact, and therefore are excluded from the cumulative impacts evaluation:

- Population and Housing
- Geologic Resources
- Mineral Resources
- Cultural Resources
- Recreation
- Agriculture and Forestry Resources

5.4.2.1 Aesthetics and Visual Resources

Aesthetic and visual resource impacts of the Project are limited to nighttime lighting and headlight use. The visual impacts of the quarry site itself were evaluated in the 1997 EIR prepared for currently permitted operations, and the Project does not include any changes to mining operations onsite.

The geographic scope for cumulative visual resource impacts includes the viewsheds that will be affected by the Project. These areas include the area from which nighttime lighting from the Project site is visible as well as areas adjacent to Center Road (A27) and Ward Lake Road from which nighttime traffic headlights are visible. The area from which onsite lighting from the Project is visible is shown on Figure 4-1 contained in the Aesthetics and Visual Resources section of this DSEIR.

Substantially degrade the existing visual character or quality of the site and its surroundings through project lighting and nighttime views

The aesthetic impacts of the lighting fixtures at the Project site have the potential to be cumulatively considerable when combined with the lighting from the nearby California Correctional Center. As discussed in Section 4.2 of this DSEIR, lighting from the Project site is only detectible as a dull dot on the mountainside, and not as a radiating source. Project site lighting will not combine as a radiating source with the lighting from the California Correctional Center to result in a cumulatively considerable impact.

The Project site lighting is most obvious to the residences along Ward Lake Road and will result in significant impacts to the nighttime view of Shaffer Mountain at theses residences. Mitigation measures including directing lighting internally into the site and installing fully shielded lighting fixtures are included in the DSEIR for this impact, but do not reduce the impact to a less than significant level. Additional cumulative impacts could occur if additional point sources of light were added to the side of Shaffer Mountain. There are no known future projects that would contribute additional sources of lighting on the mountainside visible from Ward Lake Road. However, since the Project-level impacts to homes on Ward Lake Road are significant and unavoidable, the cumulative impacts of the Project to nighttime views are significant as well.

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

Impacts from nighttime truck headlight use are cumulatively considerable when combined with existing and projected traffic on Ward Lake Road. There are no existing or planned future projects that would add nighttime traffic to Ward Lake Road; however, population growth in the County is anticipated to be approximately 1 percent each year (see Section 5.4.2.10). Mitigation measures in Section 4.2.5 of this DSEIR are proposed to reduce Project-level impacts related to nighttime headlight use; however, the mitigation measures will not reduce the impacts of headlight use for residences on Ward Lake Road to a less-than-significant level. When combined with non-Project traffic on the Project-area roadways as well as increased traffic (although minor) related to population growth, the impacts related to headlights will be cumulatively significant and unavoidable.

5.4.2.2 Air Quality

The geographic context for cumulative air quality impacts for the Project includes the immediate area surrounding the Project site as well as the Northeast Plateau Air Basin. Pollutant impacts are cumulatively considerable when considered with other projects in the air basin and impacts related to toxic air contaminants are cumulatively significant considered with any project requiring the combustion of diesel fuel in the immediate project vicinity.

Cumulative Exposure of Sensitive Receptors to Substantial Concentrations of Toxic Air Contaminants.

The only known current or future project within the vicinity of the proposed Project that could combine with the Project-related diesel particulate matter emissions to result in a cumulatively significant impact is a smaller aggregate mine located adjacent to and south of the site on Bureau of Land Management (BLM) administered land. As discussed in the Health Risk Assessment

prepared for the Project, the majority of any health impacts from mine operations are due to the operation of generators as haul truck emissions occur over the length of a haul route and are not near receptors for much duration. The adjacent mine does not have any concrete or asphalt plants or associated generators that would generate diesel particulate matter. The adjacent mine does not have any generators, therefore cumulative impacts related to toxic air contaminants are anticipated to be less than significant.

5.4.2.3 Biological Resources

The geographic context for cumulative biological resource impacts is both regional and local. The geographic context includes the area immediately surrounding the project site for light and noise impacts as well as areas surrounding the local roadways used by Project-related traffic. The geographic context for cumulative impacts to pronghorn and mule deer includes the CDFW-designated critical winter-range habitat for mule deer and winter-range habitat for pronghorn antelope. As stated previously there are no known current or future projects identified in the area by the County.

Cumulative 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 DFG or U.S. Fish and Wildlife Service (USFWS)

As discussed in Section 4.4 of the DSEIR, the Project-level impacts of onsite nighttime operations and traffic from the project were determined to have a less-than-significant impact on any special-status species in the project area. Impacts of the project to special status species are not cumulatively considerable. There are no current or future known projects requiring nighttime operations in the County that would combine with the project to result in cumulatively significant impacts to special status species.

Cumulative impacts related to the substantial interference 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; specifically nighttime operations to Pronghorn antelope, mule deer and nocturnal foragers.

Additional Noise and Light Levels

Project-level impacts of additional noise and light levels generated by nighttime operations to pronghorn and mule deer were determined to be less than significant with mitigation. Mitigation measures are included in Section 4.4.6 to ensure continued seasonal operating restrictions and limited 24-hour operations from January 1 to March 31. The operating restrictions include no grading, excavating, or blasting on the site between January 1 and March 31 annually except in a state of emerge as declared by the local Emergency Services Director and/or the Board of Supervisors and/or the City of Susanville. An additional mitigation measures prohibits nighttime operations (7:00 p.m. to 6:00 a.m.) during the period of January 1 to March 31. Additional mitigations include downward facing, fully-shielded lighting fixtures, noise reduction barriers and no "jake brake" usage. These mitigation measures will reduce the impacts of the Project to pronghorn and mule deer to be less than significant.

There are known current or future projects that will result in increased noise levels or lighting in the Project area. The impacts of the project are not cumulatively considerable with

implementation of the mitigation measures contained in section 4.4.6 of the DSEIR and will not result in a cumulative impact related to increased noise levels or lighting in the Project area.

Extending Site Life

Project-level impacts related to extending the life of the mine an additional 10 years were determined to be significant and unavoidable. The project would not result in any additional impacts to pronghorn or mule deer; however, it would extend impacts that have been determined to be significant and unavoidable in previous environmental documents prepared for operations at the project site. Extending the life of the mine would also prolong the amount of time before the site can be reclaimed back to habitat for these species.

The project impacts would be cumulatively considerable with other projects impacting winter habitat for pronghorn and mule deer. Although there are currently no known current or future projects in the County that will result in impacts to pronghorn or mule deer habitat, the extended impacts to this species will combine with any future projects resulting in a cumulative impact. The project will result in a significant cumulative impact to pronghorn and mule deer habitat.

Increased Traffic Impacts to Wildlife

The project will result in potentially significant impacts to species due to potential increased vehicle mortality that could occur during increases in nighttime traffic volumes on existing roadway during 24-hour operations. Nighttime traffic could increase mortality on roadway for species including mule deer and pronghorn antelope, which forage during dawn and dusk, and nocturnal foraging species, such as owls. These impacts could be cumulatively considerable when combined with traffic increases due to population growth in the County. Traffic volumes in the Project area are anticipated to increase by approximately 1 percent each year through the year 2030 due population growth in the County (see section 5.4.2.)

Mitigation measures contained in Section 4.4.6 of the DSEIR including wildlife crossing signage on roadways, reduced traffic speed on Ward Lake Road, and driver education are included to reduce increased project level traffic mortality impacts to wildlife to a less-than-significant level. The project-level impacts will be reduced to a less-than-significant level and will not be cumulatively considerable. The project will not result in significant cumulative traffic impacts to wildlife.

5.4.2.4 Greenhouse Gas Emissions

Generally, individual projects are insufficient by themselves to influence climate change or result in a substantial contribution to the global GHG inventory. GHG impacts are recognized as exclusively cumulative impacts. Emissions of GHGs have the potential to adversely affect the environment in a cumulative context. The emissions from a single project will not cause global climate change; however, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change. The cumulative project list for this issue (climate change) comprises anthropogenic (i.e., human-made) GHG emissions sources across the globe, and no project alone would reasonably be expected to contribute to a noticeable incremental change to the global climate. However, legislation and executive orders

on the subject of climate change in California have established a statewide context for developing an enforceable statewide cap on GHG emissions. Given the nature of environmental consequences from GHGs and global climate change, CEQA requires that lead agencies consider evaluating the cumulative impacts of GHGs, even relatively small (on a global basis) additions. Small contributions to this cumulative impact (from which significant effects are occurring and are expected to worsen over time) may be potentially considerable and therefore significant.

Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

An analysis of potential truck emissions completed by Lassen County using thresholds from the Bay Area GHG Management District resulted in values below the CEQA thresholds of significance for GHG (see initial study). The additional analysis in the DSEIR including the calculated emissions from the asphalt plant and concrete plant, support the assessment and conclusion that the Project will have a less-than-significant impact to GHG emissions, directly or indirectly, on the environment. The project will not result in a significant cumulative impact.

Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

No specific area plans or numerical threshold of significance for GHG emissions have been established by Lassen County. Therefore, the focus is whether the Project is consistent with applicable federal and state regulations and programs adopted to achieve state and regional reductions in GHG emissions. The Project is not in violation of any State or Federal standard.

The Project does not violate any state or federal plans or standards. In addition, the operation of the facility is a benefit to Lassen County in that the maintenance of roads and other infrastructure requiring the generation of asphalt pavement and concrete are necessary for support of a safe public transportation system within Lassen County. The generation of pavement material and concrete are required whether located at this facility or other facilities further away. The transportation of materials from facilities further away would result in higher emissions per ton of material produced due to the increased emission from miles traveled by truck. For these reasons, this impact is considered less than significant and no mitigation is required. The Project will not result in a cumulative impact that would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

5.4.2.5 Hazards and Hazardous Materials

The health and safety hazards posed by most hazardous materials are typically local in nature. They generally do not combine in any cumulative sense with the hazards of other projects. Possible exceptions, however, include potential transportation of hazardous materials and waste disposal. The context for the evaluation of cumulative impacts associated with operation of the Project includes projects that would increase the amount of hazardous materials used, disposed of, and transported in combination with other development in Lassen County.

Create a cumulative a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials or through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Project-level impacts related to the transport, use or disposal of hazardous materials will be less than significant and will not be cumulatively considerable. There are no projects in the county that will combine with the project to result in a cumulative impact related to hazardous materials.

Expose people or structures to a significant cumulative risk of loss, injury or death involving wildland fires.

The Project will result in no hazards and hazardous material impacts with exception of a possible change in the risk of fire starting onsite at night during 24-hour operations. Wildfire spreading is reduced at night due to increased relative humidity and decreased temperature and wind. The potential of fire to spread to the few residences in the area is low due to roads and agricultural use. Additionally, it is expected that operation will move from day to night (project specific), without additional shifts. Because the volume of mining is not increasing, but rather undergoing a change in timing, the overall risk for wildfire will not increase. The Project will not introduce new activities at the site or increase the likelihood of fires onsite. Project impacts related to wildland fires will not be cumulatively considerable, and will not contribute to cumulative impacts.

5.4.2.6 Hydrology and Water Quality

The Project will not result in any impacts to hydrology and water quality with the exception of a possible change in groundwater use resulting from 24-hour operations. The geographic context for cumulative hydrology and water quality impacts includes the entire Honey Lake Valley Groundwater Basin.

Cumulative substantial depletion of groundwater supplies or substantial interference with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

Hydrology and Water Quality impacts may have a cumulative impact when considered with all current and future projects within the same groundwater basin that may utilize groundwater. As discussed in Section 4.7 of this DSEIR, within this basin, California's *Bulletin 118* estimates the total volume of water stored in the upper 100 feet of saturated basin-fill deposits and volcanic-rock aquifers to be 10 million acre-feet. Estimates of groundwater extraction for agricultural, municipal and industrial, and environmental wetland uses are 51,000, 15,000, and 3,800 acre-feet, respectively. Deep percolation from agricultural-applied water is estimated to be 14,000 acre-feet. The Project will use a maximum of 38.3 acre-feet of water per year. There is currently no trend or pattern indicating overdraft in the basin. No additional projects that would use a substantial amount of groundwater have been identified in the County. Cumulative impacts to groundwater supplies will be less than significant.

5.4.2.7 Land Use

The geographic context for land use impacts includes the entirety of Lassen County. The Project will have no impact related to physically dividing an established community or conflict

with any applicable habitat conservation plan or natural community conservation plan. Compatibility of policies related to biological resource impacts, noise, and traffic are addressed in Sections 5.4.2.3, 5.4.2.8, and 5.4.2.10.

5.4.2.8 Noise

The geographic context for cumulative noise impacts is limited to the areas near the Project site or projects that would use the local roadways also used by Project-related traffic (Ward Lake Road, Center Road (A27), Leavitt Lake Road). For another project to contribute to a cumulative noise impact, it would need to be operational at the same time as the Project.

Result in exposure of persons to or generation of noise levels in excess of standards established in the Lassen County General Plan.

There are no known new projects in the vicinity of the Project site that could result in cumulative considerable impacts when combined with nighttime noise from equipment operation on the Project site. Mitigation measures are included in Section 4.9 to reduce Project-level noise impacts from the materials facility operations to be below Lassen County noise standards and result in a less-than-significant impact. With implementation of these mitigation measures, materials facility operation noise impacts will not be cumulatively considerable, and noise from onsite operations will not result in a cumulative noise impact.

Noise from material haul truck operations is cumulatively considerable in combination with projected traffic increases through the year 2030. With implementation of the mitigation measures contained in Section 4.9.6, the noise impacts of the project related to the exceedance of standards established in the Lassen County General Plan would be less than significant and not be cumulatively considerable. The Project would not result in a cumulative impact related to exceedance of Lassen County standards for traffic noise.

Result in the exposure or persons to or generation of excessive ground borne vibration or ground borne noise levels.

Project-level impacts related to ground borne vibration or ground borne noise levels will be less than significant. The Project does not result in the addition of any new equipment or processes to the project site that will increase vibration or ground borne noise levels, and there are no projects within the area that will include stationary sources of vibration or ground borne noise levels. Increases in vibration from truck traffic are cumulatively considerable in combination with projected traffic increases through the year 2030. However even when increased traffic volumes are considered, loaded truck pass-bys produce vibration levels below human annoyance thresholds and below levels that could result in damage to structures along area roadways. The project will not result in a significant cumulative impact related to ground borne vibration and ground borne noise levels.

Substantial permanent or temporary/ periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

The Project will result in a significant and unavoidable increase in traffic noise levels. The traffic noise increases from the Project are cumulatively considerable. Combined with additional traffic generated by population growth in the County, the Project will contribute to a significant

cumulative increase in traffic noise levels along the material haul routes. The mitigation measures for the Project-level traffic noise impacts contained in Section 4.9.6 will be implemented, but haul truck operational noise will result in a significant cumulative increase in traffic noise levels.

5.4.2.9 Public Services

The geographic context for cumulative public service impacts includes the entirety of the County. The Project would not have any public service impacts with the exception of fire protection services.

Result in the Need for New or Physically Altered Facilities related to Fire Protection

Impacts from the Project are cumulatively considerable in combination with all other current and future projects that would result in an increased demand for fire protection services. The County has not identified any cumulative projects within Lassen County. As discussed in Section 5.4.2.5, the Project will change the timing of fires onsite due to 24-hour operations but will not result in an overall increase in fire risks at the site. The Project will not result in a significant cumulative impact related to fire protection services.

5.4.2.10 Transportation and Traffic

Transportation and traffic impacts of the Project have the potential to be cumulatively considerable when considered with projected increases in traffic and population growth through the year 2030.

Projected future traffic conditions are not available for Center Road (A27) or Ward Lake Road. The *Lassen 2012 Regional Transportation Plan* contains projected future traffic conditions for highways in the County, but Center Road (A27) and Ward Lake Road were not included on the list. Traffic on highways is projected to increase between 0.7 to 3.5 percent each year. California Department of Finance estimated in 2010 that the County population will continue to grow at a rate of 11 percent every ten years, or roughly 1 percent annually through 2030 (LSC Transportation, 2012). Lassen County future population estimates contained in the Regional Transportation Plan for the non-institutionalized population is 28,116 for the year 2020 and 31,257 for the year 2030.

There are no known future projects in the vicinity of the Project site that would add substantial traffic increases to Ward Lake Road or Center Road (A27) between Levitt Lane and Highway 395. Based on the information contained in the *Lassen 2012 Regional Transportation Plan*, traffic volumes on the Project area roadways can be estimated to grow by 1 percent each year until the year 2030 due to population growth in the County.

The traffic generated from the BLM Section 4 Pit would add cumulative impacts to traffic on Ward Lake Road. The BLM Section 4 Pit is permitted for the removal of 50,000 tons annually. Assuming 22 tons per truck, this could result in an additional 2,272 trucks trips annually. Assuming a 305-day operating year, this can amount to an additional average of 7.5 one-way truck trips (7.5 arriving and 7.5 departing). These truck trips are part of the existing conditions, as the pit is currently operating.

Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to capacity ratio on roads, or congestion at intersections).

The Project impacts to the existing traffic load and capacity of the street system was determined to be less than significant. Combined with regional growth of 1 percent each year, the Project traffic is not expected to result in a significant cumulative impact to the load and capacity of the street system.

Exceed either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highway.

The project will not substantially degrade the level of service on any of the project roadways. Lassen County requires no public highway or roadway should be allowed to fall to or exist for a substantial amount of time at or below a Level of Service rating of "E" (i.e., road at or near capacity; reduced speed; extremely difficult to maneuver; some stoppages).The Project combined with a 1 percent traffic increase each year is not anticipated to degrade roadway capacity below a Level of Service of "E." The project will not result in cumulative impacts related to levels of service.

Need for Additional Turn Lanes

The Project alone will not result in a decrease in level of service at the intersections in the Project area. The Project combined with a 1 percent traffic increase each year is not anticipated to degrade intersection capacity in the Project area or result in the need for additional turn lanes. Combined with regional growth of 1 percent each year, the Project will not result in a significant cumulative impact that will result in the need for additional turn lanes on area roadways.

Cumulative Conflict with Local Circulation Policies

The project will not substantially degrade the level of service on any of the project roadways. In addition, no additional turn lanes were determined to be required for traffic generated by the Project. The Project combined with a 1 percent traffic increase each year is not anticipated to degrade roadway or intersection capacity in the Project area. The project will not result in cumulative impacts related to Local Circulation Policies.

5.4.2.11 Utilities and Service Systems

No additional utilities or service systems will be required for the Project. The Project will have no impact to utilities and service systems at the site with exception to a change in groundwater use.

Require New or Expanded Water Supply Entitlements

The geographic context for cumulative impacts related to water at the site is the Honey Lake Valley Groundwater Basin. As discussed in Section 5.4.2.6, the Project water use will not have significant impact to groundwater supplies and no new or expanded water quality entitlements will be required. Cumulative impacts to groundwater supplies will be less than significant.

5.4.2.12 Energy Consumption

The geographic context for cumulative impacts related to energy consumption is both local and regional. Cumulative projects include projects relying on the same energy sources as the Project. The Project uses fuel to operate onsite equipment and material haul trucks. There are no known future projects in the County that require significant energy or fuel demands.

All Project-level impacts related to energy conservation were determined to be less than significant.

The Project will result in only a slight increase in generator fuel consumption and represents a small draw on generator power for a limited duration each year. The Project will not result in any unusual characteristics that would result in excessive long-term operational fuel consumption. Fuel consumption associated with vehicle trips generated by the Project would not be considered inefficient, wasteful, or unnecessary; in fact, the local nature of the facility results in fewer vehicle trips for local construction projects. The extension of the Project for a 10-year period will continue the use of diesel fuel for generators and heavy-duty trucks. All new trucks must meet new emission control guidelines. The Hat Creek Construction fleet is in change-out period for trucks. In addition, Hat Creek Construction will be making improvements to the mixes of asphalt to be more energy and resource efficient, such as using RAP in mixes. The extension of time is not anticipated to increase the use of fuel and energy in a wasteful manner. The energy requirements of the Project will not have a negative impact on regional energy supplies and will not result in the need for any additional capacity. The Project will have no impacts on peak and base period demand for electrify and other forms of energy. The Project is in compliance with existing energy standards.

The energy consumption impacts of the Project are less than significant. The Project will not combine with other projects to create a significant impact on local and regional energy supplies resulting in a need of additional capacity. The Project will not combine with other projects to result in an increase on peak and base period demand for electricity and other forms of energy, or result in a significant impact on energy resources. Cumulative impacts of the Project related to energy consumption will be less than significant.

6.0 ALTERNATIVES TO THE PROPOSED PROJECT

The CEQA Guidelines require that EIRs include a comparative evaluation of alternatives to the project that are capable of feasibly attaining most of the basic objectives of the proposed project, but would avoid or substantially lessen any of the significant effects of the project. This includes an evaluation of a "reasonable range" of feasible alternatives, including the "no project" alternative.

The intent of this section is to evaluate alternatives capable of eliminating or substantially lessening significant impacts associated with the proposed Project. For this Project two alternatives are evaluated:

- No Project Alternative (which consists of operations at the site remaining as currently permitted by Use Permit 96056)
- Reduced Truck Trip Alternative

The discussions in this section identify only substantial changes in project impacts anticipated with each alternative, as compared to the proposed Project. Resource areas not impacted by the project, and those topic areas where little or no change from the impacts caused by the proposed Project is anticipated, are not discussed in detail.

Descriptions of these alternatives are described below as well as a discussion of their impacts and how they would differ from the significant impacts of the Project. In addition, a discussion of alternatives considered but rejected from further consideration and a discussion of the environmentally superior alternative are included below.

6.1 Factors in the Selection of Alternatives

CEQA Guidelines Section 15126.6 recommends that an EIR describe the rationale for selecting alternatives to be discussed. Alternatives were considered that would avoid or lessen any significant effects for the project and that could achieve most of the Project objectives. The alternative must also be feasible from an economic, environmental, legal, and technological standpoint.

6.2 Project Objectives

Materials produced at the site include asphalt, concrete, various sizes of crushed rock and crushed base rock which are used as construction materials. The materials at the site have been evaluated both an independent testing laboratory and the California Department of Transportation with test results indicating superior material not commonly found in the region. The quality of the resources and choice location to the existing and potential market aggregates and paving materials were the determining factors in choosing the site for the planned operations in 1981 (Miller's Custom Work, 1981).

The Use Permit amendment (Project) includes changes in currently permitted operations at the Project site that will allow the applicant to provide materials for emergency projects and construction projects that could require continuous 24-hour operations. To respond to emergency projects during Federal-, State-, or County-declared emergency conditions, 24-hour processing and hauling operations may be required. In addition, in order to respond to emergency projects, the annual removal volume of the mine could exceed 100,000 tons. Some projects, such as Caltrans road projects, operate during nighttime hours to avoid traffic conflicts. These projects also require material production and hauling during nighttime hours. These projects generally occur from May 1 through November 15. Hat Creek Construction estimates that they will complete two to four nighttime projects annually, for a total of 20 to 40 nighttime operational days.

In addition, the project includes extending the life of the mine by 10 years to allow increased extraction of materials from the site.

The Project applicant has identified the following objectives for the Project:

- Provide a local construction material supply to serve local and regional market demands
- Provide a local source of materials for emergency jobs (during Federal-, State-, or County-declared emergencies) and other construction jobs requiring nighttime work.
- Extend the life of the quarry to extract additional superior materials from the site

6.3 No Project Alternative

6.3.1 Description

The "no project" alternative would include the continuation of mining operations at the site as currently permitted under Use Permit 96056. Hours of mining operations would remain 6:00 a.m. to 7:00 p.m., Monday through Saturday; mining would continue until the year 2020; site production would be limited to the permitted 100,000 tons per year; and the truck distribution would remain the same as existing conditions (an average of 16 arriving and 16 departing trucks per day with a maximum of 350 arriving and 350 departing trucks during peak operations with haul trips occurring between 6:00 a.m. and 7:00 p.m.).

Under the "no project" alternative, materials for projects requiring nighttime hauling and delivery of material would be supplied by another source. In addition, the operation would only be able to supply materials to fewer/smaller projects.

6.3.2 Impacts

Under the "no project" alternative, environmental conditions at the site would remain as they currently exist. The "no project" alternative would eliminate any impacts of the proposed Project related to aesthetics, air quality, biological resources, land use, noise, and traffic and transportation in the Project area. However, under the "no project" alternative, materials for large local projects or local projects requiring 24-hour material hauling would be provided by a different source. Depending on the location of the alternate source, the "no project" alternative

could result in an increase in greenhouse gas emissions or air quality impacts since construction materials for local projects may need to be provided by sources located a greater distance from construction projects.

6.3.3 Conclusion

The "no project" alternative would eliminate the significant impacts of the proposed Project at the project site, but would not meet any of the Project objectives. In addition, the "no project" alternative could result in an increase in greenhouse gas emissions and air quality impacts if sources out of the area are used for local construction projects requiring 24-hour material hauling.

6.4 Reduced Truck Trip Alternative

6.4.1 Description

This alternative is similar to the proposed Project, but with a reduction in the amount of total truck trips. The reduced truck trip alternative includes 24-hour operations, Monday through Saturday; extension of the life of the mine from 2020 to 2030; and annual site production in excess of the permitted 100,000 tons per year if required during Federal-, State-, or County-declared emergencies.

The reduced truck trip alternative would limit maximum daily truck trips to 62 trucks (31 leaving and 31 departing) instead of 350 (350 in and 350 out) included in the proposed Project. This volume of trucks was identified in the Noise Analysis (j.c. brennan & associates, Inc., 2019) as the volume of trucks that would eliminate a significant increase in traffic noise levels along roadways utilized by the Project. Truck trips would still occur at night as needed during 24-hour operations.

Under the reduced truck trip alternative, the applicant could only provide materials for jobs requiring 31 or less truckloads of materials each day. This alternative would limit the number or size of construction jobs the project could serve. Larger construction projects would obtain materials from other sources that could provide the required volume of materials or would need to obtain materials from more than one source.

6.4.2 Impacts

6.4.2.1 Aesthetics and Visual Resources

The reduced truck trip alternative would reduce the amount of truck traffic in the Project area compared to the proposed Project during daytime and nighttime hours. The reduced truck trip alternative would still result in nighttime truck traffic and headlight use, but approximately one-sixth of the volume of maximum trucks. Although the number of trucks using headlights at night would be reduced, there are no mitigation measures available to reduce the visual impacts of headlight use on Ward Lake Road and Center Road (A27), and visual impacts related to nighttime headlight use would remain significant and unavoidable.

The visual impacts of stationary nighttime lighting at the materials processing facility would be the same under this alternative as the proposed Project since the reduced truck trip alternative would still involve 24-hour operations at the site requiring lighting. Impacts of the lighting from the materials processing facility would be significant and unavoidable to residences along Ward Lake Road.

6.4.2.2 Air Quality

The reduced trucking alternative would result in a reduction of emissions related to truck hauling trips. The reduced truck trip alternative would reduce project emissions to be about one-sixth of those generated by the proposed Project during peak operating periods. Although the reduced truck trip alternative would reduce air quality emissions from trucking, the air quality impacts of the proposed Project were considered less than significant. Under the reduced truck trip alternative, the emissions generated by onsite equipment would be the same as those generated by the proposed Project.

6.4.2.3 Biological Resources

Impacts to biological resources under the reduced truck trip alternative would be reduced when compared with the proposed Project. The reduced truck trip alternative would reduce the risk of wildlife mortalities on roadways since fewer truck trips would occur during both the daytime and night. However, mortalities may still occur at rates over those of the currently permitted operation. Under this alternative, although biological impacts related to traffic would be slightly reduced, impacts to nocturnal wildlife would be potentially significant without mitigation Biological impacts related to nighttime operations at the Project site would be the same as those of the proposed Project: potentially significant without mitigation. This alternative will not reduce the significant and unavoidable impacts to antelope and mule deer of extending the life of the mine an additional 10 years.

6.4.2.4 Land Use

The reduced truck trip alternative could potentially conflict with the same land use policies contained in the *Lassen County General Plan* and *Standish-Litchfield Area Plan* as the proposed Project. Land use impacts of the reduced truck trip alternative would be potentially significant without mitigation. Mitigation measures similar to those of the proposed Project for biological resources and pavement degradation would be required for the reduced truck trip alternative.

6.4.2.5 Noise

The reduced truck trip alternative would result in less-than-significant impacts related to truck traffic noise. The number of truck trips under this alternative is the number of trips determined by the Noise Analysis that would result in a less-than-significant increase in existing noise levels in the Project area. In addition, the reduced truck trip alternative would comply with Lassen County traffic noise standards without any mitigation measures.

Under this alternative, noise from the materials facility extended hours of operation would be the same as the proposed Project. Noise impacts from the facility would exceed Lassen County noise standards at night without mitigation.

6.4.2.6 Traffic

The reduced truck trip alternative would generate substantially less truck traffic than the proposed project. This alternative would limit the maximum daily trucks to 62 (31 and 31 out each day). Similar to the proposed project, the reduced truck trip alternative would result in a less-than-significant impact to intersection level of service and the need for additional turn lanes on the local roadway network. Although the reduced truck trip alternative would result in less roadway degradation than the proposed Project, impacts would be significant without mitigation.

6.4.3 Conclusion

The reduced truck trip alternative would eliminate any significant noise impacts related to truck traffic that would result from the proposed Project. The reduced truck trip alternative reduces impacts to aesthetics/visual resources, air quality, roadway degradation, and biological resources related to material hauling trips. Although impacts related to trucking would be reduced, truck headlight impacts would remain significant and unavoidable since there are no available mitigation measures to reduce impacts to residences along Ward Lake Road and Center Road (A27). Impacts related to onsite lighting will also remain significant and unavoidable to residences along Ward Lake Road. Impacts to pronghorn and mule deer related to extending the life of the mine by 10 years will remain significant and unavoidable. The reduced truck trip alternative would still require mitigation measures to reduce trucking impacts to biological resources.

The reduced truck trip alternative would meet the objective of providing materials for construction projects requiring nighttime work, depending on the demand of the individual construction project. However, the reduced truck trip alternative would reduce the number of construction jobs the facility could serve at one time and would allow only the acceptance of jobs with lower material demands. This alternative may partially meet the first two Project objectives depending on local and regional market demand; however, it would greatly limit the construction jobs served. The reduced truck trip alternative would meet the Project objective of extending the life of the quarry to extract additional superior materials from the site, but may hinder meeting the first two Project objectives.

6.5 Alternatives Considered but Rejected from Further Consideration

Additional alternatives were considered but were rejected from further consideration because they either did not differ substantially from those already analyzed or they did not meet any of the project objectives. Those addressed and disregarded as infeasible include:

Alternative Project Location. An alternative project location was considered but further rejected because the materials at the site are considered superior material not commonly found in the region. In addition, the Project includes specific modifications to an existing operation

that may not be feasible at an alternate existing mining site. For these reasons, an alternative Project location was rejected from further analysis.

No Nighttime Trucking. This alternative was considered to reduce the impacts related to nighttime truck noise and truck headlights as well as traffic impacts to nocturnal species. If all material haul trucks to occur during daytime hours, material processed during nighttime hours would need to be stored onsite. This alternative was considered but rejected because storage capacity at the site is limited and there is not available space to store materials processed during nighttime hours without trucking offsite. This alternative would also eliminate the capability of the site to respond to emergency and construction jobs requiring nighttime hauling of materials.

6.6 Environmentally Superior Alternative

CEQA Guidelines Section 15126.6 requires that the alternatives analysis must identify the "environmentally superior" alternative among the alternatives considered. The "no project" alternative would eliminate all of the impacts of the proposed Project at the Project site and would be the environmentally superior alternative. However, the "no project" alternative does not meet any of the Project objectives. In addition, CEQA Guidelines require that if the "no project" alternative is the environmentally superior alternative, the EIR must also identify the environmentally superior alternative among the other alternatives.

As discussed above, the reduced truck trip alternative would result in reduced impacts when compared with the proposed Project. The reduced truck trip alternative would lessen impacts related to truck traffic on biological resources, traffic and transportation, aesthetics, and air quality resources; however, the mitigation measures required under the proposed Project would still be necessary for biological resources, land use, and traffic to reduce impacts of the reduced truck trip alternative to be less than significant. The mitigation measures to reduce nighttime noise from onsite operation required under the proposed Project will also be required. Aesthetic impacts related to nighttime headlight use and onsite lighting would still be significant and unavoidable under the reduced truck trip alternative, since no mitigation measures are available to reduce headlight impacts or onsite lighting visibility to residences along Center Road (A27) and Ward Lake Road. The reduced truck trip alternative would eliminate significant traffic noise impacts of the Project; therefore, in lieu of the "no project" alternative, the reduced truck trip alternative would be the environmentally superior alternative. However, it should be noted that the reduced truck trip alternative would hinder the ability of the operation to meet the first two project objectives. Depending on market demand, the reduced truck trip alternative could fail to meet the first two project objectives completely.

7.0 LIST OF EIR PREPARERS

7.1 Lead Agency

Lassen County Department of Planning and Building Services .....Lead Agency
707 Nevada Street, Suite 5
Susanville, California 96130

7.2 Preparers of the Report

VESTRA Resources, Inc.
5300 Aviation Drive
Redding, California 96002

Wendy Johnston..... Project Manager
Kristine Cloward .....Regulatory Compliance Specialist
Anna Prang ..... Regulatory Biologist
Jennifer Williams ..... GIS Technician

7.3 EIR Consultants

Solaegui Engineers, Ltd.
715 H Street
Sparks, Nevada 89431

j.c. brennan & associates, Inc.
1287 High Street
P.O. Box 6748
Auburn, California 95604

RCH Group
11060 White Rock Road, Suite 150-A
Rancho Cordova, California 95670

8.0 REFERENCES

AASHTO. 2011. *A Policy on Geometric Design on Highways and Streets (6th Edition).* 2011

Brylski, P.V., Collins, P.W., Pierson, E.D., Rainey, W.E., and Kucera, T.E. 1998. Terrestrial mammal species of special concern in California. California Department of Fish and Game. The Resources Agency, ed. Sacramento, CA.

California Air Resources Board (CARB). 2014. EMFAC2014 User's Guide, April 30, 2014, http://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol1-users-guide-052015

California Air Resources Board (CARB). *Speciation Profile 818 for Off-Road Diesel Emissions (Building Construction -Diesel)*

California Department of Fish and Game, Bureau of Land Management, and the United States Forest Service. 1998. Report to the Commission, An Assessment of Mule and Black-tailed Deer and Habitats and Populations in California.

California Department of Fish and Wildlife. 2017. California's Deer Population Estimates <https://www.wildlife.ca.gov/Conservation/Mammals/Deer/Population>. California Department of Water Resources. California's Groundwater Bulletin 118

California Department of Water Resources. Water Data Library. http://wdl.water.ca.gov/waterdatalibrary/

California Geological Survey (CGS) *Earthquake Zones of Required Investigation Map.*

California Office of Environmental Health Hazards Assessment - Acute, 8-hour, and Chronic Reference Exposure Levels, June 2014**,** http://www.oehha.ca.gov/air/allrels.html

Caltrans. 2013. *Transportation and Construction Vibration Guidance Manual.* September 2013

Caltrans. 2015. *Highway Design Manual (6th Edition).* December 30, 2015.

Carle, David. 2006. Introduction to Air in California. University of California Press. 2006.

ECO, Redding, California, Trygve B. Sletteland, Staff Archaeologist. *Archaeological Survey Report for a Rock Crusher and Hot Plant on Shaffer Mountain, Lassen County, California.* September 1980.

Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment Manual.* September 2018.

Hudgens, et al. 2016. *Assessing Pronghorn Distribution, Movements, and Habitat use in Northeastern California. Annual Report 2015/2016.* Institute for Wildlife Studies, Arcata, CA. Brian R. Hudgens, Jared F. Duquette, David K. Garcelon, Matthew P. Brinkman. December 2016.

j.c. brennan & associates, inc. 2018. *Hat Creek Materials Facility Expansion Environmental Noise Analysis*. June 26, 2018; updated February 2019.

Lassen County. 1999. *Lassen County General Plan 2000*. September 1999.

Lassen County Planning Department. 1986. *Standish-Litchfield Area Plan and Environmental Impact Report SCH #85042910*. October 1986.

LSC Transportation Consultants, Inc. 2012. *Lassen County 2012 Regional Transportation Plan.* September 28, 2012.

Mayer, K.E., and William F. Laudenslayer, Jr., Editors. 1988. A Guide to Wildlife Habitats of California. California Department of Forestry and Fire Protection. 166 pp.

Miller's Custom Work. 1981. *Operation of Aggregate Materials Source Including Excavation, Crushing, Stockpiling and Hauling and Operation of Rock Crushing Plant Operation of Asphalt Concrete Batch Plant. 1981*

Natural Resource Conservation Service (NRCS). https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

Office of Environmental Health Hazard Assessment. 2015. *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments,* February 2015, http://oehha.ca.gov/air/hot_spots/hotspots2015.htm.

Planning Concepts. 1997. *Miller's Custom Work, Inc. Ward Lake Pit Expansion Draft Environmental Impact Report.*

Rytwinski, et al. 2016. How Effective Is Road Mitigation at Reducing Road-Kill? A Meta-Analysis. *PLoS ONE,* 11(11), e0166941. http://doi.org/10.1371/journal.pone.0166941.

Shasta County. 2017. *Draft Environmental Impact Report.* Tierra Robles Planned Development, Zone Amendment Z10-002; Tract Map 1996; SCH No. 2012102051. October 2017.

Solaegui Engineers, LTD. 2018. *Hat Creek Materials Facility Updated Traffic Study.* May 2018

Transportation Research Board. *Highway Capacity Manual (6th Edition).*

Ulrichs, Christian, et al. 2008. Effect of Solid Particulate Matter Deposits on Vegetation- A Review. *Functional Plant Science and Biotechnology.* 56-62.

USDA Forest Service. 2006. *Habitat Guidelines for Mule Deer, Colorado Plateau Shrubland and Forest Ecoregion.* Watkins, B. E., C. J. Bishop, E. J. Bergman, A. Bronson, B. Hale, B. F. Wakeling, L. H. Carpenter, and D. W. Lutz. 2007. Mule Deer Working Group, Western Association of Fish and Wildlife Agencies.

USDI Fish and Wildlife Service. 1978. Reclassification of the gray wolf in the United States and Mexico, with determination of Critical Habitat in Michigan and Minnesota. Final Rule. Federal Register 43(47):9607-9615.

VESTRA. 2018. *Biological Resources Evaluation Ward Lake Pit Proposed Expansion Lassen County, California.* January 2018.

VESTRA. 2018. *Visual Simulation Analysis Ward Lake Pit Proposed Expansion Lassen County, CA.* January 2018.

VESTRA. 2018. *Wildlife Survey Report Ward Lake Mine Proposed Changes to Use Permit Operating Hours*, June 2018.

Appendix A

1981 EIR

DRAFT

ENVIRONMENTAL IMPACT REPORT
FOR
OPERATION OF AGGREGATE MATERIALS SOURCE
INCLUDING EXCAVATION, CRUSHING, STOCKPILING AND HAULING
AND
OPERATION OF ROCK CRUSHING PLANT
OPERATION OF ASPHALT CONCRETE BATCH
PLANT (HOT PLANT)

S.C.H. # 80062304

LASSEN COUNTY PLANNING COMMISSION

LEAD AGENCY

APPLICANT: MILLER'S CUSTOM WORK
35 GRAND AVENUE
SUSANVILLE, CALIFORNIA 96130

AUTHOR: DONNA D. DRICKEY,
MILLER'S CUSTOM WORK

CLERICAL ASSISTANT:

CHERYL BEAVER,
MILLER'S CUSTOM WORK

TABLE OF CONTENTS

Page

APPENDIX A, INITIAL STUDY (Applicant)..... 1-3
APPENDIX B, INITIAL STUDY (Environmental Advisory Committee)..... 4-9

SUMMARY (Section 15140)..... 10

DESCRIPTION OF PROJECT (Section 15141)

Location..... 11
Statement of Objectives..... 11
Project Area Regional Map #1..... 12
Project Aerial Photograph Map #1-A..... 13
Project Area Parcel Map #1-B..... 14
Project Area Map #1-C..... 15
Projects Characteristics..... 16

DESCRIPTION OF ENVIRONMENTAL SETTING (Section 15142)

Topography..... 17
Geology..... 17
Soils..... 18
Earthquake Activity/Thermal Properties.....18-19
Climate..... 19
Hydrologic Conditions..... 19
Air..... 20
Vegetation..... 20
Wildlife..... 21
Archaeology..... 21
Historical.....21-22
Transportation..... 22
Utilities..... 22
Noise Factors - Scenic Qualities..... 22A
Map #2-A, Areal Geology..... 23
Map #2-A, Areal Geology (Key to Map)..... 24
Map #2-B, Soils Map..... 25
Map #2-C, Fault Map..... 26
Map #2-D, Potential for Development of Ground Water..... 27
Map #2-E, Generalized Lines of Equal Elevation..... 28

ENVIRONMENTAL IMPACT (Section 15143)

A. Significant Environmental Effects of the Proposed Project.....29-30
B. Significant Environmental Effects Which Cannot Be Avoided if Project is Implemented..... 30
C. Mitigation Measures Proposed to Minimize Significant Effects....30-36
D. Alternatives to the Proposed Action..... 36
E. & F. (Not Required)
G. Growth-Inducing Impact of the Proposed Action..... 36

EFFECTS FOUND NOT TO BE SIGNIFICANT (Section 15143.5)..... 36

ORGANIZATIONS AND PERSONS CONSULTED (Section 15144).....37-38

BIBLIOGRAPHY..... 39

EXHIBITS..... 40
I. Photographs.....41-43
II. Archaeological Survey Report.....44-73

APPENDIX (Supplemental Copy).....74-76

A P P E N D I X

Page

DESCRIPTION OF PROJECT (Section 15141)

C. Population Distribution, Lassen County 77
Proposed Improvements Diagram, Lassen County..... 78
Proposed Improvements Diagram, City of Susanville..... 79
Schedules of Reconstruction and Improvements List by County, State, and City.....80-82A

(Above materials from the "Regional Transportation Plan for Lassen County, 1978"and"1980" , Lassen County Board of Supervisors)

D. Wells Materials Source Test Tabulations (California Department of Transportation, District II).....83-84

ENVIRONMENTAL SETTING (Section 15142)

E. Soils Map..... 85
Soil and Capability Map Summary..... 86-88
Chart for Soil and Land Capability Symbols..... 89
Land Capability Classification Key..... 90
(Above materials from the Soil Conservation Service Survey Office, Department of Agriculture, Susanville)

F. Climatological Record Summary..... 91
(California Department of Water Resources, Red Bluff, for California Conservation Center and Fleming Unit of Calif. Dept. of Fish & Game)

G. Precipitation Record (Soil Conservation Service Office)..... 92

H. Lassen County Air Pollution Control Officer - Correspondence..... 93
(Siskiyou County Air Pollution Specialist (Appendix AA).....126-129)

I. Bureau of Land Management, Eagle Lake District - Correspondence.... 94
Bureau of Land Management, Eagle Lake District - List of Non-Game Mammals, Birds and Reptiles..... 95

J. California Department of Fish and Game - Correspondence..... 96
J-1 Mule Deer Migration Study Map..... 97
J-2 Antelope Winter & Summer Ranges/Kidding Grounds Map..... 98

K. Lassen County Historical Society - Correspondence..... 99

L. Applicants Letter to Susanville Rancheria (.B.I.A.)..... 100

M. Highway Functional Classification (1)..... 101
Traffic Volumn(2)..... 102
(1) Regional Transportation Plan for Lassen County, 1980
(2) Regional Transportation Plan for Lassen County, 1978

COMMENTS AND CORRESPONDENCE RECEIVED BY LASSEN COUNTY DURING INITIAL REVIEW PERIOD
CORRESPONDENCE AND DATA RECEIVED BY APPLICANT RELATIVE TO ENVIRONMENTAL REPORT

N. California Department of Transportation(August 8, 1980)..... 103

O. Carl H. Schwarzenberg (July 9, 1980)..... 104

P. California Department of Parks and Recreation (July 8, 1980)..... 105

Q. California Office of Planning and Research (Clearinghouse Notification) (June 26, 1980).....108-110

Continued . . .

Page

R. California Regional Water Quality Control Board, Lahontan Region... 111

S. Note of Phone Communication from Allen Vaughn (June 4, 1980)..... 112

T. Carl H. Schwarzenberg (June 2, 1980)..... 113

U. Frank and Mary Myers (June 2, 1980)..... 114

V. Jack R. Sturges (May 31, 1980)..... 115

W. California Regional Water Quality Control, Lahontan Region(May 29,1980) 116

X. California Department of Fish and Game, Region I (May 28, 1980).... 117

Y. George A. Farris (May 15, 1980)..... 118

Z. California Regional Water Quality Control Board, Lahontan Region (June 23, 1980).....119-125

AA. County of Siskiyou, Kenneth Corbin, Air Pollution Specialist (December 9, 1980).....126-129

BB. Lassen County Planning Commission (Excerpts from Meeting Minutes of June 4, 1980).....130-131

INITIAL STUDY
(to be completed by applicant)

NERAL INFORMATION:

Project Location: (½ mile east of Wards Lake northwest of Litchfield) Sections 32 and 33, Township 30 N, Range 14E, M.D.B.M.

Current Zoning: U-C A-P and A-1

Assessor's Parcel No. 109-100-40

Proposed Zoning: same

Land Owner:
K.C. and Joyce M. Wells, Jr.
(Name)
Box 112
(Address)
Maxwell, Ca. 95955
(Zip Code)
438-2652
(Telephone)

Applicant:
Miller's Custom Work
(Name)
35 Grand Avenue
(Address)
Susanville, Ca. 96130
(Zip Code)
(916) 257-6153 or 4207
(Telephone)

ENVIRONMENTAL SETTING

Describe the project site as it exists before the project, including information size of parcel, topography, soil stability, plants and animals, and any cultural, historic or scenic aspects. Describe any existing structures on the site, and the use of the structures. Attach photographs of the site (optional).

site is on a gentle to moderate sloped area draining southwesterly on the lower southwesterly reaches of Schaffer Mtn. Vegetation consists of a short sparse cover of sage brush, rabbit brush and native grasses. Soil is gravelly to very rocky with ledges of basalt and fairly stable. There are no structures on the property. Total area to be used is approximately 80 acres. Native animal species include deer, antelope, coyote, rabbit, chucker, quail, small/non-game birds and rodents.

B. Describe the surrounding properties, including information on plants and animals and any cultural, historical or scenic aspects. Indicate the type and intensity of land use (residential, commercial, agricultural, etc.) Attach photographs of the vicinity (optional). Surrounding property is very similar in nature to the Wells property. It is marginal grazing land with same plants and animals as described under "A.". There are no known rare or endangered animal or plant species in the project area.

Project Description: Excavate ledge rock, crush, stockpile and hauling of materials for use as aggregate materials source and asphaltic concrete aggregates; operation of asphalt concrete (hot plant) batch plant. Approximate material removal: 50,000 cubic yards/annually. Period of time useage anticipated: 1980 thru 1990.

Slope of Property:
(Approx. percentage of property having following slopes)

Crusher & stockpile site:	100%	(0-8%)
		(9-15%)
Excavation Area	50%	(16-20%)
	50%	(Over 20%)

List all county, state, federal or regional agencies from which a permit or approval is required: Lassen County: special use permit; Surface Mining & Reclamation Plan

Has any form of environmental document been prepared for the project:
Yes X No___ If yes, attach. (Archaelogical Survey Report prepared by Cal Trans on fil with County)

List districts involved: Schaffer Union School District; Lassen Union High School Distric Lassen Community College District

Are there any natural or man-made drainage channels through or adjacent to the property?
No

(Name and/or type of drainage channels)

Are the following items applicable to the project or its effects? Discuss below all items checked yes (attach additional sheets as necessary).

NOTE: Applicant may be required to submit additional data and information if deemed necessary by the Environmental Advisory Committee or Lead Agency.

YES	NO		
___	X	1.	Change in lake, stream or other body of water or ground water quality, or alteration of existing drainage patterns.
X	___	2.	Change in dust, ash, smoke, fumes or odors in vicinity.
X	___	3.	Change in existing features of any bodies of water, live or intermittent streams, hills, or substantial alteration of ground contours.
___	X	4.	Substantial change in demand for public services (police, fire, water, sewage, etc.).
___	X	5.	Significant amounts of solid waste or litter.
X	___	6.	Will road or access construction involve grade alteration, cut and/or fill?

YES	NO		
___	X	7.	Could the project create a traffic hazard or congestion on the immediate street system or cause excessive vehicular noise?
___	X	8.	Change in scenic views or vistas from existing residential areas or public lands or roads.
X	___	9.	Substantial change in existing noise or vibration levels in the vicinity.
X	___	10.	Use or disposal of potentially hazardous materials, such as toxic substances, flammables or explosives.
___	X	11.	Change in pattern, scale or character of land use in the general area of project.
___	X	12.	Substantially increase energy consumption (electricity, heat fuel, etc.).
X	___	13.	Relationship to a larger project or series of projects.
___	X	14.	Would the proposed project vary from standards or plans adopted by any agencies (such as air, water, noise, etc.)?

Mitigation Measures proposed by Applicant: Some dust will occur around excavation areas and crusher sites as well as hauling roads & hot plant areas; dust control will be required as a mitigation measure. Minor changes will be made in ground contours due to excavation; access & haul roads will require some minor cuts & fill. Noise and vibration levels will be higher in immediate area; however, nearest residence is over one mile from site and a ridge separates from project area. Explosives may be used for breaking up of deposits. Project may be used in conjunction with State Highway projects. Air Resources Permit will be obtained for any batch plant operations; and, all requirements met by applicant.

CERTIFICATION: I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date April 29-80 _____ (Signature)

Official Use Only

The Environmental Advisory Committee hereby certifies that the above information has been given independent evaluation and analysis as per Section (15061 (b)) of this Resolution.

_____
Chairman, Environmental Advisory Committee

INITIAL STUDY
(to be completed by the Environmental Advisory Committee)

BACKGROUND INFORMATION

1. Name of Proponent Miller's Custom Work
2. Address and Phone Number of Proponent:

   35 Grand Ave.

   Susanville, CA 96130

   257-6153 or 4207
3. Location of proposed project 1/2 mile east of Wards Lake northwest of Litchfie Sections 32 and 33, Township 30 N, Range 14E, M.D.B.M.
4. Lead Agency Planning Commission
5. Common Name of Proposal Use Permit

ENVIRONMENTAL IMPACTS
(Explanations of all "yes" and "maybe" answers are required on attached sheets)

	YES	MAYBE	NO
1. Earth. Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic substructures?			X
b. Disruptions, displacements, compaction or over-covering of the soil?	X		
c. Change in topography or ground surface relief features?	X		
d. The destruction, covering or modification of any unique geologic or physical features?			X
e. Any increase in wind or water erosion of soils, either on or off the site?			X
f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of any bay, inlet or lake?			X
g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?			X
2. Air. Will the proposal result in:			
a. Substantial air emissions or deterioration of ambient air quality?			X

	YES	MAYBE	NO
b. The creation of objectionable odors?	___	___	X
c. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?	___	___	X
3. Water. Will the proposal result in:			
a. Changes in currents, or the course or direction of water movements?	___	___	X
b. Changes in absorption rates, drainage patterns or the rate and amount of surface water runoff?	___	___	X
c. Alterations to thecourse or flow of flood waters?	___	___	X
d. Change in the amount of surface water in any water body?	___	___	X
e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?	___	___	X
f. Alteration of the direction or rate of flow of ground waters?	___	___	X
g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?	___	___	X
h. Substantial reduction in the amount of water otherwise available for public water supplies?	___	___	X
i. Exposure of people or property to water related hazards such as flooding?	___	___	X
4. Plant Life. Will the proposal result in:			
a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, and aquatic plants)?	___	___	X
b. Reduction of the numbers of any unique, rare or endangered species of plants?	___	___	X
c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?	___	___	X
d. Reduction in acreage of any agricultural crop?	___	___	X
5. Animal life. Will the proposal result in:			
a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish, benthic organisms or insects?	___	___	X

	YES	MAYBE	NO
b. Reduction of the numbers of any unique, rare or endangered species of animals?	—	—	X
c. Introduction of new species of animals into an area, or result in a barrier to the migration of movement of animals?	—	—	X
d. Deterioration to existing fish or wildlife habitat?	—	—	X
6. Noise. Will the proposal result in:			
a. Increases in existing noise levels? (IN IMMEDIATE VICINITY OF QUARRY)	X	—	—
b. Exposure of people to severe noise levels?	—	—	X
7. Light and Glare. Will the proposal produce new light or glare?	—	—	X
8. Land Use. Will the proposal result in a substantial alteration of the present or planned land use in the area?	—	—	X
9. Natural Resources. Will the proposal result in:			
a. Increase in the rate of use of any natural resources?	X	—	—
b. Substantial depletion of any nonrenewable natural resource?	—	—	X
10. Risk of Upset. Does the proposal involve a risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?	—	—	X
11. Population. Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?	—	—	X
12. Housing. Will the proposal affect existing housing, or create a demand for additional housing?	—	—	X
13. Transportation/Circulation. Will the proposal result in?			
a. Generation of substantial additional vehicular movement?	X	—	—
b. Effects on existing parking facilities, or demand for new parking?	—	—	X
c. Substantial impact upon existing transportation systems?	X		
d. Alterations to present patterns of circulation or movement of people and/or goods?	—	—	X

	YES	MAYBE	NO
e. Alterations to waterborne, rail or air traffic?	—	—	X
f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?	X	—	—
14. Public Services. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:			
a. Fire protection?	—	—	X
b. Police protection?	—	—	X
c. Schools?	—	—	X
d. Parks or other recreational facilities?	—	—	X
e. Maintenance of public facilities, including roads?	X	—	—
f. Other governmental services?	—	—	X
15. Energy. Will the proposal result in:			
a. Use of substantial amounts of fuel or energy?	—	—	X
b. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?	—	—	X
16. Utilities. Will the proposal result in a need for new systems, or substantial alterations to the following utilities:			
a. Power or natural gas?	—	—	X
b. Communications systems?	—	—	X
c. Water?	—	—	X
d. Sewer or septic tanks?	—	—	X
e. Storm water drainage?	—	—	X
f. Solid waste and disposal?	—	—	X
17. Human Health. Will the proposal result in:			
a. Creation of any health hazard or potential health hazard (excluding mental health)?	—	—	X
b. Exposure of people to potential health hazards?	—	—	X
18. Aesthetics. Will the proposal result in the obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view?	—	—	X

	YES	MAYBE	NO
19. Recreation. Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities?	___	___	X
20. Archeological/Historical. Will the proposal result in an alteration of a significant archeological or historical site, structure, object or building?	___	___	X
21. Mandatory findings of significance.			
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 pre-history?	___	___	X
b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future.)	___	___	X
c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but the effect of the total of those impacts on the environment is significant.)	___	___	X
d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	___	___	X

RECOMMENDED MITIGATION MEASURES

RECOMMENDATION

(to be completed by the Environmental Advisory Committee)

On the basis of this initial evaluation:

[X] We find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION is recommended to be prepared.

[ ] We find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A NEGATIVE DECLARTION is recommended to be prepared.

[ ] We find the proposed project MAY have a significant effect on the environment and that an ENVIRONMENTAL IMPACT REPORT is recommended to BE PREPARED.

Date May 6, 1980 Signature Marsha Feldman

Chairman, Environmental Advisory Committee

DETERMINATION BY THE LEAD AGENCY:

We find that the project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. [ ]

We find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A NEGATIVE DECLARATION WILL BE PREPARED. [ ]

We find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. [X]

Date 6-4-80 Signature Robert K Sowaag

for Chairman

S U M M A R Y

(Section 15140)

Miller's Custom Work is proposing to utilize approximately eighty acres within a 240 acre parcel located in Sections 32 and 33, Township 30 N., Range 14 E., M.D.B.M., as a source for aggregates and asphaltic concrete materials. In addition to the excavation and removal of materials, a rock crushing and asphalt concrete batch plant (hot plant) operation is anticipated at the site.

It should be noted that the California Department of Transportation, District 2, has an existing Materials Agreement entered into with the current property owner, K. C. Wells, Jr., on November 19, 1979, for a period of two years (Appendix N, page 103). "Cal-Trans" was subsequently issued a Use Permit by Lassen County early in 1980 for the excavation, crushing, stockpiling and hauling of asphalt and base aggregates for the same time period.

This particular materials source has been evaluated both by an independent testing laboratory and the California Department of Transportation with test results indicating superior material not commonly found in this region. The quality of the resources and choice location to the existing and potential market for aggregates and paving materials were the determining factors in choosing this site for the planned operations.

As a result of the review by the Lassen County Environmental Advisory Committee on the applicants Initial Study (Lassen #5-1-80), Appendix B/pages 4 - 9, and comments received during the review period, the following potentially significant adverse impacts were identified: Disruption, displacements, compaction or over-covering of soil; changes in topography; noise and air pollution levels; increased useage rate of the natural resources; generation of additional vehicular movement and subsequent impact on transportation systems, increased traffic hazards to motor vehicles, bicylists or pedestrians, and requirements for maintanence of public services including roads; archaeological (Petroglyphs) and historical sites;aesthetics; the direct, indirect, and cumulative impacts on wildlife species on and off-site; and, the growth inducing potential of the project.

This document is to address the concerns listed above and give an over-all description of the project as it relates to the Environmental Setting and surrounding properties. Mitigation measures proposed to reduce or eliminate the potential adverse impacts are presented and discussed under Section 15143, Environmental Impact (pages 29-36).

DESCRIPTION OF PROJECT

(Section 15141)

Proposed project site is located in portions of Section 32 and 33, Township 30 N, Range 14E., M.D.B.M., (Project Area Maps #1,1A,1B,1C/pages 12-15), one-half mile east of Ward Lake Road (County 308), northwest of Litchfield, California, in the County of Lassen. The access road proposed is a sixty foot wide strip running easterly from County Road 308 between privately owned parcels in Sections 32 and 33; and, connecting with an old existing haul road into the project site. The materials source and plant sites are in Section 33 and limited to an area of approximately eighty acres total.

STATEMENT OF OBJECTIVES

The objective of locating a crushing and hot plant facility at this particular site is to utilize an exceptionally good materials source as stated in the "Summary" Section. Currently, the nearest producer of asphaltic materials is thirty-three miles south of Susanville in the Doyle area of Lassen County. Costs of diesel fuel consumed by trucks hauling into local job sites is escalating rapidly along with all crude oil products. These fuel increases are being absorbed in the form of higher "per ton" prices to the consumers of paving products; i.e., primarily the Federal, State, County, and City agencies responsible for road maintenance and improvements. The proposed plant site would be approximately fourteen miles East of Susanville which puts it in close proximity to the major areas of immediate growth and planned transportation projects (Appendix C/pages 77-82).

In addition to the shorter hauling distance, test results of the rock source indicate a reduction in the amount of asphaltic oil required to produce specification material (Appendix D/page 83-84) as compared to other known sources locally. At this time of energy conservation awareness, savings on the useage of crude oil and petroleum based products is of major significance.

Applicant proposes locating a hot plant at the rock source in order to reduce excess handling of aggregates before mixing with the asphaltic oil thereby reducing the pollution which occurs when unmixed aggregates are hauled over public roadways for introduction into an asphalt plant. A major source of air contaminates is unpaved roads; and, such paving is often delayed due to the undercapacity and lack of existing asphalt sources. Projected growth indicates a market for road base and concrete aggregates as would be produced by the rock crushing operation in addition to the asphaltic concrete aggregates. Compliance with air quality standards would be accomplished through the use of pollution control devices; noise abatement plans and controls for "fugitive emissions" such as dust.

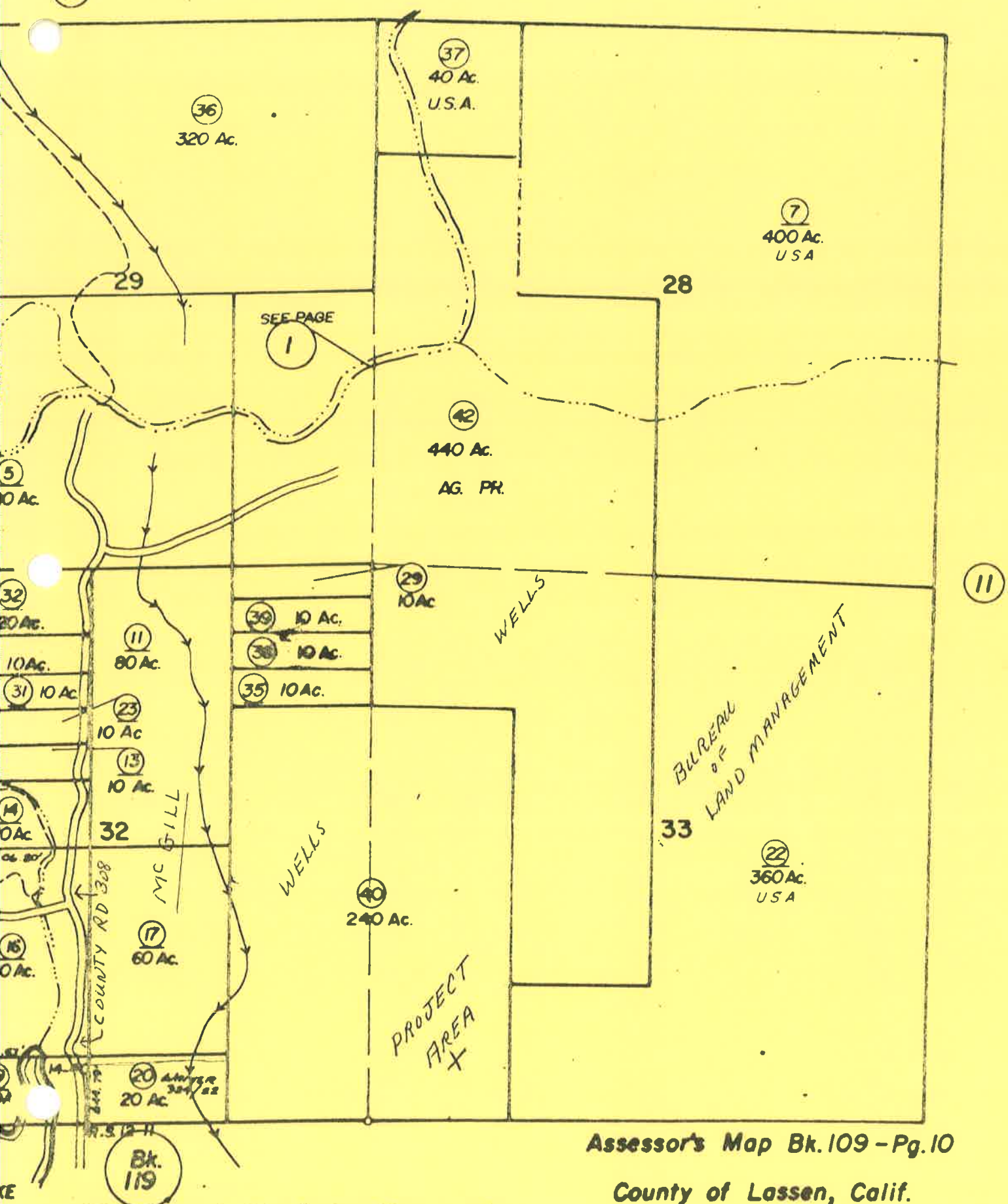
REGIONAL MAP INCLUDING PROJECT AREA/ MAP .#1

Aerial Photograph

PROJECT AREA MAP #1- A

R.14E., M.D.B.&M.

109-10

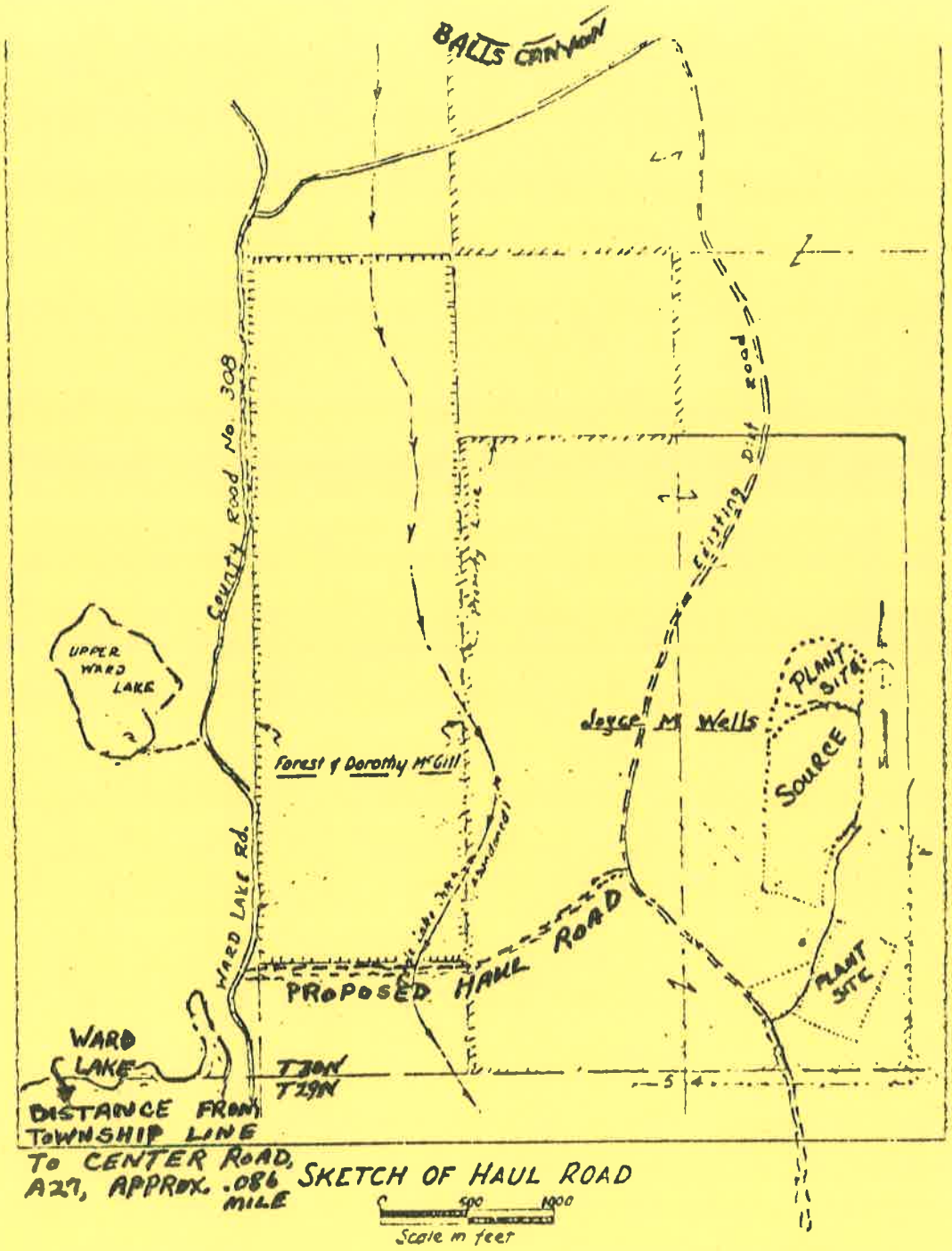


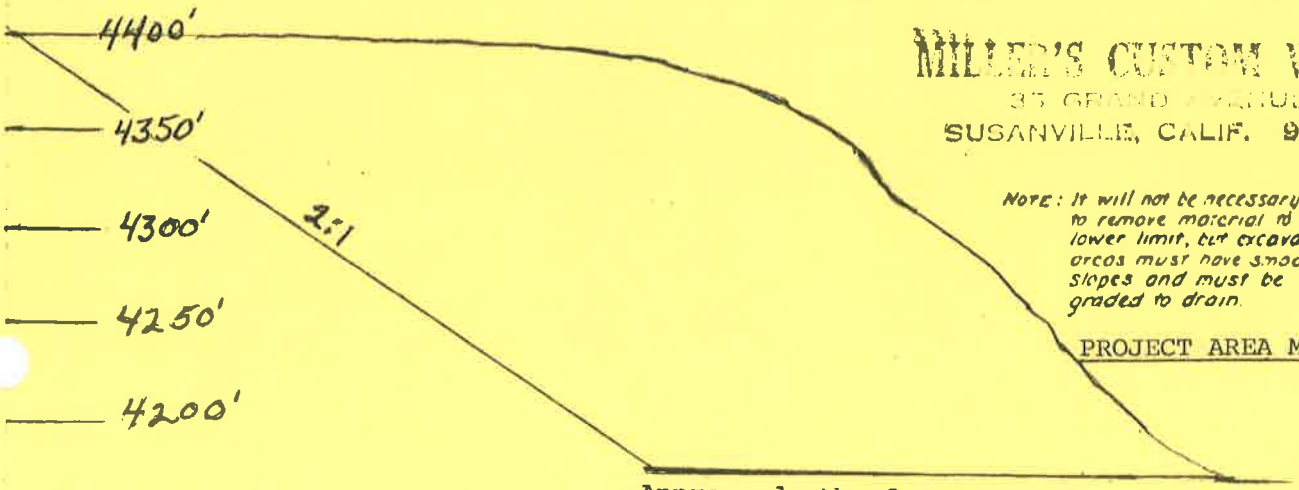
Assessor's Map Bk. 109 - Pg. 10

County of Lassen, Calif.

NOTE - Assessor's Block Numbers Shown in Ellipses.

PROJECT PARCEL MAP #1 - B





MILLER'S CUSTOM WORK
35 GRAND AVENUE
SUSANVILLE, CALIF. 96130

Note: It will not be necessary to remove material to the lower limit, but excavated areas must have smooth slopes and must be graded to drain.

PROJECT AREA MAP #1-C

GENERAL DESCRIPTION OF PROJECTS CHARACTERISTICS

A typical rock crushing and asphalt plant operation would involve the following possible activities:

Excavation and removal of rock through the use of a "push and load" operation using bulldozers for removal of rock and loaders for moving the material to the crusher site for screening, crushing and stockpiling. Large areas of rock which cannot be readily processed would require explosives in order to fracture into transportable sizes. Loaders would be used to load stockpiled material into trucks for hauling; or, to the hot plant site for asphaltic concrete processing. The hot plant would utilize the aggregate materials by mixing with asphaltic oils in order to produce either "hot mix" for immediate type useage; or, "cold mix" which can be used immediately or stockpiled. (Hot mix is generally used for new road surfaces or large resurfacing projects; cold mix is utilized for patching and small resurfacing areas.) Asphaltic mixes and aggregate products would be transported via transfer or bottom dump type trucks to construction sites.

Reclamation measures to include reshaping and seeding would be on a continuing basis as the land is excavated.

ENVIRONMENTAL SETTING

(Section 15142)

Topography

The project site is located on the southwesterly reaches of Shaffer Mountain on a gentle to moderately sloped area. The proposed access road begins one-half mile east of Ward Lake off of County Road 308 (Ward Lake Road) and continues easterly to the project area. Adjacent properties are privately owned parcels to the west and north; and, Federally managed by the Bureau of Land Management to the east and south. The immediate surrounding properties are without current development. Lower areas to the west and south, have been, in part, utilized for ranching and farming operations. A low ridge separates the actual plant sites from surrounding lands eliminating a direct view of planned operations (Exhibit I - Photographs/ pages 41-43). The nearest known inhabitant to the site is at a distance of approximately one mile.

Four miles to the west is the California Correctional Center, California State Prison System Facility; and, three miles to the southeast lies the unincorporated farming community of Litchfield. To the south lies the Honey Lake Basin with the southernmost peak of the Cascade Range to the northwest and Sierra Nevada Range to the south. Fourteen miles west lies the City of Susanville, the County Seat, with population unofficially stated at 6,516 people.

Lassen County is located in the northeastern section of California and encompasses 4,561 square miles. It shares a common boundary to the east with the State of Nevada; bounded on the north by Modoc County; west by Shasta and Plumas Counties; and, on the south by Sierra and Plumas Counties. Major industries are agriculture and timber with recreational land useage showing increased yearly growth.

Geology

The project site is located where the Modoc Plateau meets the Great Basin. This is an area of cenozoic volcanic rock, the lower levels of which have been converted to gravels by shoreline action on ancient Lake Lahontan. The deposit to be mined is located just above the high water line of Lake Lahontan in a large deposit of Pleistocene volcanic basalt. The deposit appears as ledge rock, the exposed edges of a volcanic flow. (Map #2-A, "Areal Geology"/Page 23).

Soils

Mr. Wayne Henderson of the Soil Conservation Service Survey Office, Susanville, provided a map for the adjacent land up to and including a portion of Section 32. (Map 2B/page 25 and Appendix E/Pages 85-90) Although Section 33 had not been surveyed to date, the adjoining sections appear (from observation) to be very similar in nature with the exceptions of ledge rock formations (described under "Geology") and the greater slope percentages encountered. The fairly flat area to be used for crusher, asphalt, and stockpile sites consists of 0 to 4% slopes; areas to be utilized for excavation of materials would be divided between 16-20% and over 20% slopes.

Areas of 5 to 31% slopes have a surface texture which is cobbly and light for a depth of 20 to 36 inches with moderately rapid permability of the subsoil; slight erosion; and, low available waterholding capacity. A "Land Capability Classification" of V1/e8 indicates severe soil limitations, generally unsuitable for cultivation due to erosion; and, root zone limitation due to hardpan or bedrock.

Areas of 0 to 4% slopes show light surface texture soils with a depth of 60 inches plus with moderate available waterholding capacity; wind erosion; moderately rapid to moderate permability of the subsoil. Additional "Land Capability Classification" shows limitation in portions of Section 32 due to coarse surface texture and low water holding capacity which would require conservation practices in order to utilize for cultivation.

Underlying materials in the general area are lake deposits; and, there are also some sections, not directly adjacent to the project site, which show slight alkalinity. (Refer to Appendix E/pages 85-90, for complete information)

Earthquake Activity
Thermal Properties

Faults in the area trend in a northwesterly direction with a few faults shown to trend northeasterly. The fault shown near the project site as a solid dark line (Map #2C "1"/page 26) is PreQuaternary (older than two million years) or without recognized Quaternary displacement. There has not been any activity ascertained; and, it is considered inactive. The fault shown by the broken line (Map #2C "2"/page 26) is a Quaternary fault displacement of less than two million years old without any historic (past two hundred years) record of activity. The "Litchfield Fault" which follows County Road A27, south of the

proposed project, is also a Pre-Quaternary Fault. For clarification on locations and references to #1 and #2 faults, refer to the "Fault Map of California", California Geologic Data Map Series Map 1 (Map#2C/page 26); and, "Areal Geology of the Honey Lake Valley Groundwater Basin"(Map#2A/ page 23-24). Thermal wells and springs exist in the Wendel and Susanville areas; however, there are no known wells or springs in the project site or adjacent lands.

Climate

Climatological Observation Records were obtained from the California Department of Water Resources Office in Red Bluff, California, for the two recording stations in close proximity to the proposed project; i.e., the California Correctional Center and the Fleming Unit of the California Department of Fish and Game, Honey Lake. (Appendix F/page 91) These records indicate July as having the warmest monthly tem perature averages (High, 89.1^{o}F; Low, 48.6^{0}); and, January with the lowest monthly temperature averages (High, 42.5^{o}F; Low, 23.6^{o}F). The Soil Conservation Service Records (Appendix G/page 92) state the annual precipitation to be between ten to twelve inches. Primary precipitation occurs from October thru March in the form of rain and light snow. From notations in the Climatological Observations and communication with the Susanville Airport, prevailing winds are from the West and Southwest (260° to 290°).

Hydrologic Conditions

There are no existing streams or bodies of water within the project boundaries. Examination of Map # 2D/page 27, "Potential for Development of Groundwater - Honey Lake Valley Ground Water Basin", shows the area falling into "Class C"; i.e., a fair area for development of ground water. Map #2E, page 28, "Generalized Lines of Equal Elevation..." puts the site out of the upland recharge areas and only partially within the groundwater basin boundaries. As covered under "Soils", the waterholding capacity is low to moderate. Some small drainage basins (water collection areas) exist in Sections 28 and 29 at the base of Balls Canyon. Approximately 20% of the planned project area is of a level configuration; and, proposed sites would drain northerly toward Balls Canyon.

Air

Project area is located in the Northeast Plateau Air Basin under the jurisdiction of the Lassen County Air Pollution Control District. Air Quality Standards are set by the State of California Air Resources Control Board; and, as stated in correspondence received from Lassen County Air Pollution Control Officer, Fredric Evans, (Appendix H/page 93), source tests would be required prior to issuance of any permits to operate proposed crusher or hot plant. Mr. Ken Corbin, Air Pollution Specialist for Siskiyou County, performs tests for Lassen County under a joint powers agreement and was also contacted for information on existing air quality. He stated that the most recent Air Quality Standard Testing was performed in 1977 in the City of Susanville.* Measurements are taken by the "High Volume Sampling Method" of total suspended particulates over a 24-hour period. Testing consists of measurement of micrograms of particulate matter per cubic meter of air sampled. During 1977, twenty-two samples were submitted providing an annual Geometric Mean reading of 32.3; the California State Standard is set at a reading of 60.0. Simply stated, the 1977 reading for Susanville was at just above fifty per-cent of the allowable standard. Mr. Corbin also pointed out that the readings in the immediate Susanville area could be expected to be higher than those to be found in the project area, fourteen miles east.

Vegetation

Within the project area, rocky and gravelly soils combined with a lack of water source have limited the amount of natural plant life. It is an area of marginal grazing land with a short sparse cover of annual native grasses and rabbit brush. A minimal amount of sage brush is found on level areas and bitterbrush survives on northern exposures. Gary Schoolcraft, Botanist with the Susanville District Bureau of Land Management, was contacted and stated that there are no known endangered or threatened plant species (Federal Designation). Although the Bureau of Land Management has lands contiguous to the property under review, Mr. Schoolcraft noted that an actual "plant inventory" has not been conducted in this area. In conversation with Thomas Stone, Associate Wildlife Biologist with the California Department of Fish and Game, he stated that there are no known endangered or rare plants per their current listing included at the proposed project site. Immediate surrounding properties are similar in nature and considered marginal grazing land.

*Refer to Appendix AA, pages 126-129

Wildlife

Pronghorn Antelope, Mule Deer, Valley Quail, Chuckar, Cottontail and Dove are the game animals and birds found in the project type habitat. The Great Basin Life Zone also supports numerous non-game mammals, birds and reptiles. A complete list of those likely to occur may be found in Appendix "I", pages 94-95, which was furnished by the Bureau of Land Management Wildlife Biologists' office, Eagle Lake District, Susanville.

The California Department of Fish and Game has expressed concern over the importance of the proposed project as it will effect the Antelope winter range, various game birds, and mammals known to exist in the area (Appendix J, Page 96). Discussion of the effects and mitigation relative to wildlife may be found in the Environmental Impact Section of this report (#15143, pages 30-35).

Archaeology

Due to earlier concern expressed over the possibility of Petroglyphs and the proximity to known historical sites, the applicant contacted Dr. Mark Kowta, Regional Officer of the California Archaeological Site Survey, in Chico. Following discussion with Dr. Kowta, it was deemed adviseable to hire an independent recognized archaeologist to conduct a complete archaeological reconnaissance and evaluation of the proposed project area. Trygve Sletteland of ECO, Redding, conducted the study and his complete report is included as Exhibit II (pages 44-73) of the Environmental Impact Report. No new historical sites were discovered during the survey; however, reference is made to two known sites which are approximately one mile from the project (CA-Las-36 and CA-Las-184). In conclusion to this report, the Archaeologist recommended that the applicants "proposed land use be given archaeological clearance since no cultural resources were identified during an archaeological survey of their project area".

Historical

A review of the "National Register of Historic Places" revealed no known historic places within the project area. The State Parks and Recreation Booklet, "California Historical Landmarks", was also reviewed and showed no landmarks within the proposed site. In response to an inquiry addressed to the Lassen County Historical Society, a letter was received indicating no known sources of cultural importance present (Appendix K, page 99). A letter was also addressed to the Susanville Indian Rancheria (carbon to the Bureau of Indian Affairs) requesting any information regarding possible cultural resources located in the proposed project area (Appendix L, page 100) to which no reply was received. If anything of importance, historically or archaeologically ,

should be discovered in the course of set-up, operation, excavation or processing of materials (should the project be approved), the proper authorities would be notified.

Transportation

Road Systems - Traffic Volume

County Road A27, Conservation Center Road, extends from the urban limits of Susanville to State Route 395 near Litchfield. Conservation Center Road is functionally classified as a "major collector" type route according to the "Regional Transportation Plan for Lassen County (1980)", Appendix M, page 101, with an estimated traffic volume of 100 vehicles per day. This road has no special weight restrictions other than a legal load limit of 80,000 lbs. County Road 308, Ward Lake Road, runs northerly off of A27 serving the few residents of the area and providing access to Ward Lake and surrounding properties. It is of a gravel surface for approximately one-half mile directly off of A27; and, then becomes a dirt roadbed. Legal load (80,000 lbs) is the only weight restriction. Presently, the County of Lassen maintains the road by blading and adding surface gravels as required. The proposed access road to the project area is one-quarter mile beyond the last resident's approach and is currently a bladed dirt road joining with an old existing haul road (Project Area Map #1-C, page 15).

Utilities

There are no existing sources of power or water on or to the project site. Power would be extended beyond existing lines for approximately one-quarter mile along Ward Lake Road to the proposed access road;and, thence easterly to the plant site. Expense of obtaining electrical services would be the responsibility of the applicant; and, would ultimately provide closer access for properties beyond the present system.

A well or wells would be necessary to fulfill water requirements. The proposed use of settling and recirculating ponds for the washing operation would significantly reduce water volume requirements. Total daily useage would be estimated at 10,000gallons. Proposed management of waste water from any gravel washing operations will be addressed in Section 15143, Environmental Impact. There are no sewage facilities in the project area; and, it is not anticipated any waste disposal system other than portable units will be warranted. These would consist of chemical toilet systems, pumped and removed by a commercial sanitation firm. Surrounding properties which are occupied obtain water thru individual wells; and, waste is handled in private septic systems.

Noise Factors - Scenic Qualities

Use of agricultural equipment and minimal vehicular movement are the only existing sources of noise and are not considered to be consequential in the area.

The ridge separating the proposed plant sites from Ward Lake Road eliminates some of the direct view of the operations and serves to reduce panoramic views of the valley from the site itself. Although views of the plant sites are alleviated, some excavation sites will be visible from areas of the valley floor. Reclamation measures of reshaping and seeding will be implemented to reduce the visual impacts of these sections.

Surrounding areas are currently composed of a rural ranching and farming environment with large sections remaining undeveloped at this time.

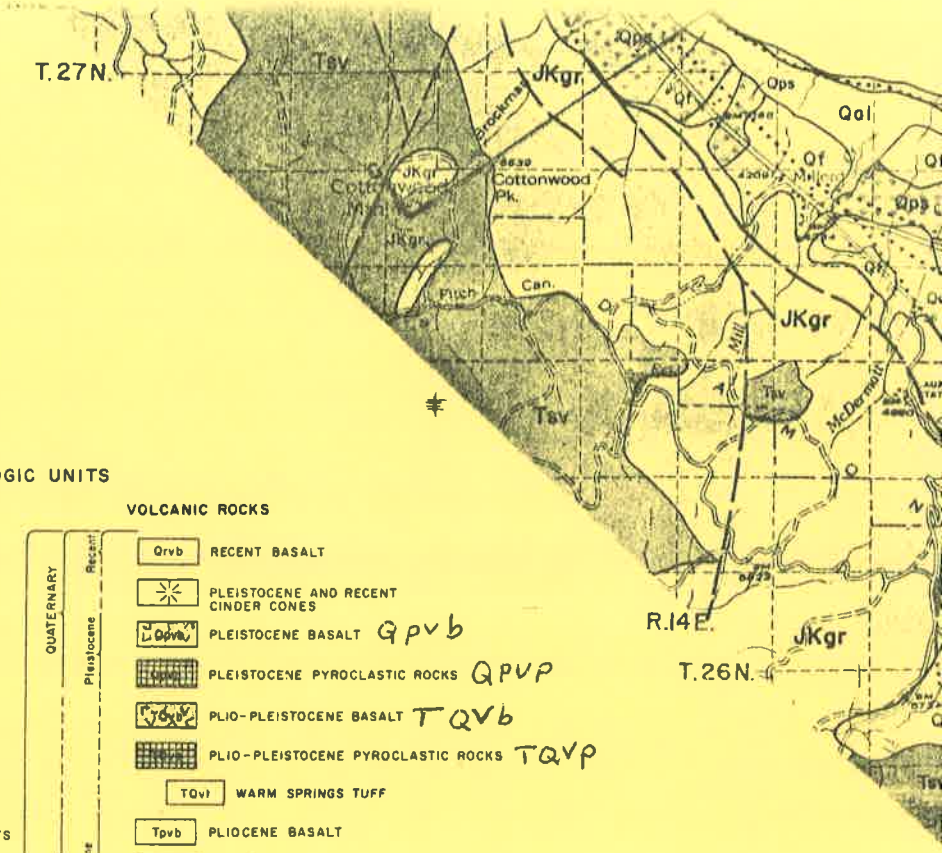
STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
NORTHERN BRANCH

NORTHEASTERN COUNTIES
GROUND WATER INVESTIGATION

AREAL GEOLOGY
HONEY LAKE VALLEY GROUND WATER BASIN

1962

MAP #2-A



GEOLOGIC UNITS

SEDIMENTARY ROCKS

CENOZOIC — QUATERNARY — Recent
- Qsd SAND DUNES
- Qe SAND AND SILT DEPOSITS
- Ql RECENT LAKE DEPOSITS
- Qls LANDSLIDES
- Qta TALUS
- Qmp MUCK AND PEAT DEPOSITS
- Qb BASIN DEPOSITS
- Qal INTERMEDIATE ALLUVIAL DEPOSITS
- Qf ALLUVIAL FANS
- Qt TERRACES
- Qps NEAR-SHORE DEPOSITS

CENOZOIC — QUATERNARY — Pleistocene
- Qpl PLEISTOCENE AND LAHONTAN LAKE DEPOSITS
- Qpo GLACIAL OUTWASH
- Qpm MORAINES
- TQa ALTURAS FORMATION
- TQb BIEBER FORMATION

CENOZOIC — TERTIARY — Pliocene
- Tpl PLIOCENE LAKE DEPOSITS

CENOZOIC — TERTIARY — Miocene–Oligocene
- Tmlc FORTY-NINE CAMP FORMATION

CENOZOIC — TERTIARY — Oligocene–Eocene
- TΦdc DEEP CREEK CONGLOMERATE
- AURIFEROUS GRAVELS

CENOZOIC — TERTIARY — Undivided
- GOLD RUN SANDSTONE
- FORT SAGE SANDSTONE

VOLCANIC ROCKS

CENOZOIC — QUATERNARY — Recent
- Qrvb RECENT BASALT
- PLEISTOCENE AND RECENT CINDER CONES

CENOZOIC — QUATERNARY — Pleistocene
- Qpvb PLEISTOCENE BASALT Qpvb
- PLEISTOCENE PYROCLASTIC ROCKS QPVP
- PLIO-PLEISTOCENE BASALT TQVb
- PLIO-PLEISTOCENE PYROCLASTIC ROCKS TQVP
- TQvt WARM SPRINGS TUFF

CENOZOIC — TERTIARY — Pliocene
- Tpvb PLIOCENE BASALT
- Tpva PLIOCENE ANDESITE
- Tpvp PLIOCENE PYROCLASTIC ROCKS

CENOZOIC — TERTIARY — Miocene
- Tmv MIOCENE VOLCANIC ROCKS, UNDIVIDED
- Tmvb MIOCENE BASALT
- Tmva MIOCENE ANDESITE
- Tmvp MIOCENE PYROCLASTIC ROCKS
- Tmlc TURNER CREEK FORMATION
- Tmc CEDARVILLE SERIES

CENOZOIC — TERTIARY — Undivided
- Tvr RHYOLITE
- Tvb BIG VALLEY MOUNTAIN VOLCANIC SERIES
- SIERRAN VOLCANIC ROCKS, UNDIVIDED
- Tsvb SIERRAN BASALT
- Tsva SIERRAN ANDESITE
- Tsvp SIERRAN PYROCLASTIC ROCKS

BASEMENT COMPLEX

- MESOZOIC — JKgr GRANITIC ROCKS
- PALEOZOIC — pKm METAMORPHIC ROCKS

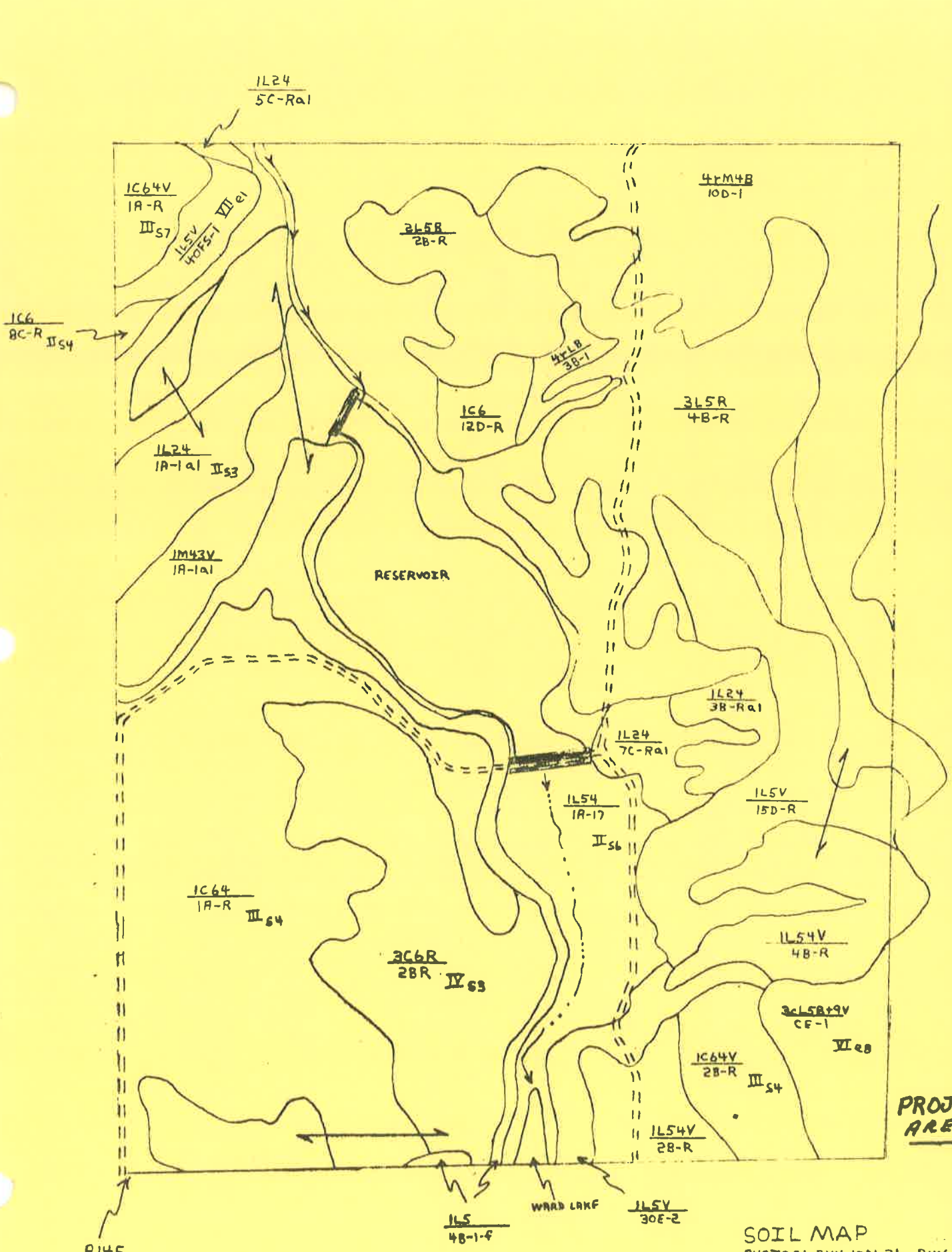
NOTE:
COLOR IN LEGEND BOX INDICATES GEOLOGIC UNIT THAT APPEARS ON THIS SHEET. FOR DESCRIPTION OF PHYSICAL AND WATER-BEARING PROPERTIES, REFER TO STRATIGRAPHIC COLUMN. (TABLE 17)

SYMBOLS

- GEOLOGIC CONTACT
- U/D FAULT, DASHED WHERE APPROXIMATELY LOCATED. U DENOTES UPTHROWN SIDE; D DENOTES DOWNTHROWN SIDE
- CONCEALED FAULT
- A–A LOCATION OF GEOLOGIC SECTION

GEOLOGY BY CALIFORNIA DEPARTMENT OF WATER RESOURCES FROM ORIGINAL MAPPING AND BY MODIFICATION OF PREVIOUS MAPPING OF THE CALIFORNIA DIVISION OF MINES AND GEOLOGY.

KEY TO MAP #2-A

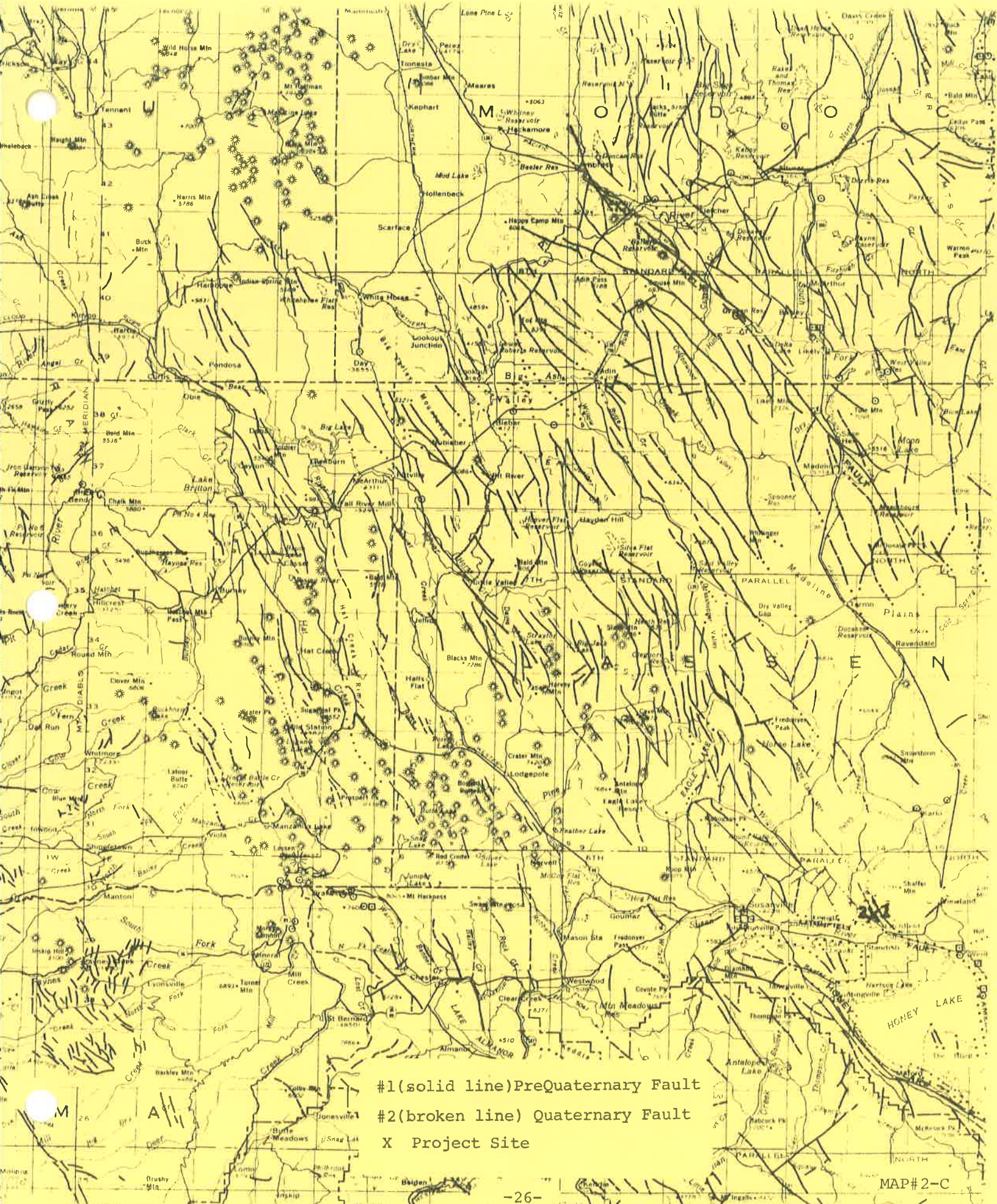


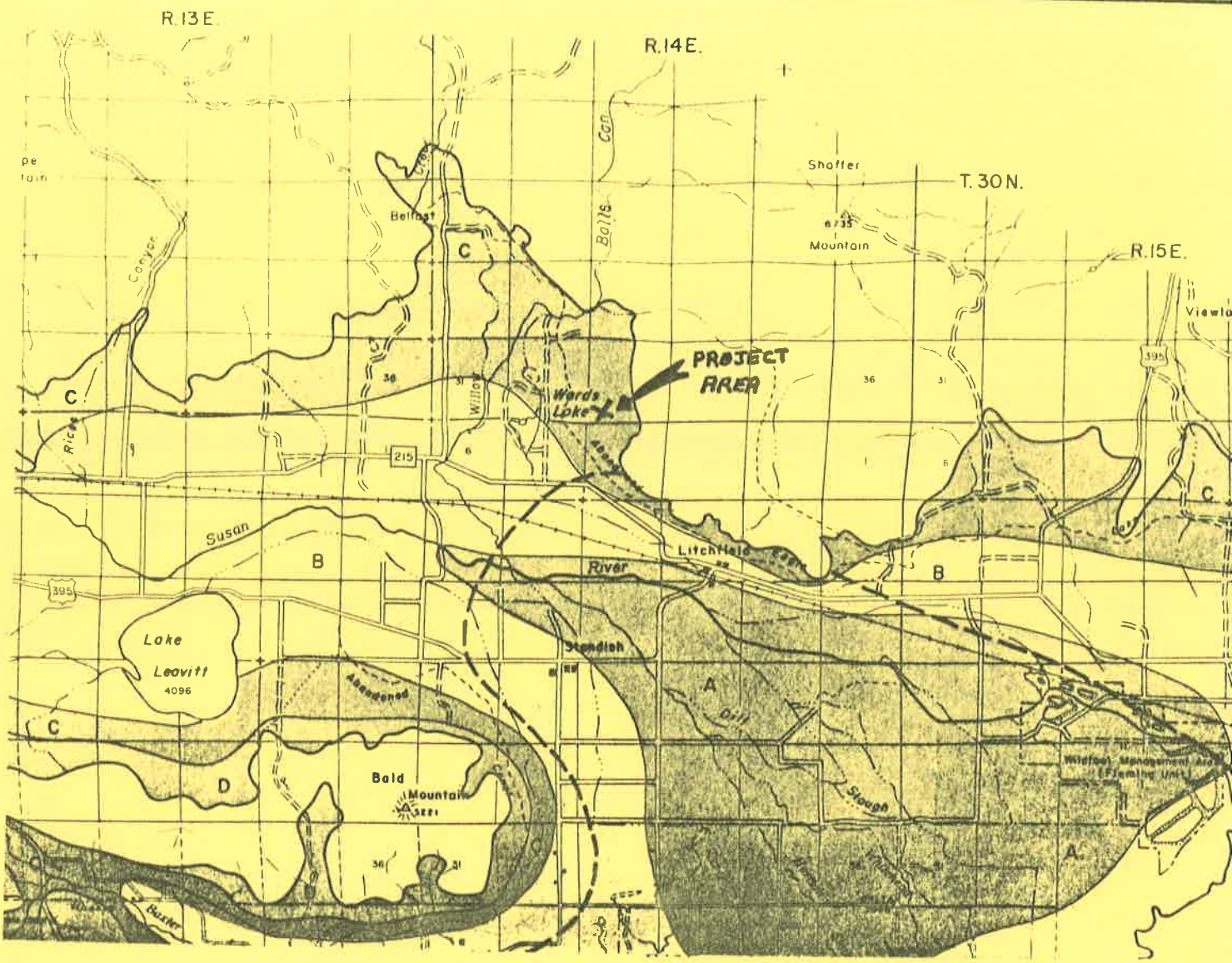
SOIL MAP

PHOTOS: BUV-12N-21, BUV-12N-23

Courtesy of Soil Conservation Service Survey Office
(Refer to Appendix E for Key to Classifications)

MAP #2-B


#1(solid line)PreQuaternary Fault
#2(broken line) Quaternary Fault
X Project Site



LEGEND

A — BEST AREAS FOR DEVELOPMENT OF GROUND WATER
Properly constructed wells located in "A" Zone areas should yield sufficient quantities of ground water for irrigation purposes.

B — GOOD AREAS FOR DEVELOPMENT OF GROUND WATER
Properly constructed wells located in "B" Zone areas should yield sufficient quantities of ground water for most irrigation purposes. Yields generally will be somewhat less than in "A" Zone areas.

C — FAIR AREAS FOR DEVELOPMENT OF GROUND WATER
Properly constructed wells located in "C" Zone areas may yield sufficient quantities of ground water for limited irrigation purposes. Yields should be sufficient for domestic and stock-watering purposes, but generally will be substantially less than "A" or "B" Zone areas.

D — POOR AREAS FOR DEVELOPMENT OF GROUND WATER
Properly constructed wells located in "D" Zone areas may yield sufficient quantities of ground water for domestic or stock-watering purposes. The possibility of dry holes is much greater in "D" Zone areas than other zones.

WATER QUALITY HAZARD AREA.

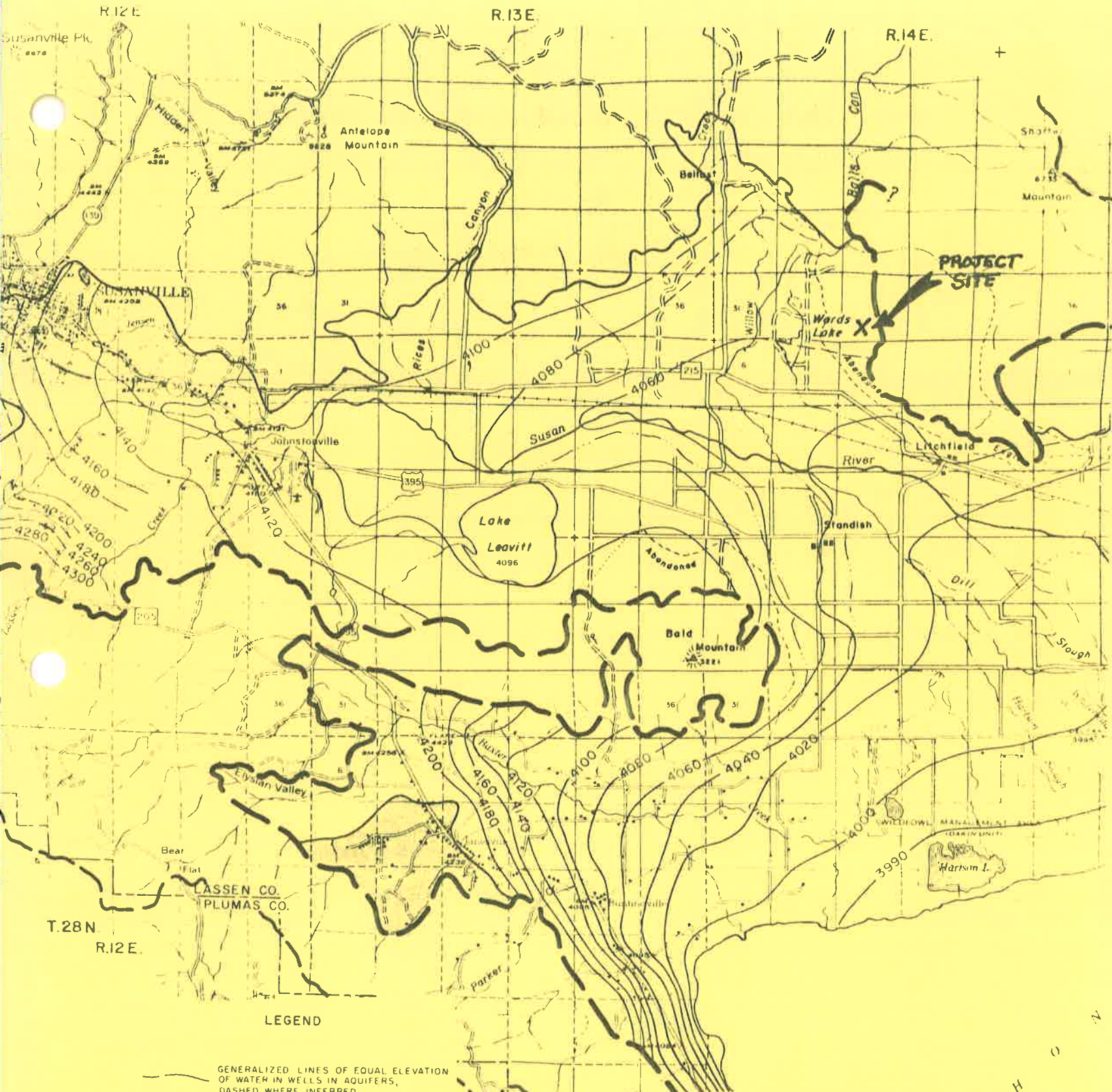
VALLEY FLOOR AREA BOUNDARY.

STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
NORTHERN BRANCH
NORTHEASTERN COUNTIES
GROUND WATER INVESTIGATION

POTENTIAL FOR DEVELOPMENT OF GROUND WATER HONEY LAKE VALLEY GROUND WATER BASIN

1962

SCALE OF MILES
0 1 2



LEGEND

GENERALIZED LINES OF EQUAL ELEVATION OF WATER IN WELLS IN AQUIFERS, DASHED WHERE INFERRED

UPLAND RECHARGE AREAS

AREA WHERE GENERALIZED LINES OF EQUAL ELEVATION OF WATER IN WELLS IN CONFINED AQUIFERS ARE ABOVE GROUND SURFACE

GROUND WATER BASIN BOUNDARY

SURFACE WATER DRAINAGE BOUNDARY

VALLEY FLOOR AREA BOUNDARY (WHERE DIFFERENT FROM GROUND WATER BASIN BOUNDARY)

NOTE

21% OF HONEY LAKE VALLEY GROUND WATER BASIN IS IN NEVADA

25% OF SURFACE DRAINAGE AREA TO HONEY LAKE VALLEY IS IN NEVADA

STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
NORTHERN BRANCH
NORTHEASTERN COUNTIES
GROUND WATER INVESTIGATION

GENERALIZED LINES OF EQUAL ELEVATION OF WATER IN WELLS IN AQUIFERS HONEY LAKE VALLEY GROUND WATER BASIN

SPRING 1960

MAP #2-E

SCALE OF MILES

1 0 1 2

ENVIRONMENTAL IMPACT

(Section 15143)

A. SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT

Topographical changes of cut and fill followed by base material and paving will take place on the proposed access and haul roads. Leveling, by grading and fill material, will be required in order to provide stabilized pads for the crusher and hot plants. Major physical changes will occur on the project site as ledge rock is excavated and stockpiled. Land use area to be utilized would be approximately five acres for the plant sites and stockpiles with an excavation area averaging approximately one acre per year; and, actual resource useage limited to a maximum of 50,000 cubic yards annually. A water source obtained by the drilling of a well or wells would be necessary for aggregate washing at the crusher site. Total volume of water used daily would not exceed 10,000 gallons. In conjunction with a washing operation, water reclamation/discharge plans would be required (Appendix R, page 111).

Noise and vibration levels in the immediate vicinity of the project area will be increased during daylight hours as is associated with the operation of heavy construction equipment and crusher/hot plants. Occasional controlled blasting may be required to remove large rock ledges.

Additional vehicular movement will occur on that portion of County Road 308 (Ward Lake Road) from the access road to its junction with A-27(Conservation Center Road), an area of approximately one mile in length. Increased traffic will consist of trucks transporting plant materials to various construction sites of consumers; and, applicants employees traveling to and from the proposed work area. In addition to the noise associated with the higher traffic volume, it can be anticipated that an effect on public services will also occur in the form of increased road maintanence needs and possible speed controls upon the one-mile section of County Road 308.

Fugitive emissions (dust) and various air contaminants associated with this type of project operation could create an impact on the air quality of the immediate area and require mitigation. The possibility of long-term indirect negative effects on the aesthetic qualities of the surrounding areas due to the impacts described above must be acknowledged.

A. SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT CONTINUED...

There will be a cumulative environmental impact on wildlife related to the following factors:

1) removal of vegetation along access roads and within project site limits

2) increased levels of noise, disturbance and activity within the project area and upon access roads with subsequent indirect effects (long-term) upon the native wildlife species.

B. SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED IF PROPOSAL IS IMPLEMENTED.

Due to the characteristics of rock quarry/crusher operations, changes in existing topography cannot be alleviated. Reclamation plans as discussed under "Mitigation Measures" (C.) will be implemented to reduce these changes to an acceptable level. Although mitigation measures will be applied to reduce noise and air contaminant levels within the project area and must be within OSHA regulations for the protection of employees, noise and emission sources not previously existent will be present if operations are commenced.

Traffic volume on a previously "little-used" road and noise created by same cannot be eliminated or effectively reduced if the project is approved. Exposure to the increased traffic would require new awareness on the part of occasional users of County Road 308; and, safety measures, including speed limitations, established to minimize the adverse effects of heavier useage.

Approval of the project would necessitate removal of sparse vegetation on access roads and within project site limits eliminating an existing marginal source of food for wildlife. Increased noise and activity will effect the wildlife species known to be found in the project and surrounding areas. The seasonal operation anticipated on the project (refer to "Mitigation Measures") will reduce, but not eliminate, this impact.

Increased traffic and the proposed plant activities (even though not directly adjacent to occupied lands) would have an indirect long term effect on the existent environmental setting (aesthetics) which cannot be circumvented. Crusher and Hot Plant operations are functional rather than decorative.

C. MITIGATION MEASURES PROPOSED TO MINIMIZE SIGNIFICANT EFFECTS

Topographical changes within the designated "source" areas which will result from excavation of rock would be reshaped and steep slopes reduced to a maximum of 2:1. Reshaping and reseeding of excavated areas would be implemented on a continuing basis as removal of materials proceeds and is based upon an average

area to be disturbed of one acre annually. Co-operation and assistance from both the California Department of Fish and Game and the Soil Conservation Service would be sought in order to determine the most suitable range grasses to be used in the reseeding process to allow for return of the land to suitable grazing and for efficient erosion control. Any blasting required would be done by individuals who are State Licensed.

The crushing operation will have no contaminants to dispose of; however, waste materials in the form of reject aggregates and fines would be spread evenly over the excavated areas before reseeding takes place. Settling ponds would be utilized for reclamation and drainage controls for wastewater discharged from gravel/aggregate washing operations. The fairly level location selected for the plant would have a northerly sloped area adjacent to be used for drainage to water reclamation ponds. Dependent upon the material source, aggregate base and the majority of asphalt aggregates would not require a washing operation; however, washing of high specification asphalt aggregates and concrete aggregates would be anticipated. Through the use of settling and recirculating ponds, water useage when required for aggregates can be estimated at 10,000 gallons per day. As a comparison, the United States Census Bureau (1978) Census of Agriculture shows that out of 185 farms reporting for Lassen County, the average farm has 230 acres of harvested cropland. Based on 158 days per year requiring irrigation, the season total was 150,000,000 gallons of water per 230 acre farm; or, 950,000 gallons per day (4,130 gallons per acre daily). These are generalized figures from the Soil Conservation Office and were based upon a mixed crop of grains and alfalfa since the irrigation requirements differ greatly between these crops.

Ambient dust particulates related to crusher and hot plant operations would be minimized by utilization of corrective measures including, but not limited to, the following: treating stockpile surfaces with water; providing wind breaks of dirt; placement of fine aggregates between coarse aggregate piles to screen from prevailing winds; planning of plant layouts to take advantage of natural or existing windbreaks; careful operation of loading and hauling equipment to prevent generation of fugitive dust.

Normal contained moisture is usually sufficient to avoid airborne particles when aggregates are introduced into a hot plant. Should this not be sufficient, however, covering of conveyors or enclosure of the cold feed elevator would eliminate the problem. In asphalt plants, the "hot elevator" conveys the dried, dusty material to the screening unit. Elevators can be housed-in and dust collection systems utilized to prevent emission into the atmosphere. Environmental control systems are available for incorporation into older model asphalt plants and built-in into newer models in order to meet the stricter air pollution control standards enforced in metropolitan areas. Primary collectors and secondary pollution control devices (baghouse, dry dust and wet washer systems) are used to control stack emissions. Fumes, vapors and odors are not normally sufficient to be of environmental concern; however, even these can be kept to a minimum by regulating the distance of fall between discharge points (pugmill and storage hoppers) into trucks.

Present Federal Air Pollution Control Regulations generally prohibit the use of high sulphur content in fuels which in turn removes the source of former hot plant "stack odor" problems. Asphalt and fuel storage tanks would be kept closed at all times, maintained in clean condition, and care taken to avoid spillage or leakage. Any contaminants from hot plant and/or fuel tanks would be contained, removed from the site or buried. Compliance with all Federal and State Agencies including the filing of reclamation, wastewater, and discharge plans would be required prior to commencement of operations. Plant installations require "source tests" to measure emission levels prior to issuance of a "permit to operate" by the Air Resources Quality Control Officer. Application for "Surface Mining Permit and Reclamation Plan" was filed with Lassen County in April of 1980.

Noise generated by the many moving components of crushers and hot plants when in operation cannot exceed a 90 db (decibel) level at the property lines in accordance with Federal Regulations. General plant noise can be further reduced through application of various corrective measures. Keeping components in good repair and proper adjustment, application of noise absorption materials, enclosure of known sources with noise barrier covers, use of exhaust mufflers, vibration isolation mounts, and proper lubrication are among many possible methods of reducing noise within the plants.

Access and haul roads as well as the plant site would be paved as soon as feasible to eliminate the primary complaint of dust which results when equipment and trucks operate on unpaved areas. Actual timing of paving these areas

would be governed by the volume of production and hauling warranting this improvement and subject to review and recommendations of the Planning Commission. Use of water trucks on any unpaved portions of the project area is anticipated; and, vehicle speed within the site controlled at 10 MPH to avoid creation of unnecessary dust.

Water or dust oils would be applied to County Road 308 (Ward Lake Road) by the applicant as required to alleviate dust from truck traffic and would continue until such time as paving is required. "Stop" sign would be installed at the junction of the access road with Road 308 by the applicant and if warranted, "Truck Crossing" warning signs placed along the County Road. Speed on County Road 308 from the plant access point to A-27 would necessarily be limited to approximately 25 MPH due to the road conditions and the short length(approximately one mile) encompassed. Trucks hauling materials would not exceed the legal load limit allowed of 80,000 lbs. gross weight.

It is impossible to accurately predict the amount of aggregates or asphaltic concrete which would be produced and hauled during an anticipated working season of April through October. Local demands could average five loads per day whereas a major road construction project may require twenty loads or more per day. Although the number of "working days" allowed on a large scale project can range from 45 to 150 plus, the actual days required for the hauling of base aggregates or asphaltic concrete for paving may be very limited. As an example, the paving contract for Eagle Lake Road, County 201, in the Summer and Fall of 1980 allowed ninety working days. Sixty-eight were used by the Contractor for full completion of the job; however, the paving operation phase (hauling and placing of asphaltic concrete) required only five days to complete the 3.8 miles of road on the project. Mitigation of the projects impact upon existing species habitat is a complex issue and requires establishment of background information for a perceptive assessment.

12,672 TONS ÷ 5 day 2,500 Tons/shift 105 TAKE tips day

Mr. Thomas Stone, Associate Wildlife Biologist in the Redding Office of the California Department of Fish and Game, supplied information and documentation relative to the game wildlife species generally known to exist in the type of habitat found in the project and surrounding land areas. Antelope, mule deer, valley quail, chuckar, cottontail rabbits and dove are the game animals and birds of concern. Antelope, deer and chuckar useage is basically limited to winter range; whereas, quail and rabbit occur throughout the year. A complete copy of "A Deer Migration Study in Lassen County, California" was furnished by Mr. Stone. The study, prepared by Ken Conrad, Assistant Wildlife Manager Biologist, covered a project conducted in 1971-72. Included in the report is a Migration

Map (Appendix J-1, page 97) showing mule deer travel patterns as established from study results. Trapping areas were in the Willow Creek Deer Range west and northwest toward higher elevations. There were two tagged deer sighted during the study period on the southwest slope of Shaffer Mountain in November, 1972, at a higher elevation and some distance from the proposed project site; however, no migration pathways are shown transversing within or relatively close to the project area.

In conjunction with verbal conversations with Mr. Stone relative to wildlife impacts, Mr. Stone also prepared a map showing ranges and kidding grounds for Antelope (Appendix J-2, page 98). The map denotes the project and surrounding lands are designated as antelope winter range areas. Consideration must be given to the large amount of land encompassed by the winter and summer ranges shown on the map. There are approximately 92,160 acres shown as a part of the Antelope winter range of which the applicants total acreage accounts for less than one per cent.

Correspondence and a list of the non-game birds, mammals, and reptiles likely to occur in the project type habitat was received from Mark T. Morse, Eagle Lake Area Manager for the Bureau of Land Management, in response to verbal discussions with Greg Yuncevich, Willow Creek Area Wildlife Biologist, B.L.M. (Appendix I, pages 94-95). As expressed in Mr. Morris's letter, the impact of the project on pronghorn antelope and mule deer will be minimized by the projects seasonal operations; however, if approved, the project will result in removal of quail and chuckar habitats.

Snow on the higher reaches of Shaffer Mountain appears to be the determining factor in the timing of the wildlife moving downward for food sources. Vegetation within the project area is limited due to lack of moisture and gravelly soils; and, consists of a sparse growth of sages, bitterbrush, rabbit brush and annual grasses. The nearest source of surface water for wildlife is in drainage basins formed at the terminus of Balls Canyon in Sections 28 and 29. Lack of water and sparse vegetation tend to reduce the attractiveness of the project site for any other than minimal wildlife useage. Proposed project operations are characteristically governed by weather conditions with an anticipated working season of April through October. Minimal activity in the form of plant maintanence could feasibly occur during mild winter days. Applicants useage of the land would be limited to five acres for permanent plant and stockpile areas; and, an average of one acre per year for materials source with reclamation accomplished on a continuing basis.

C. MITIGATION MEASURES PROPOSED TO MINIMIZE SIGNIFICANT EFFECTS CONTINUED...

Steep slopes would be reduced, crusher fines spread over excavated areas, and reseeding take place. Recommendations for specialized seed and vegetation replanting would be sought from the California Department of Fish and Game and the Soil Conservation Service in order to provide suitable grazing grasses and effective erosion control.

Quail, rabbit, dove and small non-game species native to the Great Basin Life Zone which exist in this type habitat throughout the year would be effected by exposure to increased noise and activity levels during the working season. If the project is approved, some displacement of these species will occur and cannot be mitigated.

Lands surrounding the project site are privately owned parcels with the exception to the east which is under the administration of the Bureau of Land Management. Beyond the applicants proposed access road off of Ward Lake Road there are four ten-acre, two twenty-acre, two sixty-acre and one eighty-acre parcel. Assuming that these privately owned lands become developed and occupied in the future, increased levels of activity, though minimal compared to a plant operation, are bound to occur.

In conclusion, mitigation of the impact on wildlife is primarily relegated to climatic conditions wherein the effects of cold weather prompt wildlife to move down into the lower elevations; and, co-incidentally brings about the winter suspension of the plant operations.

Aesthetic mitigation is limited to the physical location of the proposed project. An outcropping (ridge) of rock exists between County Road 308 (Ward Lake Road) and the fairly level area behind it designated for the plant sites which will, in part, limit some of the direct view of the operations (Exhibit I, Photos, pages 41-43). Areas designated as materials sources are visible from the valley floor in some sections. Mitigation of these areas would consist of the implementation of the reclamation plan calling for reshaping and reseeding of excavated areas on a continuing basis. The ridge between County Road 308 and the plant sites is not a part of the materials source and would not be disturbed by the applicant.

D. ALTERNATIVES TO THE PROPOSED ACTION

There are no viable alternatives to the location of the project. Other material sources investigated (tested) for this type of development were of an inferior quality and/or not in close proximity to the market. If the project is to be justified, it must be done so on the basis of not only supplying a needed product, but doing it in a location where fuel useage and costs can be effectively reduced for the consumer over existent or alternative sources. It is inevitable that someone will eventually meet these needs; and, that there is a very real possibility of such an operation being placed in a less desireable location with subsequent negative effects on the environment. When State transportation projects warrant the cost, contractors find it advantageous to move in portable plants. In the past these have frequently been placed in designated areas within close proximity to the improvement projects and directly off of major highways. The alternative of being able to place a portable plant or permanent installation in an area such as that proposed by the applicant would alleviate the ground disturbance and traffic hazards created by the erection, operation and dismantling of plants along highly traveled routes.

The only significant alternative to the proposed action would be the "no project" alternative. This choice would leave the project area undisturbed and eliminate any effect upon the environment; in that it would remain as an unused resource providing marginal grazing land. Normal growth on surrounding lands would be anticipated in the form of residential and farming/ranching improvements.

E. & F. (Not Required)

G. GROWTH-INDUCING IMPACT OF THE PROPOSED ACTION

The proposed project area is zoned "A-1", General Agricultural, and a "Use Permit" is required for the desired project. Increased residential and/or farming/ranching useage may be encouraged by the extension of power lines and road improvements on County Road 308; however, similar industrial growth would not be anticipated due to the limited availability of the natural resources to be utilized by this particular proposal.

EFFECTS FOUND NOT TO BE SIGNIFICANT

(Section 15143.5)

Concern was expressed during the initial study period on the possibility of Petroglyphs within the project area. The independent archaeological study (Exhibit II, pages 44-73) conducted upon the site eliminated any possibility of significant findings of this nature; and, thus alleviated any discussion within the "Significant Impact" section of this document.

ORGANIZATIONS AND PERSONS CONSULTED

(Section 15144)

California Archaeological Survey Office
Chico State University Anthropology Department
Dr. Mark Kowta, Regional Officer

California Department of Fish and Game, Region I
Thomas B. Stone, Assistant Wildlife Biologist, Redding
Ken Conrad, Assistant Wildlife Manager Biologist, Susanville

California Department of Transportation, District II
Redding
G. E. Perry, Chief, Environmental Branch
Art Wyant, Assistant Highway Engineer, Materials Department

California Department of Water Resources
Resources Agency of California, Red Bluff
Clyde Muir, Climatologist
Freeman Beach, Geologist

California Division of Mines and Geology Board
Sacramento, California

California Office of Historic Preservation
Sacramento
Nicholas Del Cioppo

E C O (Archaeological Survey)
Redding
Trygve Sletteland, Director

Lassen County Air Pollution Control Office
Susanville
Fredric L. Evans, Officer

Lassen County Historical Society
Susanville
George Long, Secretary

Lassen County Planning Department
Susanville
Starlyn S. Brown

National Asphalt Pavement Association
Riverdale, Maryland
Richard Smith, Director of Research and Development

Susanville Indian Rancheria (Bureau of Indian Affairs)
Susanville — Sacramento
Freda Owens, Chairperson — Fred Doka

United States Department of Agriculture
Soil Conservation Service - Survey Office
Susanville
Wayne Henderson

United States Department of the Interior
Bureau of Land Management, Eagle Lake District
Susanville
Mark T. Morse, Manager
Steve Hawks, District Biologist
Gary Schoolcraft, District Botanist
Grey Yuncevich, Willow Creek Planning Unit Biologist

California Regional Water Quality Control Board
Lahontan Region-South Lake Tahoe
Judith E. Unsicker
Roy C. Hampson, Executive Officer

United States Department of Agriculture
Soil Conservation Service
Susanville
Donald Blickenstaff

County of Siskiyou
Air Pollution Control District Office
Yreka, California
Kenneth L. Corbin, Air Pollution Specialist

Lassen County Department of Public Works
Susanville, California
Donald Mambourg, Road Department

Susanville Municipal Airport
Bill Murray, Manager

B I B L I O G R A P H Y

State of California, Resources Agency, Department of Water Resources, "Records of Climatological Observations" Fleming Unit, Dept. of Fish and Game; and, California Conservation Center (July, 1977, through July, 1980)

United States Department of Agriculture, Soil Conservation Service Information Bulletin #347, "Controlling Erosion on Construction Sites" (1970); "New Plants for Conservation", Reprinted from Soil Conservation Magazine (1973-1975)

United States Department of Agriculture, Soil Conservation Service, Susanville Office, " Soil Map ", "Soil and Capability Map Summary" (1980); and, "Land Capability Classification" (1970)

Resources Agency of California, Department of Water Resources, "Areal Geology-Honey Lake Valley Ground Water Basin"; "Potential for Development of Ground Water Honey Lake Ground Water Basin" (1962); "Generalized Lines of Equal Elevation of Water in Wells in Aquifers, Honey Lake Valley Ground Water Basin" (1960); "North-eastern Counties Groundwater Investigation" (1962); Division of Mines and Geology, "Fault Map of California" Series #1 (1975); and "Earthquake Epicenter Map,Series #39 (1978)

United States Government, Department of the Interior, National Register of Historic Places, "Federal Register" 44(26) 1979; 45 (54) 1980

Resources Agency of California, Department of Parks and Recreation, "California Historical Landmarks" (1975)

State of California, The Resources Agency, California Department of Fish and Game, Region I, "A Deer Migration Study in Lassen County, California " Ken Conrad, 1972; "Antelope Range and Kidding Grounds Map, Thomas B. Stone (1980)

National Asphalt Pavement Association, Information Series 43 "Good Housekeeping - Your Responsibility"; Information Series 27 "Environmental Pollution Control at Hot Mix Asphalt Plants"; Information Series 73 "Fugitive Dust Control and the Hot Mix Plant" (1979-1980)

Resources Agency of California "Adopted Amendments to the State Guidelines for Environmental Impact Reports" (1980)

Lassen County Board of Supervisors: "Regional Transportation Plan for Lassen County, 1980"; Resolution 78-79-102 "Establishing Procedure for Review of Environmental Impact"; Ordinances 293A-11, 293, 293D, 2931, 293L, 293A-9,293A-14, 293A-16, 293A-17 and 293A-21 adopted as "Zoning Plan"

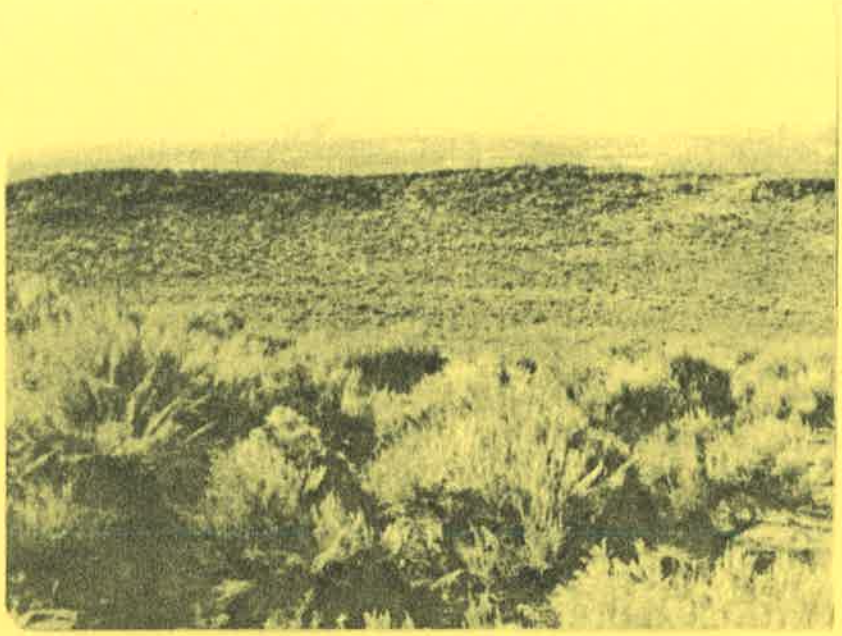
ECO, Redding, California, Trygve B. Sletteland, Staff Archaeologist,"Archaeological Survey Report for a Rock Crusher and Hot Plant on Shaffer Mountain, Lassen County, California"(September, 1980)

Lassen County Board of Supervisors: "Regional Transportation Plan for Lassen County, 1978"

E X H I B I T S

I. PHOTOGRAPHS OF PROPOSED SITE

II. ARCHAEOLOGICAL SURVEY REPORT

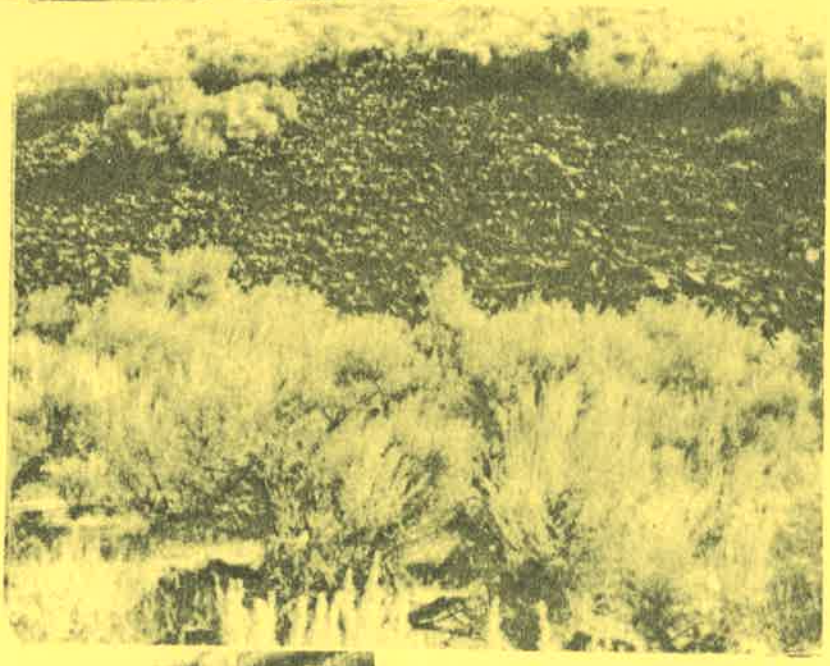


Looking West toward separating ridge from within project area

Ridge separating project site from Ward Lake Road (County 308)

Close-up of rock source to West from within project area

Rock Source looking South from within Project area



Looking East at Rock Source from within project site

EXHIBIT I

Project site looking North

View to the East from within project area

Looking East from within project site

EXHIBIT I

ARCHAEOLOGICAL SURVEY REPORT

FOR A

ROCK CRUSHER AND HOT PLANT

ON

SHAFFER MOUNTAIN

LASSEN COUNTY

CALIFORNIA

Prepared for:

Robert Miller
Miller's Custom Work
35 Grand Avenue
Susanville, California

Prepared by:

Trygve B. Sletteland
Staff Archaeologist
ECO
1666 Ridge Drive
Redding, California

September, 1980

EXHIBIT II

TABLE OF CONTENTS

INTRODUCTION..... 2

PROJECT DESCRIPTION..... 2

BACKGROUND RESEARCH..... 2

Environment..... 2

Ethnography..... 2

Tribal Boundaries..... 2
Northern Paiute..... 4
Northeastern Maidu..... 8

Archaeology..... 12

History..... 12

FIELD METHODS..... 14

STUDY FINDINGS..... 14

Recorded Sites..... 14

New Sites..... 15

CONCLUSIONS..... 15

REFERENCES..... 16

FIGURES

Tables

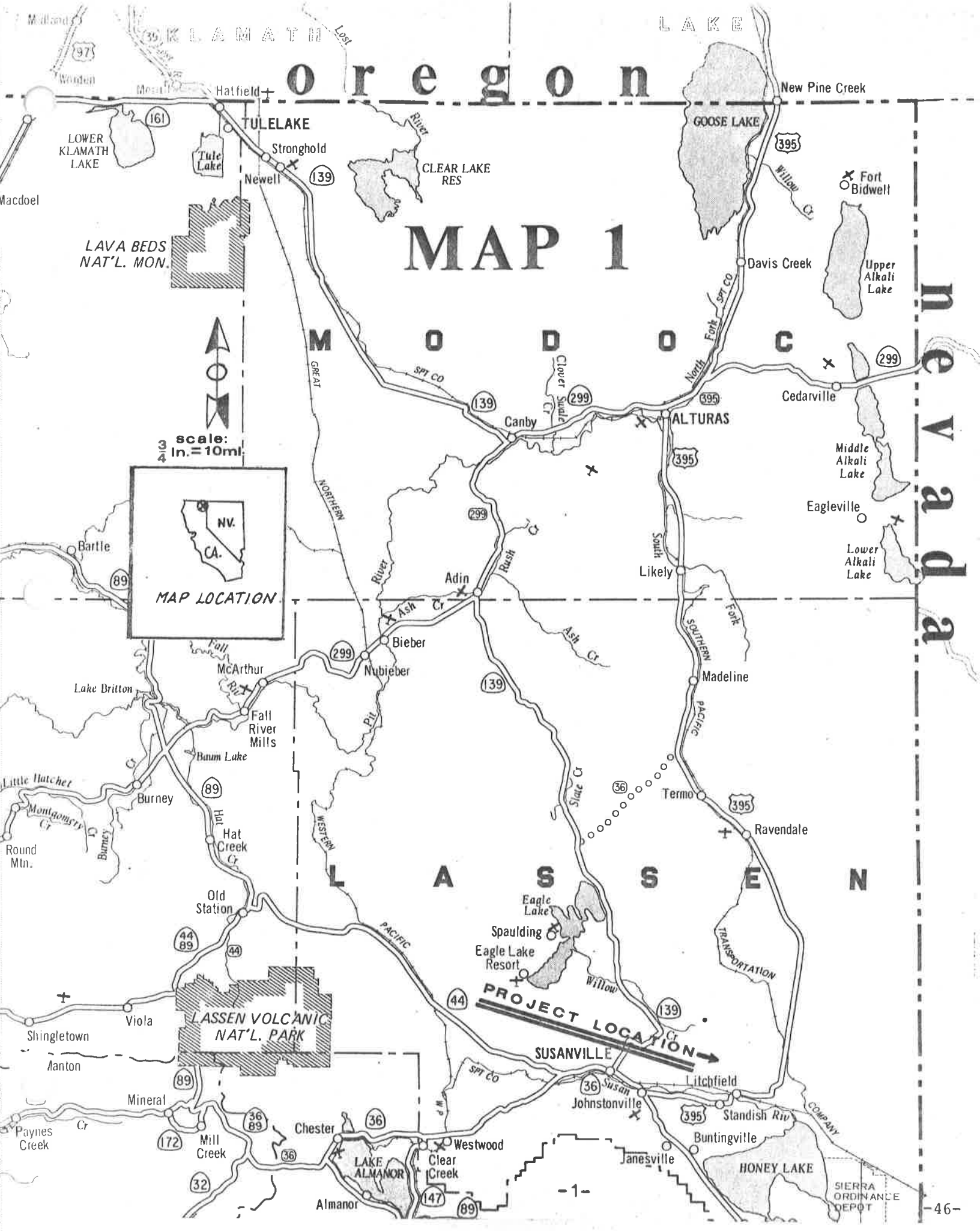
Table 1 Comparitive Cultural Chronology.. 11
Table 2 Chronological Ordering of Projectile Point Styles..... 13

Maps

Map 1 Project Location..... 1
Map 2 Project Vicinity..... 3
Map 3 Northern Paiute Bands..... 5
Map 4 Territory and Villages of the Maidu 9
Map 5 Site Map of CA-LAS-36..... 25

APPENDIX 1: SITE SURVEY RECORDS..... 23

APPENDIX 2: PHOTOGRAPHS OF MATERIALS SOURCE..... 26



MAP 1
oregon
nevada
KLAMATH
LAKE
MODOC
LASSEN
scale: 3/4 in.=10mi.
MAP LOCATION
NV.
CA.
PROJECT LOCATION
LOWER KLAMATH LAKE
Tule Lake
TULELAKE
Hatfield
Stronghold
Newell
CLEAR LAKE RES
GOOSE LAKE
New Pine Creek
Fort Bidwell
Davis Creek
Upper Alkali Lake
Middle Alkali Lake
Lower Alkali Lake
Eagleville
Cedarville
ALTURAS
Canby
Adin
Bieber
Nubieber
McArthur
Fall River Mills
Lake Britton
Baum Lake
Burney
Hat Creek
Old Station
Likely
Madeline
Termo
Ravendale
Eagle Lake
Spaulding
Eagle Lake Resort
SUSANVILLE
Johnstonville
Litchfield
Standish
Buntingville
Janesville
HONEY LAKE
SIERRA ORDINANCE DEPOT
LASSEN VOLCANIC NAT'L. PARK
Viola
Shingletown
Manton
Mineral
Mill Creek
Paynes Creek
Chester
Westwood
Clear Creek
LAKE ALMANOR
Almanor
Macdoel
Bartle
Round Mtn.
Little Hatchet
Montgomery Cr
Burney Cr
Lost River
Willow Cr
North Fork
SPT CO
Clover Swale Cr
Rush Cr
Ash Cr
Pit River
Fall Riv
Hat Cr
Slate Cr
Willow Cr
Susan Riv
Standish Riv
GREAT NORTHERN
WESTERN PACIFIC
SOUTHERN PACIFIC
TRANSPORTATION COMPANY

INTRODUCTION

On August 31, 1980 an archaeological survey was conducted for Miller's Custom Work along the western base of Shaffer Mountain in Lassen County. The reconnaissance was conducted by Trygve B. Sletteland (B.S. Northwestern University; M.A. Candidate in Anthropology, California State University, Sacramento; archaeological experience in California, Illinois, New Jersey, and Mexico) of ECO, Redding, California. The purpose of the survey was to locate and gather descriptive data on any archaeological resources located within the area to be affected by Miller's hot plant and crusher operations.

PROJECT DESCRIPTION

Miller's Custom Work proposes to excavate, crush, stockpile, and haul rock for asphalt concrete and aggregate materials. The project's area of potential environmental impact includes the proposed locations of the new haul road, asphalt concrete batch plant, rock crusher, stockpile, and materials source. The project area is located on approximately 80 acres of Sections 32 and 33, Township 29N, Range 13E on the Litchfield 15' Quadrangle (USGS 1954; see Map 2). More specifically, the project will affect the SW and NE quarters of the SE 1/4 of Section 32 and the NW 1/4 of the SW 1/4 and the SW 1/4 of the NW 1/4 of Section 33.

BACKGROUND RESEARCH

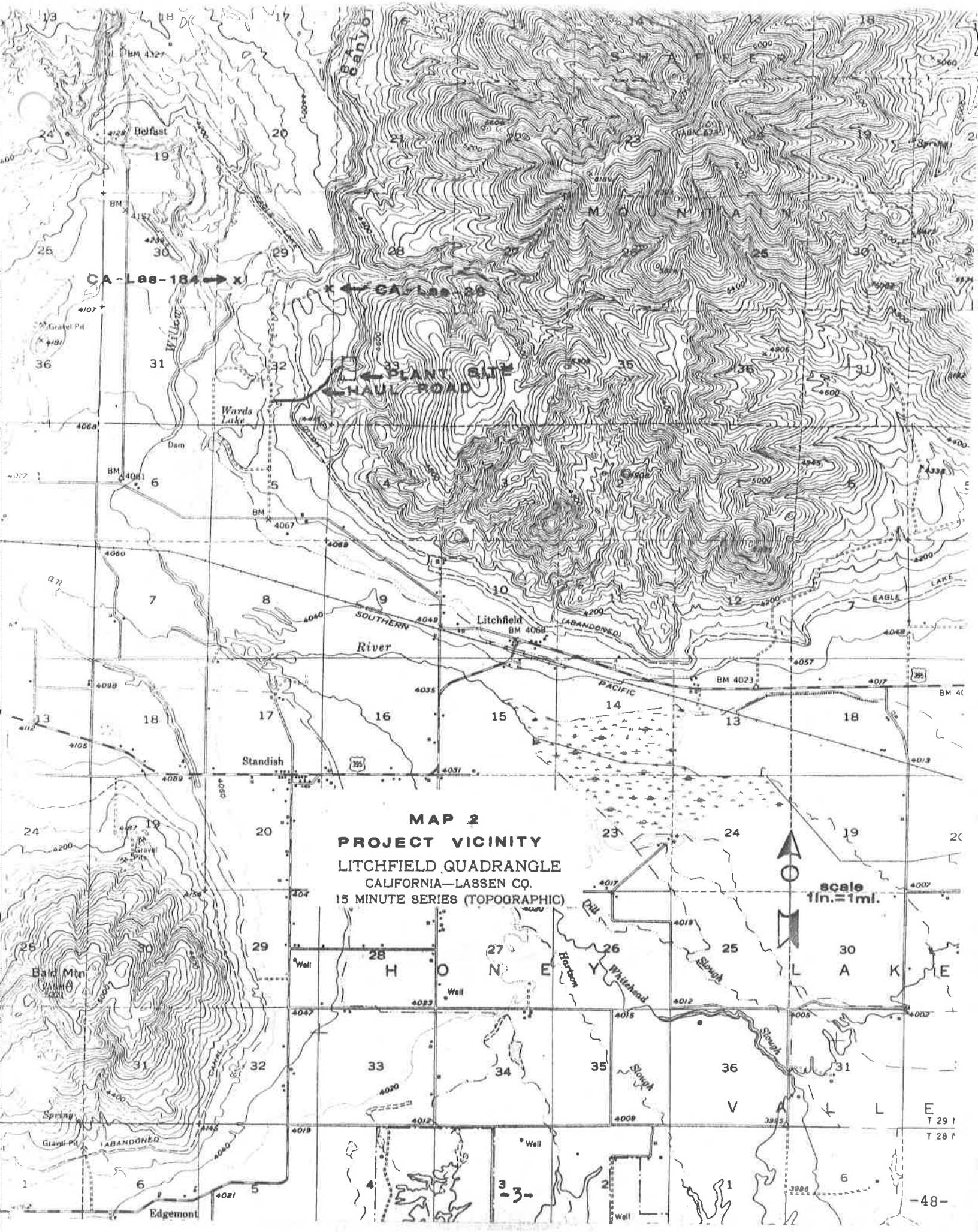
Environment

The geography, geology, flora, and fauna of the project area are described elsewhere in the Environmental Impact Report in which this report will be included.

Ethnography

Tribal Boundaries

The project is located in an area which was probably used by members of two bordering tribes: the Northeastern Maidu and Northern Paiute. Kroeber (1925: Plate 37) shows the boundary between these tribes as passing through or close to the project area. Stewart (1939: Map 1) gives it as Paiute territory while Riddell (1978:372) states that the area was held by the Maidu



MAP 2

PROJECT VICINITY

LITCHFIELD QUADRANGLE

CALIFORNIA—LASSEN CO.

15 MINUTE SERIES (TOPOGRAPHIC)

until about AD 1700, after which it was taken over by the Paiute. Theodoratus et al (1979: Figure 3) show the area as that of the Paiute, and also observe (1979:24) that the Maidu and Paiute both had villages located in the Susanville area some 12 miles west of the project. Ethnographers are in general agreement, then, that the western slope of Shaffer Mountain was occupied or utilized during historic times by the Northern Paiute tribe but may also have been used by the Northeastern Maidu, especially during the period before AD 1700.

Northern Paiute

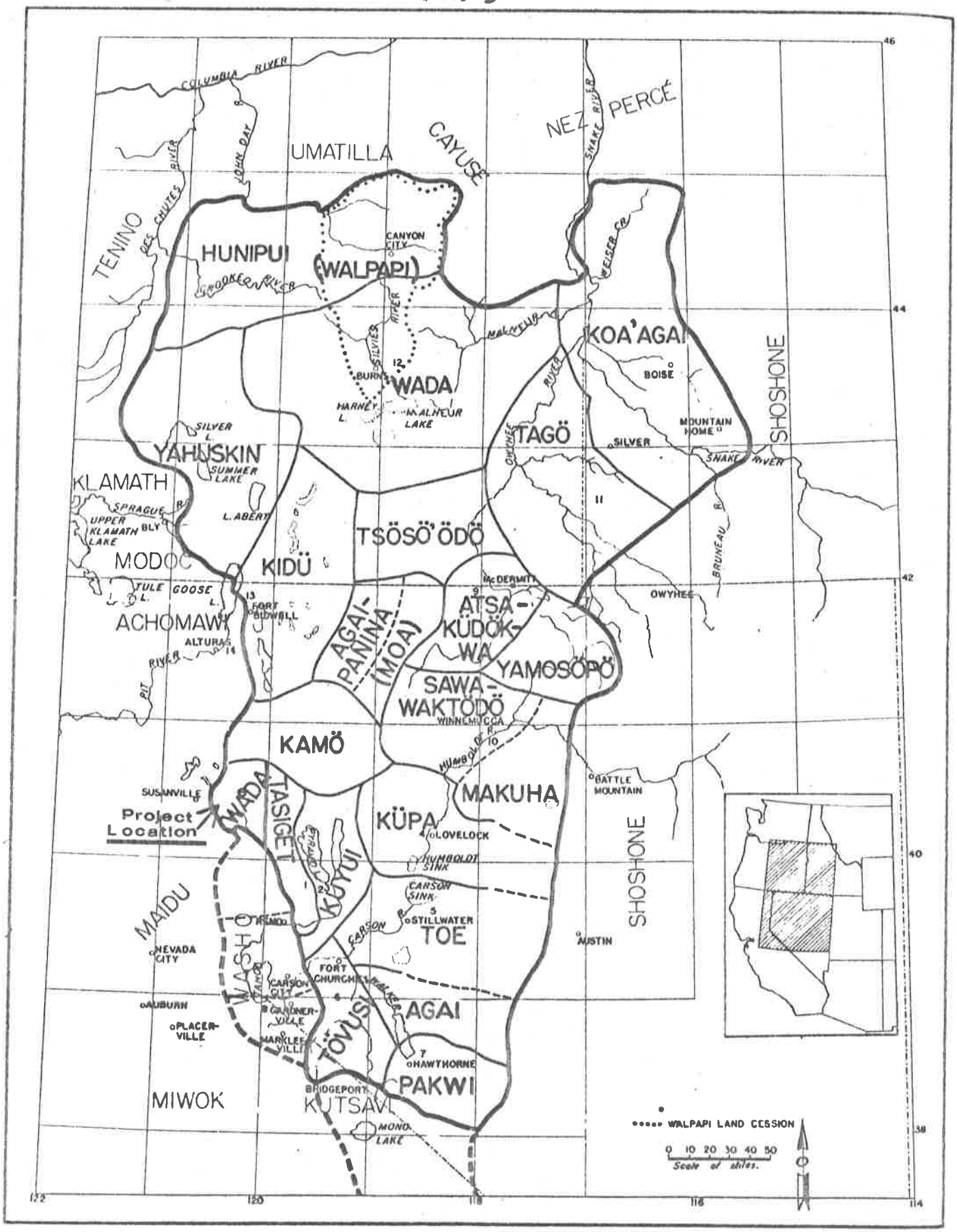
The Northern Paiute inhabited about 78,000 square miles of eastern Oregon, southwestern Idaho, northern Nevada, and northeastern California. They speak the Mono-Paviotso dialect of the Plateau Shoshonean language stock, a member of the great Uto-Aztekan language family. The name "Paiute" has been explained as a combination of the Paiute words "pa" (water) and "ute" (direction), but the Northern Paiute referred to themselves as "nomo" (people).

The Northern Paiute tribe, defined on the basis of shared linguistic, cultural, and environmental traits, has been subdivided into 21 politically autonomous bands as shown on Map 3. The Wadatkut (wada-seed eaters) or Honey Lake Paiute occupied a territory of about 800 square miles, including Honey Lake and the lower Susan River Valley. Their territory was smaller than that of any other Northern Paiute band.

General ethnographic data on the Paiute have been presented by Kroeber (1925), Steward (1938) and Stewart (1939), among others. The Owens Valley (Steward 1933) and Surprise Valley (Kelly 1932) Paiute have been the subjects of specific ethnographies. The major ethnography of the Honey Lake Paiute was done by Riddell (1960a).

Paiute social organization was neither complex nor formal. The loosely organized band was the only recognized political unit, although Stewart (1939) feels that the power consolidated by Old Winnemucca after European contact suggested that the Northern Paiute bands had been in the process of becoming united under one chief. That never happened, although there must have been some degree of central control exercised during communal

MAP 3



MAP 3: NORTHERN PAIUTE BANDS
(after Stewart 1939)

activities when bands united for hunting, fishing, piñon nut gathering, dancing, and, rarely, fighting the Achomawi, Atsugewi, Maidu, or Washo. Each band had a headman who settled disputes over hunting territory and stolen property (Riddell 1960a:72). Marriage took place between members of the same or other bands. The dead were "buried", though no graves were dug (Kelly 1932).

Like other Great Basin peoples, the Honey Lake Paiute were entirely dependent on hunting and gathering and followed a seasonal round of resource exploitation. They depended on no single product, since such was not available year-round. In early spring, they took fish from the lakes and streams and later, after the snow had melted, they left their winter quarters in search of early roots and those which they had buried the previous year. The rest of the spring and into the summer they continued to wander, gathering roots and storing the surplus for later use. Later in the summer they harvested seeds and picked berries. Shaffer Mountains was a source for atsa' (Sophia sp.) seeds; wada seeds were most plentiful on the eastern shore of Honey Lake (Riddell 1960a:34). Although they took deer, antelope, and rabbits year-round, late summer and early fall were the best time of the year to hunt them as well as waterfowl such as geese, ducks, swans, and mud hens. Sage hens and grouse were got in the spring; groundhogs, porcupines, and squirrels in early summer; and crickets and other insects were gathered in the fall. In winter food was short. After the seeds, dried roots, and meats they had cached ran out, starvation could and did occur, although deer and rabbit hunting continued and bear and wildcat were tracked in the snow. Antelope charming was also practiced in the winter.

Resources which the Paiute coud not gather in their own territory or did not manufacture for themselves were obtained through trade, principally with the Achomawi. Arrowheads, red paint, buckskins, moccasins, rabbitskin blankets, and foodstuffs were supplied to the Achomawi in exchange for sinew-backed bows, arrows, baskets, dried fish and salmon flour, women's basketry caps, and clam disc beads. The Atsugewi exchanged bows, baskets, and shell beads for Paiute horses, buckskins, red ochre, glass beads, guns, and Olivella beads (Davis 1961:32). Antelope hides were exchanged for deer hides with the Washo (Downs 1966).

The winter house was a conical wikiup or lodge 12 feet in diameter with an unexcavated floor. A willow or juniper framework was covered with mats made of rye grass or tule. A smoke hole was left at the top and the doorway always faced away from the wind. In spring, the wikiup was abandoned; from then until the following winter, a week was about as long as the Paiute stayed in one place. Either shades or unroofed sagebrush enclosures were used in summer.

Skin clothing was worn by both sexes. Women wore dresses of buckskin or, if less well-to-do, antelope hide. In winter a cape of rabbitskin or sagebrush bark was added. Buckskin shirts, similar to the women's dresses, but shorter, were worn by men, who also used the same winter capes. Both sexes wore buckskin leggings and soft-soled deerhide moccasins. They also shared the same long, braided hairstyle and painted their faces. Tattooing of the face was practiced primarily by women.

Twined and coiled basketry was made of willow. Items manufactured included seed beaters, conical burden baskets, water jars, cradles, parching and winnowing trays, cooking baskets, mush bowls, spoons, and fish traps. For color the willow was steeped in fresh crushed currants.

Every man made his own bow, for which the Paiute used juniper. Arrows were made of serviceberry or arrow cane with a fletching of three feathers. A greasewood foreshaft was fastened with pitch and bound with sinew. Quivers were made of tanned wildcat or coyote skin (Riddell 1960a:47).

Stone tools included arrow points, knives, drills, punches, and scrapers, usually made from obsidian. This material was obtained from the eastern side of Honey Lake, in the area of Gerlach, Nevada, or through trade with the Achomawi. Ground stone tools included arrow shaft smoothers, manos and metates, and bedrock and portable mortars and pestles (Riddell 1960a:49).

Shamans determined the causes of illnesses and accidents and devised cures through songs, charms, and sucking. Shamanistic power was acquired through dreams. In 1870 and again in 1889, Northern Paiute shamans initiated ghost dance movements, passing the revitalistic cult westward to the Modoc and Achomawi (Kroeber, 1925).

Northeastern Maidu

Tribes which speak languages grouped in the Maiduan family include the Nisenan or Southern Maidu, the Konkow or Northwestern Maidu, and the Maidu or Northeastern Maidu. The Maiduan language family is classified as belonging to the California Penutian linguistic stock. Its speakers occupied the drainages of the Susan, Feather, Yuba, Bear, and American Rivers, an area of roughly 4,000 square miles. "Maidu" means "person" in the language of the tribe. The Northeastern or Mountain Maidu, hereafter referred to simply as the Maidu, inhabited some 1,200 square miles of the drainages of the Susan River and the upper parts of the North and Middle Forks of the Feather River, as shown on Map 4.

Sources of ethnographic data on the Maidu include Powers (1877), Dixon (1905), Kroeber (1925), and Riddell (1968). Syntheses of the information contained in these and other ethnographies are provided by Riddell (1978) and Theodoratus (1979).

The Maidu were socially organized into autonomous village communities of several adjacent villages. Most of their major villages were situated below the 4,000 foot elevation. In addition to these permanent villages located at lower elevations in their mountainous terrain, the Maidu made seasonal use of areas over the 4,000 foot mark. Each community had a headman who resided in the central village and served as spokesman and advisor. Kroeber (1925:397) estimated the average population of a community at less than 200 people.

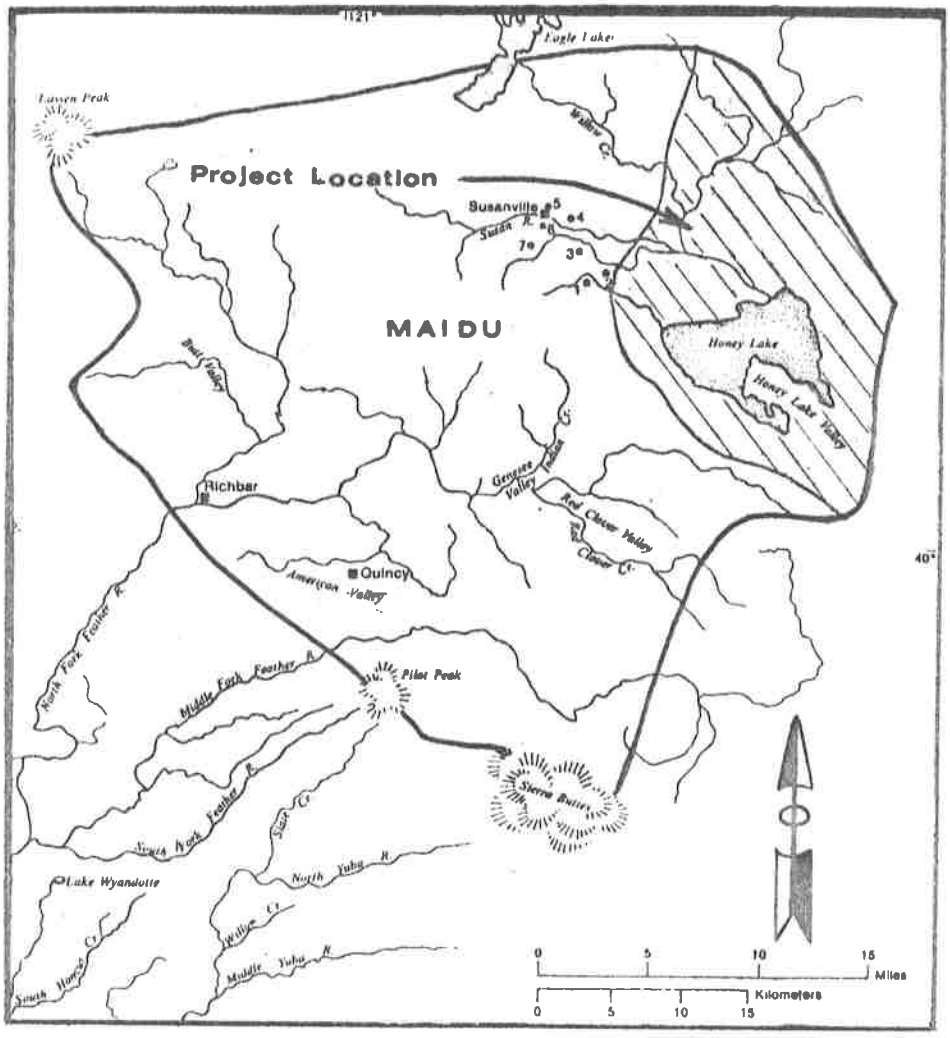
Like the Paiute, the Maidu were hunters and gatherers who practiced a subsistence pattern of seasonal transhumance. They were skillful hunters whose animal resources included deer, mountain sheep, antelope, elk, bear, rabbit, raccoon, and squirrels. Hunting was done individually or in groups for deer or bear (Dixon 1905:192). Quail, pigeon, geese, and ducks were netted, snared, or shot with a bow and arrow and trout were netted or trapped.

Vegetable foods were also important in the Maidu diet. The great variety of nuts and berries which were utilized includes acorns, wild nutmeg, buckeye, and pine nuts, and manzanita, strawberry, thimbleberry, serviceberry, elderberry, chokeberry, wild plum, gooseberry, and black

MAP 4: MAIDU TRIBAL TERRITORY

AND VILLAGE LOCATIONS

(in the Susanville area)



(after Riddell 1978: Fig. 1)

Territory held by the Maidu until about AD 1700

• Villages

1 witayim
2 Lone Pine
3 name forgotten
4 name forgotten
5 sumbilim
6 name forgotten
7 kasim

currants (Duncan 1961). Roots and bulbs, as well as seeds from grasses, were also eaten.

The Maidu's principal trading partners were the Konkow, Atsugewi, and Achomawi. Bows and arrows, skins, sugar pine nuts, shell beads, and acorns were received from the former in exchange for clam disc beads, salmon, salt, and digger pine nuts. The Atsugewi exchanged bows, twined baskets, and furs for deer hides, clam disc beads, coiled baskets, and bows, while the Achomawi traded obsidian, shell beads, bows, arrows, deer skins, and sugar pine nuts for clam disc beads, salt, and digger pine nuts (Davis 1961:31).

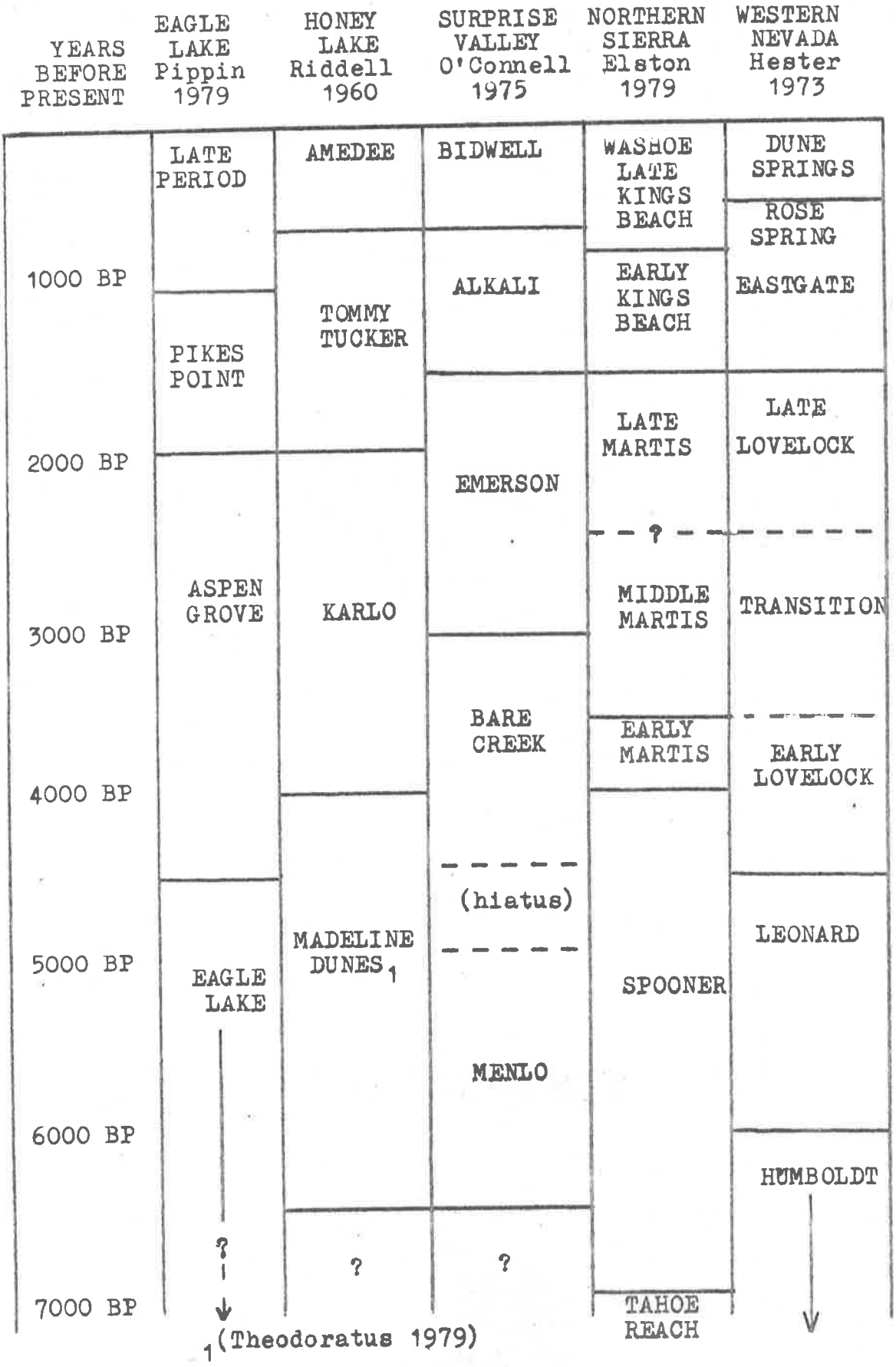
The Maidu built three kinds of habitation structures, the largest of which was a semi-subterranean earth-covered lodge used for multi-family housing, dancing, and sweating. These were located in permanent central villages. Conical bark houses were inhabited by family units during the winter and simple twig and branch shelters were occupied in other seasons as hunting and gathering base camps (Farber 1980).

Clothing was scant, even during the winter. Men wore a buckskin breechcloth in warm weather and moccasins, leggings, and robes of deerskin during winter. In summer women's clothing consisted of a buckskin or bark apron skirt; a deerskin robe and basketry cap were added during colder weather. Hair was worn long, necklaces were of shell and dentalia, and bone or wood ear ornaments were worn by women. Men pierced the nasal septum and inserted a woodpecker feather (Dixon 1905, Riddell 1978).

Twined basketry was made of the roots of yellow pine, bear grass, and common brake, or the stems of the maidenhair fern. Items manufactured included burden, milling, storage, and dish baskets, as well as seed beaters and fish traps. Diagonal designs were added with colored sewing splints made from redbud, willow, and pine root. Water-tight coiled baskets were also made (Kroeber 1925:414).

Hunting tools included knives and spears of basalt and arrow points of obsidian, which was obtained through trade. Bowstrings were made from split willow and bows from sinew and twined sagebrush bark or chokeberry. Tanned animal skins were used to make quivers (Riddell

TABLE 1: COMPARITIVE CULTURAL CHRONOLOGY



1 (Theodoratus 1979)

1978:374, Theodoratus 1979:34).

Shamans, who could be of either sex and inherited their positions, played important roles in Maidu festivals, ceremonies, and dances. They also functioned in political relations with other tribes and as doctors who inflicted or cured illness. The Maidu divided the year into 4 seasons and 12 moons, beginning in spring.

Archaeology

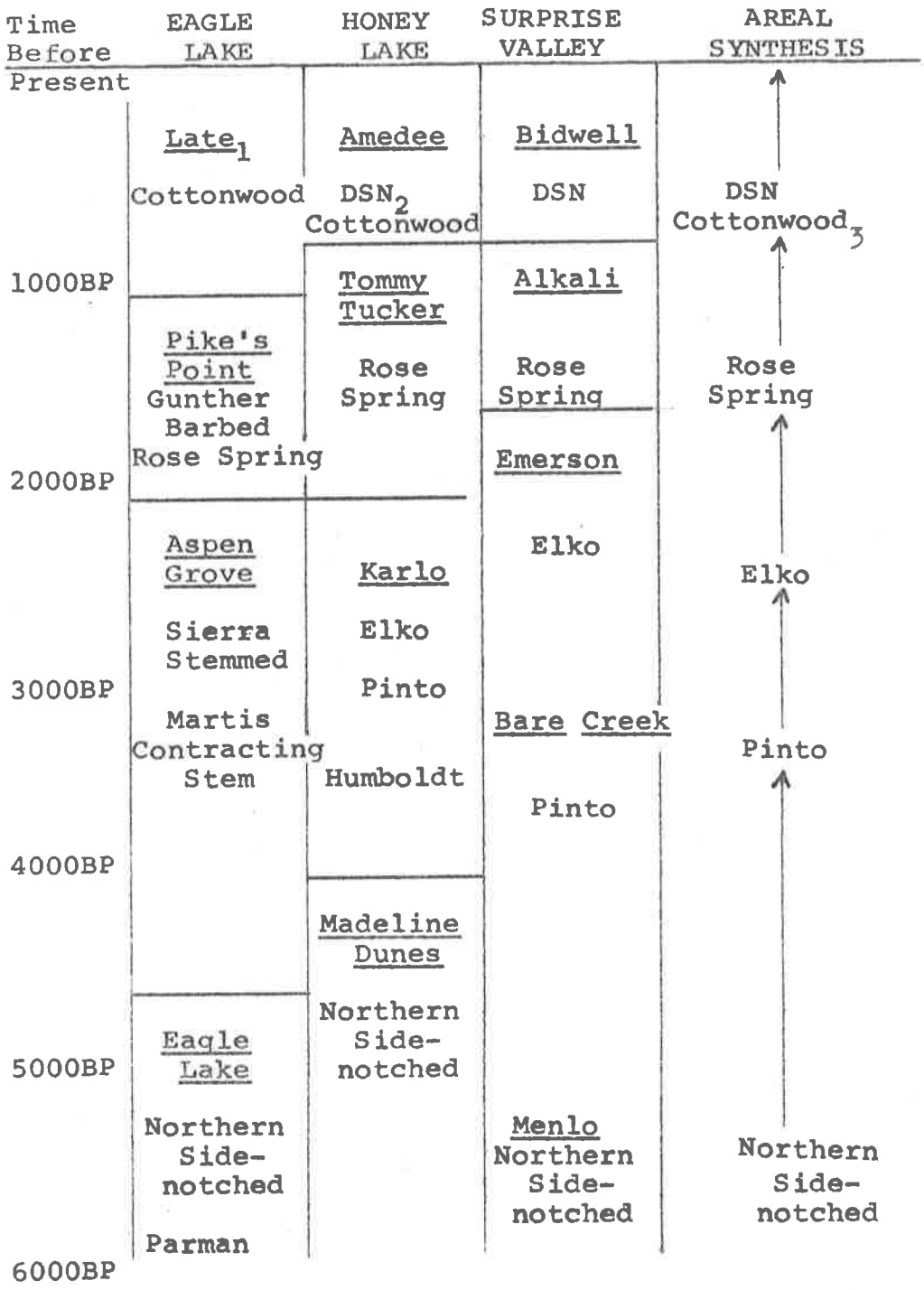
Archaeological excavations have taken place in Lassen County at Secret Valley (Riddell 1960b) 12 miles to the northeast of the project area, Eagle Lake (Friedman 1976, 1977; Wohlgemuth 1978; Pippin et al 1979) 21 miles to the northwest, and at Honey Lake (Fenenga and Riddell 1949, Riddell 1956a&b) and Hallelujah Junction (Elston 1979) 12 and 48 miles, respectively, to the southeast. Comparitive cultural chronologies resulting from these excavations and those of O'Connell (1971) in Surprise Valley; and Heizer and Baumhoff (1961), Heizer and Clewlow (1968), Roust and Clewlow (1968), Loud and Harrington (1974) and others in western Nevada are presented in Table 1. Table 2 synthesizes the chronological ordering of projectile point styles in Lassen and Modoc counties.

Many archaeological surveys have been performed in Lassen County. These include those by Atkinson (1975), Boynton (1975), Corson and Smith (1979), Dotta (1977), Hughes (1974), Markley (1976a&b), and Ridgeway (1977c) in the Eagle Lake Basin; Cook (1976a) and Ridgeway (1977b) in Secret Valley; Ridgeway (1977a) on Fredonyer Pass; and Jensen and Roberts (1977) on the eastern side of Shaffer Mountain. This last survey, during which six archaeological sites were identified, including one which was later surface collected (Jensen and Zancanella 1978), is noteworthy in that it covered an area on the opposite side of Shaffer Mountain from the project area under study in this report.

History

The first recorded contact with the Honey Lake Paiute was made by Peter Lassen in 1850 (The Illustrated History of Plumas, Lassen and Sierra Counties 1882). It is possible, however, that contact was made as early as 1829 when Peter Sken Ogden passed through northwestern Nevada

TABLE 2: CHRONOLOGICAL ORDERING OF PROJECTILE POINT STYLES



1 Cultural phase names are underlined. See Table 1 for references.

2 Projectile point styles; DSN=Desert Side-notched.

3 There are variable time overlaps between point styles in this column.

(Riddell 1960a). William H. Nobles traveled through the Honey Lake Valley in 1851. Nobles' Road passed about three miles north of Honey Lake, just south of Shaffer Mountain (Hoover, et al 1966). This trail began being used for westward immigration in 1852.

The original settler of Lassen County was Isaac Roop, who first visited the Honey Lake Valley in 1853 and founded a trading post at Susanville, named after his only daughter, in the following year. Peter Lassen's discovery of gold in the Honey Lake Valley in 1855 brought in miners and the ill defined "Territory of Nataqua" was formed by Roop, Lassen, and other settlers in 1856. After the creation of the Nevada Territory in 1861, Honey Lake Valley was claimed by both Plumas and Lake Counties. The Sagebrush or Boundary Line War was fought in 1863 by some 50 Honey Lake Valley settlers against Plumas County officers seeking to uphold their authority in the area. The creation of Lassen County in 1864 ended the dispute (Hoover, et al 1966:145).

FIELD METHODS

The area described on page 2 and shown on Map 2 of this report was surveyed on August 31, 1980. The ground surface was scrutinized for cultural resources utilizing a series of linear transects which were spaced 10 feet apart in the area proposed for the haul road; 50 feet apart in the areas proposed for the hot plant, crusher, and stockpile, and 50 to 100 feet apart in the area proposed for the materials source. The steep slope and concomitant unsuitability for human use in parts of the latter area dictated the wide spacing between transects, although the boulders on the flat summit at the southern end of the materials source were carefully examined for petroglyphs. Surface visibility was generally excellent throughout the project area as a result of the sparse vegetation. The only areas where disturbance of the surface was a problem were those where project construction had already begun. The materials source itself was completely undisturbed.

STUDY FINDINGS

Previously Recorded Sites

The Society for California Archaeology Clearinghouse No. 2, housed at California State University, Chico, lists no

sites in the project area. Two archaeological sites are listed within a 1 mile radius of the site, however. A petroglyph site, CA-Las-184, is located at the mouth of Balls Canyon about 1 mile northwest of the project area and will not be affected by it. A camp site, CA-Las-36, is located on either side of the dirt road slightly less than half a mile north of the plant site. Had a new haul road not been constructed, it is likely that CA-Las-36 would have been at least indirectly affected by the project. As the project haul road is designed (and partially constructed), however, this site will not be affected by it. Both CA-Las-36 and CA-Las-184 are located on Map 2 and the Site Survey Records are attached as Appendix 1. THIS INFORMATION IS NOT INTENDED FOR PUBLIC RELEASE.

The California Inventory of Historic Resources (1976), California Historical Landmarks (1979), and the National Register of Historic Places (1979, 1980) were also consulted for data on cultural resources in the area. Willow Creek Rim Archaeological District, north of Litchfield, was the only cultural resource listed within a 2 mile radius of the project. It is located approximately 2 miles southeast of the project area and will not be affected by it.

New Sites

No archaeological sites were identified during the archaeological survey of the project's area of potential environmental impact.

CONCLUSION

It is recommended that Miller's proposed land use be given archaeological clearance since no cultural resources were identified during an archaeological survey of their project area. Should buried cultural resources be unearthed during construction, however, it is recommended that work be halted until a qualified archaeologist can assess the significance of the find.

REFERENCES

Atkinson, H.
1975 An Archaeological Survey in Atsugewi Territory. Ms. on file, Dept. of Anthropology, California State University, Chico.

Boynton, M.J.
1975 Archaeological Survey Report for the Proposed Reconstruction of Eagle Lake Road #201, FAS 1499(4) and Its Effect on the Chopper Site (FS #05-06-58-12) a Property Listed upon the National Register of Historic Places. Ms. on file, USFS Modoc National Forest, Alturas.

Cook, R. A.
1976a Phase I Cultural Resource Survey for the Proposed Improvement of 02-Las395, P.M. 83.3/92.0. Ms. on file, Caltrans, Redding.

1976b Archaeological Survey Report for the Proposed Realignment of 02-Las-139, P.M. 7.5/8.0, Ms. on file, Caltrans, Redding.

Corson, C. and G. Smith
1979 Preliminary Assessment of Cultural Resources in the Eagle Lake Basin, Lassen County, California. Ms. on file, U.S. Bureau of Land Management, Susanville.

Davis, J.T.
1961 Trade Routes and Economic Exchange Among the Indians of California. University of California Archaeological Survey Report 54. Berkeley.

Dixon, Roland B.
1905 The Northern Maidu. Bulletin of the American Museum of Natural History 17(3):119-346. New York.

Dotta, J.
1977 Archaeological Reconnaissance in the Eagle Lake Region. Ms. on file, Lassen County, Road Department, Susanville.

Downs, J.F.
1966 The Two Worlds of the Washo: An Indian Tribe of California and Nevada. Holt, Rinehart, and Winston. New York.

Duncan, J.
1961 Ethonobotany of the Maidu. Unpublished M.A. Thesis. Department of Anthropology, Sacramento State College, Sacramento.

Elston, R.G.
1979 The Archaeology of U.S. 395 Right-of-Way Between Stead, Nevada and Hallelujah Junction, California. Archaeological Survey, University of Nevada, Reno. Ms. on file, Caltrans, Redding.

Farber, A.
1980 Picking Up the Pieces: A Surface Collection at Site CA-Plu-250, Plumas County, California. Ms. on file, Caltrans, Redding.

Fenenga, F. and F. A. Riddell
1949 Excavation of Tommy Tucker Cave, Lassen County, California. American Antiquity 14(3):203-214.

Friedman, J.
1976 Grove Campground, Eagle Lake, Lassen County, California. Ms. on file, U.S. Forest Service, Lassen National Forest, Susanville.

1977 Archaeological Investigation of Pike's Point, Eagle Lake, Lassen County, California. Ms. on file, California State University, Chico.

Heizer, R.F. and M.A. Baumhoff
1961 Archaeology of Two Sites at Eastgate, Churchill County, Nevada. I. Wagon Jack Shelter. University of California Anthropological Records 20(4). Berkeley.

Heizer, R.F. and C.W. Clewlow, Jr..
1968 Projectile Points from Site NV-Ch-15, Churchill County, Nevada. University of California Archaeological Survey Report 71:59-101. Berkeley.

Heizer, R.F. and T.R. Hester
1970 Names and Locations of Some Ethnographic Patwin and Maidu Indian Villages. University of California Archaeological Research Faciilty Contribution 9(5):79-118. Berkeley.

Hester, T.R.
1973 Chronological Ordering of Great Basin Prehistory. University of California Archaeological Research Facility, Contribution 17. Berkeley.

Hoover, M.B., H.E. Rensch, and E.G. Rensch
1966 Historic Spots in California. Stanford University Press. Palo Alto.

Hughes, R.E.
1974 An Archaeological Survey of the Davis Creek and Eagle Lake - Spaulding Boat Launch RC&D Measures. Part II: The Eagle Lake - Spaulding Boat Launch RC&D Measure. Ms. on file, U.S. Soil Conservation Service, Davis.

Jensen, P.M. and L.D. Roberts
1977 Archaeological Survey Report for a Highway Widening Project on 02-Las-395, P.M. 76.5/83.4. Ms. on file, Caltrans, Redding.

Jensen, P.M. & J.R. Zancanella
1978 Archaeological Surface Collection at Site CA-Las-86, Lassen County, California. Ms. on file, Caltrans, Redding.

Kelly, I.
1932 Ethnography of the Surprise Valley Paiute. University of California Publications in American Archaeology and Ethnology 31(3). Berkeley.

Kroeber, A.L.
1925 Handbook of the Indians of California. Bureau of American Ethnology Bulletin 78. Washington.

Loud, L.L. & M.R. Harrington
1974 Lovelock Cave. University of California Publications in American Archaeology and Ethnology 25(1):1-183. Berkeley.

Markley, R.E.
1976a An Analysis of the Lithic Scatter at CA-Las-375, Lassen County, California. Ms. on file, CH2M Hill, Inc., Redding.

1976b Archaeological Reconnaissance of the Proposed Waste Water Treatment Facility at the California Correctional Institute, Susanville, California. Ms. on file, CH2M Hill, Inc., Redding.

O'Connell, J.F.
1971 The Archaeology and Cultural Ecology of Surprise Valley, Northeast California. Unpublished Ph.D. Dissertation. University of California, Berkeley.

Pippin, L.C., J.O. Davis, E. Budy, and R. Elston
1979 Archaeological Investigations of the Pike's Point Site (4-Las-537), Eagle Lake, Lassen County, California. Ms. on file, U.S. Forest Service, Lassen National Forest, Susanville, California.

Powers, Stephen
1877 Tribes of CA. Contributions to North American Ethnology 3. U.S. Geographical & Geological Survey of the Rocky Mountain Region. Washington.

Riddell, F.A.

1956a Archaeological Research in Lassen County, California. University of California Archaeological Survey Report 33:44-49. Berkeley.

1956b Final Report on the Archaeology of Tommy Tucker Cave. University of California Archaeological Survey Report 35, Paper 44. Berkeley.

1960a Honey Lake Paiute Ethnography. Nevada State Museum Anthropological Papers No. 4. Carson City.

1960b The Archaeology of the Karlo Site (Las-7), California. University of California Archaeological Survey Report 73:95-194. Berkeley.

1968 Ethnogeography of Two Maidu Groups. Masterkey 42(2):45-52.

1978 Maidu and Konkow. In Handbook of North American Indians: California. (Vol. 8). Ed.: R.F. Heizer. Pp. 370-386. Smithsonian Institution, Washington.

Ridgeway, N.B.

1977a Archaeological Survey Report: Fredonyer Pass Project, 02-Las-36, P.M. 8.5/17.3. Ms. on file, Caltrans, Redding.

1977b Archaeological Survey Report for the Proposed Improvement of 02-Las-395, P.M. 82.5/83.4 (Part of P.M. 765/83.4). Ms. on file, Caltrans, Redding.

1977c Archaeological Survey Report for Two Proposed Alternatives for the Realignment of 02-Las-139, P.M. 24.0/30.0. Ms. on file, Caltrans, Redding.

Roust, N.L. and C.W. Clewlow, Jr.
1968 Projectile Points from Hidden Cave (NV-Ch-16), Churchill County, Nevada. University of California, Archaeological Survey Report 71:103-115. Berkeley.

State of California
1976 California Inventory of Historic Resources. Department of Parks and Recreation. Sacramento.

1979 California Historical Landmarks. Department of Parks and Recreation. Sacramento.

Steward, J.H.
1933 Ethnography of the Owens Valley Paiute. University of California Publications in American Archaeology and Ethnology, 33:223-350. Berkeley.

1938 Basin-Plateau Aboriginal Sociopolitical Groups. Bureau of American Ethnology, Bulletin No. 120. Washington.

Steward, J.H. and E. Wheeler-Voegelin
1974 Paiute Indians III: The Northern Paiute Indians. Garland Publishing. New York.

Stewart, O.C.
1939 The Northern Paiute Bands. University of California Anthropological Records 2(3):127-149. Berkeley.

1941 Culture Element Distributions, XIV: Northern Paiute. University of California Anthropological Records 41(3):361-446. Berkeley.
41(3):361-446. Berkeley.

The Illustrated History of Plumas, Lassen and Sierra,
1882 Counties. Farris & Smith, San Francisco.

Theodoratus, D., F.A. Riddell, C.M. Blount, D. A. Bell, & M.E. Peters
1979 Anthropological Overview of a Portion of Lassen and Modoc Counties. Vol. 1. Ms. on file, Bureau of Land Management, Susanville.

U.S. Government
1979 National Register of Historic Places. Federal Register 44(26).

1980 National Register of Historic Places. Federal Register 45(54).

Wohlgemuth, E.
1978 Preliminary Investigation and Evaluation of CA-Las-345, Eagle Lake, Lassen County, California. Ms. on file, Lassen County Department of Public Works, Susanville.

APPENDIX 1:

SITE SURVEY

RECORDS

University of California — Archaeological Survey

ARCHAEOLOGICAL SITE SURVEY RECORD

621B-54

1. Site Las-184 2. Map Litchfield Quad 3. County Lassen

4. Twp. 30N Range 14E; NW SW 1/4 of SW 1/4 of Sec. 29

5. Location At mouth of Balls Canyon at north end of former siphon which crossed Ball Canyon. UTM: 718525E 4478075

6. On contour elevation 4140'

7. Previous designations for site None

8. Owner 9. Address

10. Previous owners, dates

11. Present tenant

12. Attitude toward excavation

13. Description of site petroglyph site

14. Area 15. Depth 16. Height

17. Vegetation 18. Nearest water At site

19. Soil of site 20. Surrounding soil type

21. Previous excavation

22. Cultivation 23. Erosion

24. Buildings, roads, etc.

25. Possibility of destruction

26. House pits

27. Other features

28. Burials

29. Artifacts

30. Remarks Should be visited at first opportunity.

31. Published references

32. UCMA Accession No. 33. Sketch map

34. Date 4/14/56 35. Recorded by E.H. Riddell 36. Photos

University of California

ARCHAEOLOGICAL SITE SURVEY RECORD Litchfield 15' USGS 6218.04

1. Site Las-36 2. Map Lassen County Road Map T.W. Ogilvie, Co. Engineer 3. County Lassen

4. Twp. 30 N Range 14 E SE ¼ of SE ¼ of Sec. 29

5. Location On bench on south side of Balls Canyon Creek

UTM: 719050 E 4478100 N 6. On contour elevation 4200'

7. Previous designations for site none

8. Owner — 9. Address —

10. Previous owners, dates —

11. Present tenant —

12. Attitude toward excavation —

13. Description of site campsite

14. Area ca. 200'x 300' 15. Depth — 16. Height —

17. Vegetation Sage & tumbleweed 18. Nearest water Balls Canyon Creek - 500' N.

19. Soil of site Sandy silt. 20. Surrounding soil type Same

21. Previous excavation none

22. Cultivation none 23. Erosion slight

24. Buildings, roads, etc. auto mobile tracks through site

25. Possibility of destruction none

26. House pits none

27. Other features

28. Burials

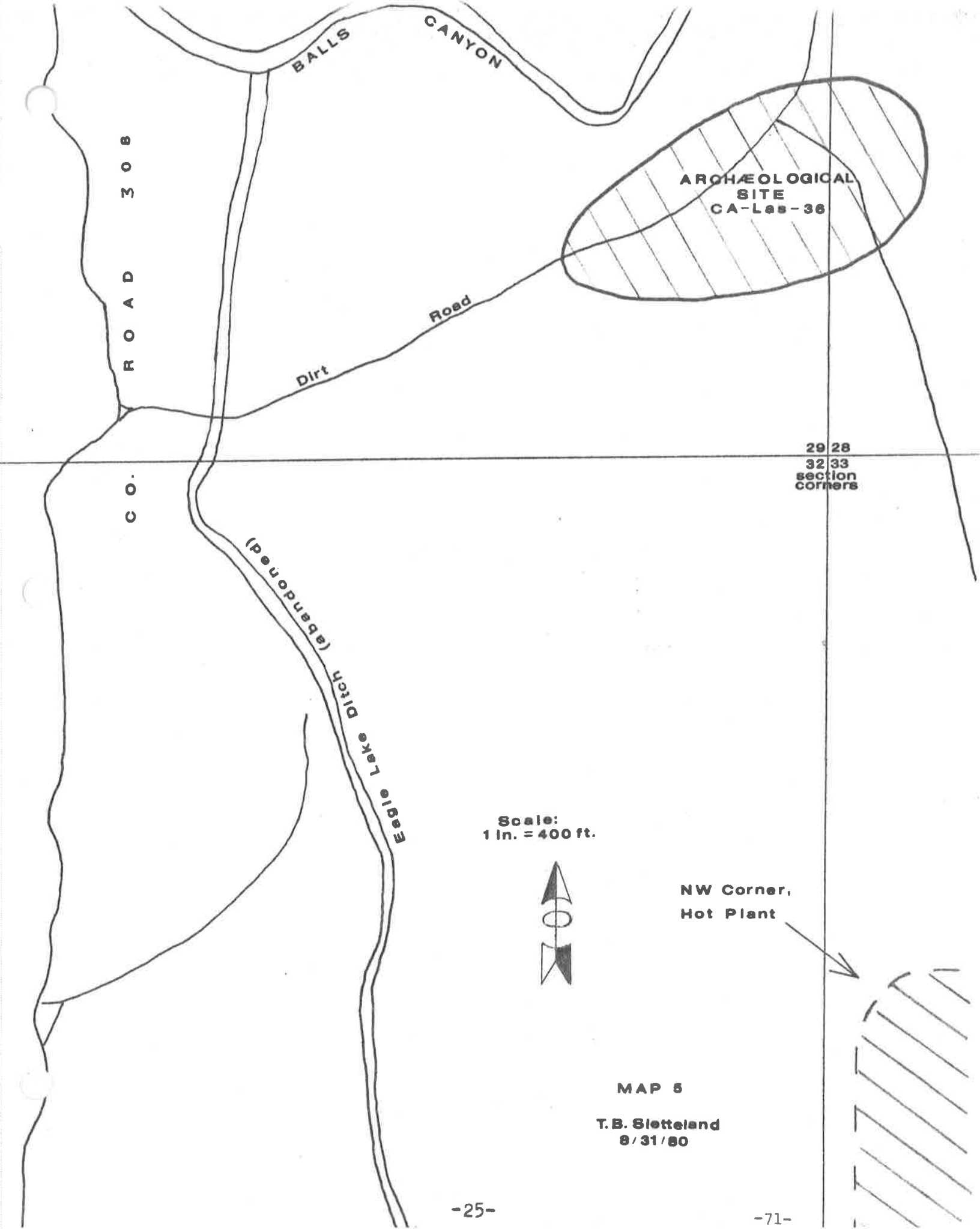
29. Artifacts manos, metate frags., pestle, core Tools — hammerstone, choppers. There is a paucity of obsidian chips not explained by previous visits of private collectors.

30. Remarks Numerous metates of flat slabs of stone showing slight wear though some have been shaped & sharpened.

31. Published references

32. UCM Accession No. 33. Sketch map over.

34. Date July 17, 1949 35. Recorded by W.S. Evans, Jr. 36. Photos Yes.


BALLS CANYON
ROAD 308
ARCHÆOLOGICAL SITE CA-Las-36
Road
Dirt
29 28
32 33
section corners
CO.
(abandoned)
Eagle Lake Ditch
Scale:
1 in. = 400 ft.
NW Corner,
Hot Plant
MAP 5
T. B. Sletteland
8/31/80

APPENDIX 2:

PHOTOGRAPHS OF

MATERIALS SOURCE

Looking East: Hot Plant Site, Background Center
Materials Source, Background Right

Materials Source, Looking South

S U P P L E M E N T A L
A P P E N D I X
G U I D E
(C - BB)

A P P E N D I X
(Supplemental)

Page

DESCRIPTION OF PROJECT (Section 15141)

C. Population Distribution, Lassen County 77
Proposed Improvements Diagram, Lassen County..... 78
Proposed Improvements Diagram, City of Susanville..... 79
Schedules of Reconstruction and Improvements List by County, State, and City.....80-82A

(Above materials from the "Regional Transportation Plan for Lassen County, 1978"and"1980" , Lassen County Board of Supervisors)

D. Wells Materials Source Test Tabulations (California Department of Transportation, District II).....83-84

ENVIRONMENTAL SETTING (Section 15142)

E. Soils Map..... 85
Soil and Capability Map Summary..... 86-88
Chart for Soil and Land Capability Symbols..... 89
Land Capability Classification Key..... 90
(Above materials from the Soil Conservation Service Survey Office, Department of Agriculture, Susanville)

F. Climatological Record Summary..... 91
(California Department of Water Resources, Red Bluff, for California Conservation Center and Fleming Unit of Calif. Dept. of Fish & Game)

G. Precipitation Record (Soil Conservation Service Office)..... 92

H. Lassen County Air Pollution Control Officer - Correspondence..... 93
(Siskiyou County Air Pollution Specialist (Appendix AA).....126-129)

I. Bureau of Land Management, Eagle Lake District - Correspondence.... 94
Bureau of Land Management, Eagle Lake District - List of Non-Game Mammals, Birds and Reptiles..... 95

J. California Department of Fish and Game - Correspondence..... 96
J-1 Mule Deer Migration Study Map..... 97
J-2 Antelope Winter & Summer Ranges/Kidding Grounds Map..... 98

K. Lassen County Historical Society - Correspondence..... 99

L. Applicants Letter to Susanville Rancheria (.B.I.A.)..... 100

M. Highway Functional Classification (1)..... 101
Traffic Volumn(2)..... 102
(1) Regional Transportation Plan for Lassen County, 1980
(2) Regional Transportation Plan for Lassen County, 1978

COMMENTS AND CORRESPONDENCE RECEIVED BY LASSEN COUNTY DURING INITIAL REVIEW PERIOD
CORRESPONDENCE AND DATA RECEIVED BY APPLICANT RELATIVE TO ENVIRONMENTAL REPORT

N. California Department of Transportation(August 8, 1980)..... 103

O. Carl H. Schwarzenberg (July 9, 1980)..... 104

P. California Department of Parks and Recreation (July 8, 1980)..... 105

Q. California Office of Planning and Research (Clearinghouse Notification) (June 26, 1980).....108-110

Continued . . .

Page

R. California Regional Water Quality Control Board, Lahontan Region... 111

S. Note of Phone Communication from Allen Vaughn (June 4, 1980)..... 112

T. Carl H. Schwarzenberg (June 2, 1980)..... 113

U. Frank and Mary Myers (June 2, 1980)..... 114

V. Jack R. Sturges (May 31, 1980)..... 115

W. California Regional Water Quality Control, Lahontan Region(May 29,1980) 116

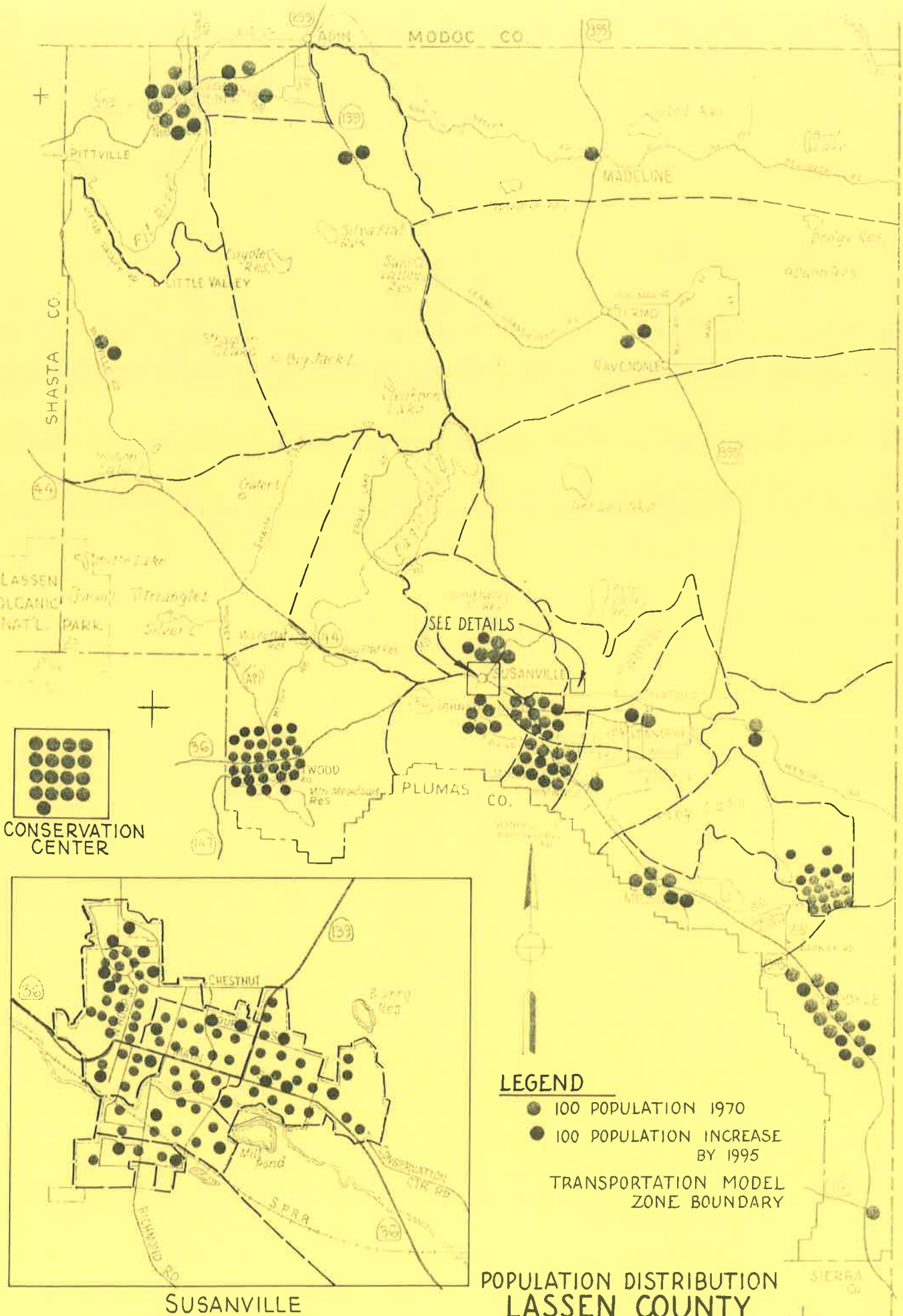
X. California Department of Fish and Game, Region I (May 28, 1980).... 117

Y. George A. Farris (May 15, 1980)..... 118

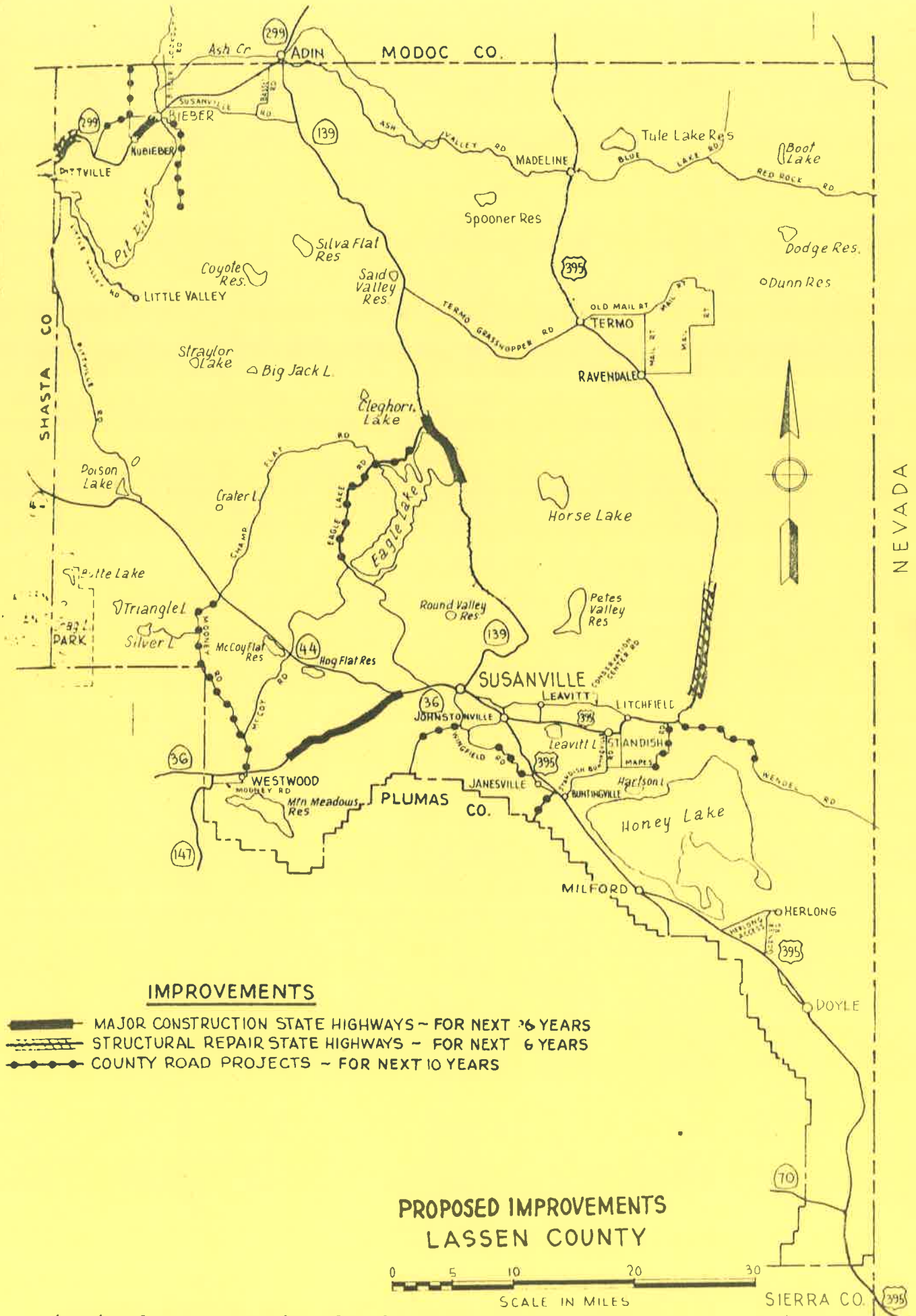
Z. California Regional Water Quality Control Board, Lahontan Region (June 23, 1980).....119-125

AA. County of Siskiyou, Kenneth Corbin, Air Pollution Specialist (December 9, 1980).....126-129

BB. Lassen County Planning Commission (Excerpts from Meeting Minutes of June 4, 1980).....130-131



(Regional Transportation Plan for Lassen County, 1978)



IMPROVEMENTS

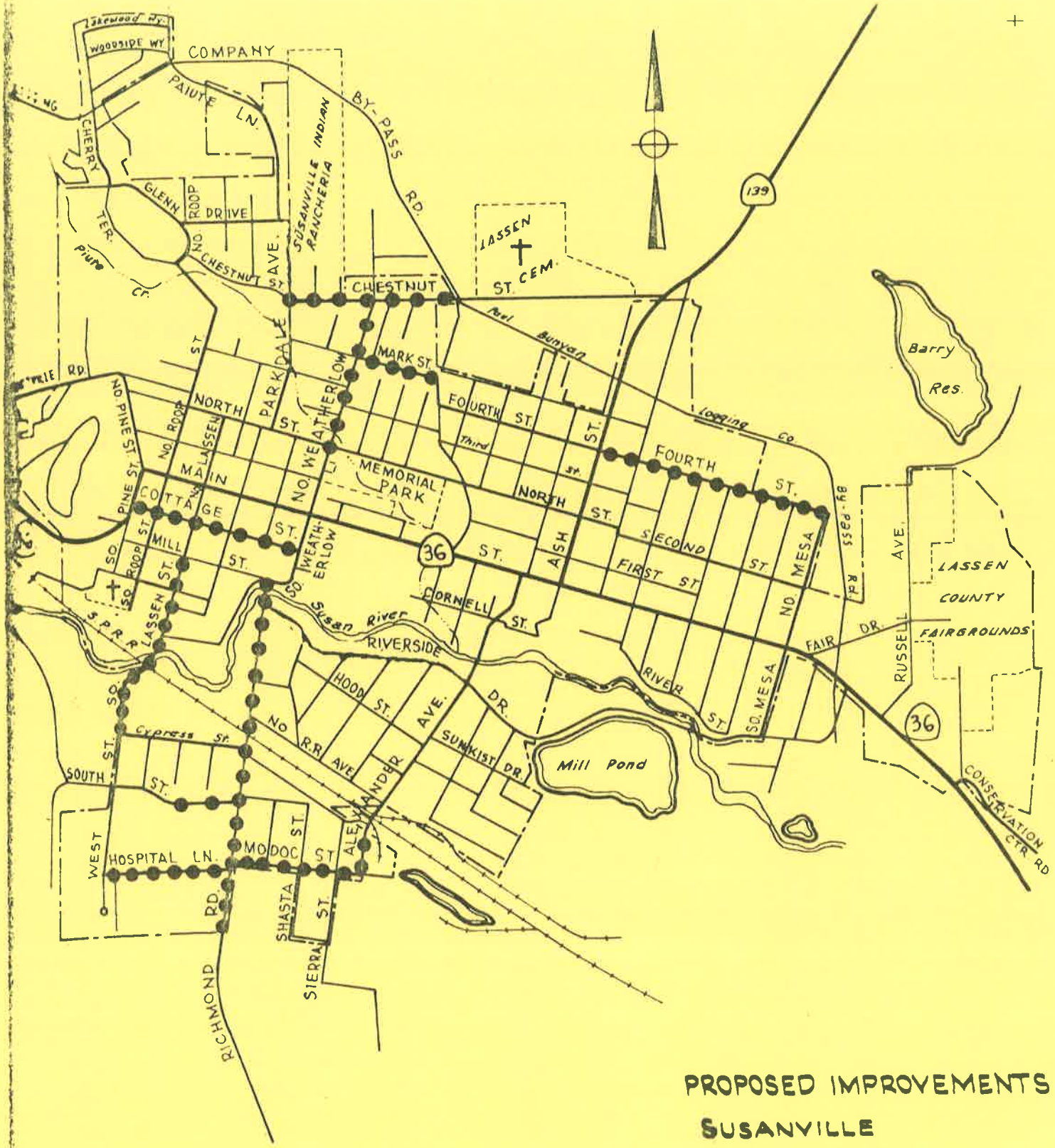
- MAJOR CONSTRUCTION STATE HIGHWAYS – FOR NEXT 6 YEARS
- STRUCTURAL REPAIR STATE HIGHWAYS – FOR NEXT 6 YEARS
- COUNTY ROAD PROJECTS – FOR NEXT 10 YEARS

PROPOSED IMPROVEMENTS
LASSEN COUNTY

0 5 10 20 30

SCALE IN MILES

(Regional Transportation Plan for Lassen County, 1978)



PROPOSED IMPROVEMENTS
SUSANVILLE
LASSEN COUNTY

0 4 8 12 24 36
SCALE IN HUNDREDS OF FT.

IMPROVEMENTS

CITY STREET PROJECTS - FOR NEXT 6 YEARS

(Regional Transportation Plan for Lassen County, 1978)

a. Table of State Highway Projects

SCHEDULE OF RECONSTRUCTION AND IMPROVEMENTS

MODE	PROJECT	COST (MILL.)	80/81	81/82	82/83	83/84	84/85
HIGHWAYS - STATE							
395	Long Valley Creek Bridge 47-56 to 0.7 mile south of Sunnyside Road near Janesville. Structural repair.	2.904				2.904	
36	1.0 mile west of Route 44 to Main Street of Susanville. Thin blanket.	.295		.295			
395	*Between Highway 70 and Doyle. Construct rest stop.	1.125			1.125		
395	*Between Highway 70 and Doyle, construct turnouts or passing lanes.						
139	**From 7.0 to 13.0 miles north of Willow Creek Bridge No. 7-62, relocate two-lane highway along Eagle Lake due to flooding.	7.000					
395	From 1.3 miles north of Route 70 to Long Valley Creek Bridge No. 7-23. Thin blanket.	638	638				

*Not included in State schedule of projects.

**Project suspended pending adoption of Eagle Lake Basin General Plan. State funds unavailable for project.

b. County and City Streets

The County Department of Public Works and the City Council of Susanville review the county and city roads each year in Lassen County and, based on anticipated revenues, develop a five-year program of projects. Following is a summary of the projected projects for the next five years.

SCHEDULE OF RECONSTRUCTION AND IMPROVEMENTS

MODE / PROJECT	COST (MILL.)	80/81	81/82	82/83	83/84	84/85
HIGHWAYS - COUNTY						
Co. Rd. 201, Eagle Lake Road - const.	1.500	.300	.300	.300	.300	.300
Co. Rd. 103, Mooney Road	.500	.100	.100	.100	.100	.100
County Bridges (lumped) - rehabilitation	.700	.140	.140	.140	.140	.140
Misc. County Roads (lumped)	1.000	.200	.200	.200	.200	.200
*Four Corners Road No. 416						
*Gold Run Road No. 204						
*Kramer Road No. 413						
*Little Valley Road No. 404						
*Mapes Road No. 305						
*Pumpkin Center Road No. 417						
Spaulding Road No. 518 & The Strand	.400	.200	.200			
*Wingfield Road No. 205						
Cramer Lane No. 244	.040	.020	.020			
*Westwood Streets						
*Bieber-Nubieber Streets						
*Butte Creek Road No. 431						
*Projects to be scheduled as funds are available.						
Near Susanville:						
Old Paul Bunyon Road Bypass	.600	.200	.200	.200		
CITY OF SUSANVILLE						
*Alexander Avenue - Modoc Street to Railroad	.039	.039				
*Modoc Street - Richmond Road to Alexander Avenue	.115	.115				
*North Street - Martha to Grand	.065	.035	.030			
North Street - Grand to Hall	.029				.014	.015
North Street - N. Roop Street to Martha	.052	.052				
Chestnut Street - Parkdale Avenue to E.C.L.	.042		.042			
Fourth Street - Ash Street to N. Mesa Street	.074		.034	.040		
Mark Street - Weatherlow Street to Grand Avenue	.043	.023	.020			
Weatherlow Street Bridge Replacement	.047	.047				
Park Street - Main Street to First Street	.009	.009				
*HUD Financing						

SCHEDULE OF RECONSTRUCTION AND IMPROVEMENTS

MODE / PROJECT	COST (MILL.)	80/81	81/82	82/83	83/84	84/85
CITY OF SUSANVILLE (Continued)						
Fifth Street - Grand Avenue to Hall Street	.083			.053	.030	
Grand Avenue - North Street to Fifth Street	.028				.028	
Riverside Drive - Susan River Bridge to South Mesa	.030		.030			
Cypress Street - S. Lassen Street to Richmond Road	.014	.014				
Foss Street - Main Street to Susan River	.013					.013
S. Lassen Street - Susan River Bridge to Cypress Street	.026	.026				

(Regional Transportation Plan for Lassen County, 1980)

a. Action Element

SCHEDULE OF RECONSTRUCTION AND IMPROVEMENTS

MODE / PROJECT	COST (MILL.)	80/81	81/82	82/83	83/84	84/85
NONMOTORIZED						
Bunyan Road						
Project Length: 8,700 feet Additional fill @ $7.64 per foot in place AC @ $39.00 per ton	.106	.106				
Richmond Road						
Project Length: 35,376 feet Additional fill @ $7.64 per foot in place AC @ $39.00 per ton Bridge widening at Gold Run Creek	.404	.404				
Johnstonville Road						
Project Length: 21,648 feet Fill AC RR Xing Construction	.273		.273			
River Route (Alexander to Susan River Bridge)						
Project Length: 2,500 feet Fill AC	.032		.032			
Wingfield Road						
Project Length: 2,640 feet Fill AC	.032			.032		
S. Lassen to Hobo Camp						
Project Length: 2,640 feet AC B.L.M. to provide earthwork	.012			.012		
Hobo Camp to Tunnels						
Project Length: 20,275 feet AC B.L.M. to provide earthwork	.091				.091	
Tunnels to Devils Corral						
Project Length: 14,731 feet AC B.L.M. to provide earthwork	.067					.067

4. Airport Improvements

On a biennial basis, the owners of the county's publicly owned airports develop a maintenance and capital improvement program. Each program is reviewed and approved by the affected public agency. The airport projects are then submitted to the Transportation Planning section of the California Department of Transportation, District 2, in Redding, California for their review and inclusion in the adopted regional transportation plan.

SCHEDULE OF RECONSTRUCTION AND IMPROVEMENTS

MODE / PROJECT	COST (MILL.)	80/81	81/82	82/83	83/84	84/85
AIR						
Susanville Municipal Airport:						
Airport Master Plan	.009	.009				
Acquire 28 Acres	.064		.064			
*Extend Runway 6/24	.195				.065	.065
Spaulding Airport:						
Base and Pave Runway and Transient Parking	.236	.236				

*The remaining .065 will be spent in 85/86 and is not included in this edition of the plan.

B. Transportation Systems Management

Transportation Systems Management (TSM) is a term which is used to describe many actions which maximize the efficiency of existing transportation facilities and systems. On a project basis, TSM measures are merely good engineering or management practices, most of which are already in use. Following is a summary of TSM measures anticipated over the next two years.

MATERIAL TESTED FOR
ASPHALT CONCRETE
Type A (3/4" Max.-Med.)

Test No. D-52584
Location: Random Locations within proposed site
Depth: From Surface Outcrops

% Passing As:	Rec'd	Ret. Cru.
3/4"	--	100
1/2"	--	86
3/8"	--	72
#4	--	52
#8	--	37
#30	--	19
#200	--	8

Bitumen	AR-4000 (SHELL)			
Bit. Ratio.	4.7	5.2	5.7	6.2
Sp.Gr.Briq.	2.38	2.40	2.38	2.40
Stabilometer	51	48	40	38
Swell		.001		
Opt.Bit.Ratio		5.7 - 6.0		
Sp.Gr. Fine (Ret.Cru.)		2.77		
Sp.Gr.Coarse (Ret.Cru.)		2.64		

"K" Factor c = 1.4, f = 1.2, m = 1.3
Film Strip --
Sand Equiv. 71

Moisture Vapor Susceptibility

No. Hours	--
Moisture Absorbed	--
Stabilometer	--
Bit. Ratio	--

Material: Volc. Ledge Rock

Remarks: Fine Durability = 80
Surf. Abrasion = 0.3 Grams Loss

Courtesy of:
California Dept. of Transportation
District II, Redding, Ca.

02-LAS-395 76.5/82.4
LOCAL MATERIALS SOURCE
Materials Test Tabulation
Ledge Rock Source on property of Joyce M. Wells, located in the W 1/2 of SW 1/4 of S. 33, T 30 N, R 14 E, MDM

TEST NO. D 52584

DATE RECEIVED 10-12-79

CALC _____ APPROV. _____

DATE REPORTED 10-25-79

REPORT OF TESTS ON

IF CONTRACT, USE CONTRACT ITEM

SOURCE	CHARGE	EXPENDITURE AUTHORIZATION

SPECIAL DESIGNATION (USE WHEN APPLICABLE)	ACTIVITY OR OBJECT	AMOUNT

- ☐ DISTRICT ENGINEER
- ☐ DIST. MAT'LS. ENGINEER
- ☐ RESIDENT ENGINEER
- ☐ CONSTRUCTION DEPT.
- ☐ 310 202.3 EXT. & GRADE
- ☐ 217 S.E.
- ☐ 302 FILM STRIP
- ☐ 304.1 STAB. (CONTROL)
- ☐ 304.2 STAB. (DESIGN)
- ☐ 307 M.V.S.
- ☐ M & R DEPT.
- ☐ PAVEMENT
- ☐ ACCOUNTING
- ☐
- ☐ 308 SP. GR.
- ☐ 305 SWELL
- ☐ 311 MOIST.
- ☐ 303 CK.E
- ☐
- ☐

	AS RECEIVED	RET. CRUSHED	AS USED BY VOL.	AS USED BY WT.	SPECIF. ☐ LIMITS SOUGHT ☒	SURFACE AREA FACTORS	SURFACE AREA
2						NOTE: ALL SURFACE AREA FACTORS MUST BE USED IN CALCULATIONS	
1½							
1					100		
¾		100			95-100		
½		86					
⅜		72			65-80		
¼							2.0
4		52			45-60	2	1.0
8		37			30-45	4	1.5
16		27				8	2.2
30		19			15-25	14	2.7
50		14				30	4.2
100		10				80	6.0
200		8			3-8	160	12.8
BITUMEN						SURFACE AREA 32.4 SQ. FT./LB.	

MOISTURE VAPOR SUSCEPT

HOURS				SPECIF.
MOIST. ABSORB.				
STABILOMETER				
BIT. RATIO				
SP. GR. BRIQ.				

Kc = 1.4 Kf = 1.2 Km = 1.3

SPECIFIC GRAVITY AGGREGATE

AS RECEIVED F _____ C- _____

RET. CRUSHED F 2.77 C- 2.64

ABRASION TESTS % LOSS | SPECIF.

LOS ANGELES-100R _____

LOS ANGELES-500R _____

FILM STRIPPING

CRUSHED PARTICLES

(+) 4 | (-) 4 | COMB.

SAND EQUIVALENT VALUE = 71 SPECIF.=

RECOMMENDED BITUMEN CONTENT 5.7-6.0

GRADING AS USED WAS OBTAINED BY COMBINING SAMPLES AS FOLLOWS

% WT.	% VOL.	TEST NO.	DESCRIPTION

SPECIMEN	A	B	C	D	E
TEMPERATURE					
MOISTURE					
BIT. GRADE		AR-4000		SHELL	
BIT. RATIO	4.7	5.2	5.7	6.2	
SP. GR. BRIQ.	2.38	2.40	2.38	2.40	
SPECIF. STABILOMETER	51	48	40	38	
VOIDS	5.2	3.6	4.0	2.4	
SPECIF. SWELL			.001		

E. W. KNAEBEL
Director of Transportation

By _____

REMARKS:
F. DURA. = 80

SURFACE ABRASION = 0.3 GRAMS LOSS

ATTACH FORM HMR T-101 HERE

FORM 8AM-2

STATE OF CALIFORNIA
DIVISION OF HIGHWAYS

DATE REC'D. _____

SAMPLE SENT TO

- ☐ PRELIMINARY TESTS
- ☐ INITIAL TESTS
- ☐ CONTROL TESTS
- ☐ PROGRESS TESTS
- ☐ FINAL TESTS
- ☐ SPECIAL TESTS
- ☐ HDQTRS. LAB.
- ☐ BRANCH LAB.
- ☐ DIST. LAB.

FIELD NO. 17-1

DIST. LAB. NO. 52584

LOT NO. _____

SHIPMENT NO. _____

P. O. OR REQ. NO. _____

AUTHORIZATION NO. _____

SAMPLE OF 1-1/2" C.R.

FOR USE IN [illegible] E P-2.

SAMPLE FROM Riverbed loc. from surface outcrops

DEPTH _____

LOCATION OF SOURCE SW ¼ of Sec 33, T30N R14E

THIS SAMPLE IS SHIPPED IN 1 (NO. CONTAINERS) AND IS ONE OF A GROUP OF 1 SAMPLES REPRESENTING 5000 +/- (TONS, GALS., BBLS., STA., ETC.)

OWNER OR MANUFACTURER [illegible]

TOTAL QUANTITY AVAILABLE _____ TEST RESULTS DESIRED ☐ NORMAL ☐ PRIORITY DATE NEEDED _____

REMARKS _____

DATE SAMPLED 10-11-79 HOURS

BY FK TITLE [illegible]

DIST., CO., RTE., P.M. 02 [illegible]

LIMITS From 3.7 mi. N of 10.6 mi. N of LITCHFIELD

CONT. NO. 12894

FED. NO. _____

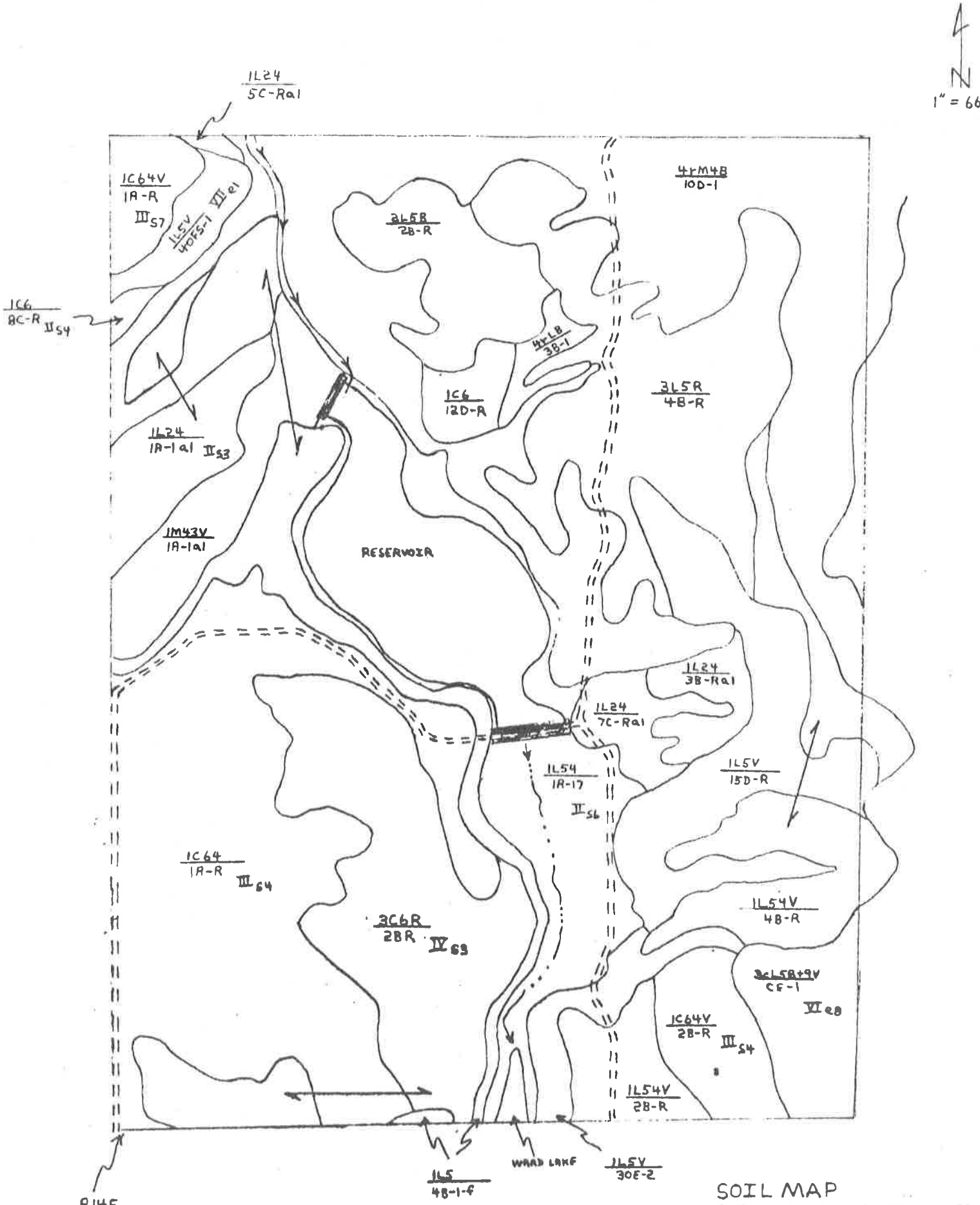
RES. ENGR OR SUPT. _____

ADDRESS _____

CONTRACTOR _____

APPENDIX D -84-

Courtesy of: Calif. Dept. of Transportation, District II



SOIL MAP

PHOTOS: BUV-12N-21, BUV-12N-23

Courtesy of Soil Conservation Service Survey Office
(Refer to Appendix E for Key to Classifications)

MAP #2-B
APPENDIX E

CP-CONS-3
Rev 8/75

U.S. Department of Agriculture
Soil Conservation Service

SOIL and CAPABILITY MAP SUMMARY

Cooperator: _____ Date: _____

Land Capability Unit	Symbol on Map	Soil Name	Effective Depth (In.)	Soil Profile: Texture: Surface	Soil Profile: Texture: Subsoil	Soil Profile: A.W.C.* Inches	Average Slope in %	Erosion Status	Permeability of Subsoil	Limiting Factors or Remarks
III_{s4}	1C6 / 1A-R		60+	Coarse		Low	1	Wind erosion	Rapid	
IV_{s3}	3C6R / 2B-R		20-36	Coarse		Very low	2	Wind erosion	Rapid	
III_{s4}	1C64V / 2B-R		60+	Coarse		Low	2	Wind erosion	Rapid to moderate	
	1L54V / 2B-R		60+	Light		Moderate	2	Wind erosion	Moderately rapid to moderate	
VI_{e8}	3cL5B+9 / CE-1		20-36	Cobbly light		Low	5-31	Slight	Moderately rapid	
	1L5 / 4B-1-f		60+	Light		Moderate	4	Slight	Moderately rapid	Flooding
	1L5V / 30E-2		60+	Light		Moderate	30	Moderate	Moderately Rapid	
II_{s6}	1L54 / 1A-17		60+	Light		Moderate	1	Slight	Moderately rapid to moderate	
	1L54V / 4B-R		60+	Light		Moderate	4	Wind erosion	Moderately rapid to moderate	
	1L5V / 15D-R		60+	Light		Moderate	15	Wind erosion	Moderately rapid	
	1L24 / 3B-Ra1		60+	Light		Moderate	3	Wind erosion	Slow to moderate	Slight alkali

*Available waterholding capacity

APPENDIX E

CP-CONS-3
Rev 8/75

U.S. Department of Agriculture
Soil Conservation Service

SOIL and CAPABILITY MAP SUMMARY

Cooperator: _____ Date: _____

Land Capability Unit	Symbol on Map	Soil Name	Effective Depth (In.)	Soil Profile: Texture: Surface	Soil Profile: Texture: Subsoil	Soil Profile: A.W.C.* Inches	Average Slope in %	Erosion Status	Permeability of Subsoil	Limiting Factors or Remarks
	1L24 / 3B-Ra1		60+	Light		Moderate	3	Wind erosion	Slow to moderate	Slight alkali
	4rM4B / 10D-1		10-20	Rocky medium		Very low	10	Slight	Moderate	
	3L5R / 4B-R		20-36	Light		Low	4	Wind erosion	Moderately rapid	
	2L5B / 2B-R		36-60	Light		Low to moderate	2	Wind erosion	Moderately rapid	
	1C6 / 12D+R		60+	Coarse		Low	12	Wind erosion	Rapid	
	4rLB / 3B-1		10-20	Rocky light		Very low	3	Slight	--	
III_{s7}	1C64V / 1A-R		60+	Coarse		Low	1	Wind erosion	Rapid to moderate	
II_{s4}	1C6 / 8C-R		60+	Coarse		Low	8	Wind erosion	Rapid	
	1L24 / 5C-Ra1		60+	Light		Moderate	5	Wind erosion	Slow to moderate	Slight alkali
VII_{e1}	1L5V / 40FS-1		60+	Light		Moderate	40	Slight	Moderately rapid	

*Available waterholding capacity

APPENDIX E

Ca-CONS-5
Rev 8/75

U.S. Department of Agriculture
Soil Conservation Service

SOIL and CAPABILITY MAP SUMMARY

Cooperator: _____ Date: _____

Land Capability Unit	Symbol on Map	Soil Name	Effective Depth (In.)	Soil Profile: Texture: Surface	Soil Profile: Texture: Subsoil	Soil Profile: A.W.C.* Inches	Average Slope in %	Erosion Status	Permeability of Subsoil	Limiting Factors or Remarks
IIe_{s3}	1L24 1A-1a1		60+	Light		Moderate	1	Slight	Slow to moderate	Slight alkali
	1M43V 1A-1a1		60+	Medium		High	1	Slight	Moderate to moderately slow	Slight alkali

*Available waterholding capability

The following chart explains the symbols on your Soil and Capability Map

SOIL DEPTH	TEXTURE MODIFIERS	TEXTURE OF TOPSOIL	PERMEABILITY OF SUBSOIL	UNDERLYING MATERIAL
1. Very deep, more than 60 inches	g - gravelly	V - Very heavy	1 - Very slow	A - Granite
2. Deep 36-60 inches	vg - very gravelly	H - Heavy	2 - Slow	B - Lavas
3. Moderately deep 20-36 inches	c - cobbly	M - Medium	3 - Moderately slow	E - Shale
4. Shallow 10-20 inches	s - stony	L - Light	4 - Moderate	F - Cemented cinders
5. Very shallow less than 10 in.	r - rocky	C - Coarse	5 - Moderately rapid	L - Lime deposits
		O - Muck	6 - Rapid	V - Lake deposits
		X - Variable	7 - Very rapid	Y - Claypans
				Z - Gravels

Example of symbol:

$$\frac{2_g M 4 2 Z\text{-}56}{3B\text{-}1a1w2}$$ IIIw6 (Land Capability)

Soil series number

SLOPES	EROSION	ALKALI	FLOODING	WETNESS
A 0-2%	1 - Slight	a1 Slight	f2 frequent	w1 Slight
B 2-5%	2 - Moderate	a2 Moderate	f3 very frequent (annual)	w2 Moderate
C 5-9%	3 - Severe	a3 Severe		w3 Severe
D 9-16%	+ - Deposition	SALINE SALTS		
E 16-30%	± - Stream erosion			
F 30-50%	R - Wind erosion	s2 Moderate		
G 50% +	P - Severe wind erosion	s3 Severe		

USDA-SCS-PORTLAND, OREG. 1961 M-3421

CF-A-1 HLV

APPENDIX E

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

CF-CONS.-214
March 1970

THE LAND CAPABILITY CLASSIFICATION

The capability classification is a practical grouping of soils. Soils and climate are considered together as they influence use, management, and production on the farm or ranch.

The classification contains two general divisions: (1) Land suited for cultivation and other uses, and (2) land limited in use and generally not suited for cultivation. Each of these broad divisions has four classes which are shown on the map by a standard color and number. The hazards and limitations in use increase as the class number increases. Class I has few hazards or limitations, or none, whereas Class VIII has a great many.

LAND SUITED FOR CULTIVATION AND OTHER USES

CLASS I — Soils in Class I have few or no limitations or hazards. They may be used safely for cultivated crops, pasture, range, woodland, or wildlife.

CLASS II — Soils in Class II have few limitations or hazards. Simple conservation practices are needed when cultivated. They are suited to cultivated crops, pasture, range, woodland, or wildlife.

CLASS III — Soils in Class III have more limitations and hazards than those in Class II. They require more difficult or complex conservation practices when cultivated. They are suited to cultivated crops, pasture, range, woodland, or wildlife.

CLASS IV — Soils in Class IV have greater limitations and hazards than Class III. Still more difficult or complex measures are needed when cultivated. They are suited to cultivated crops, pasture, range, woodland, or wildlife.

LAND LIMITED IN USE--GENERALLY NOT SUITED FOR CULTIVATION

CLASS V — Soils in Class V have little or no erosion hazard but have other limitations that prevent normal tillage for cultivated crops. They are suited to pasture, range, woodland, or wildlife.

CLASS VI — Soils in Class VI have severe limitations or hazards that make them generally unsuited for cultivation. They are suited largely to pasture, range, woodland, or wildlife.

CLASS VII — Soils in Class VII have very severe limitations or hazards that make them generally unsuited for cultivation. They are suited to grazing, woodland, or wildlife.

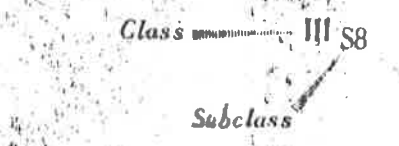
CLASS VIII — Soils and land forms in Class VIII have limitations and hazards that prevent their use for cultivated crops, pasture, range, or woodland. They may be used for recreation, wildlife, or water supply.

Capability classes are divided into subclasses. These show the principal kinds of conservation problems involved. The subclasses are: "e" for erosion, "w" for wetness, "s" for soil, and "c" for climate.

Capability classes and subclasses, in turn, may be divided into capability units. A capability unit contains soils that are nearly alike in plant growth and in management needs.

The units are: "1" erosion hazard; "2" wetness problems; "3" slowly permeable subsoil; "4" coarse texture, low water-holding capacity; "5" fine textures, tillage problems; "6" salinity or alkali; "7" cobbly, rocky, or stony; "8" root zone limitation, bedrock, or hardpan; "9" low fertility, acidity, or toxic properties; and "0" very coarse textured substratum.

EXAMPLE



USDA SCS PORTLAND, OREG. 1967

CLIMATOLOGICAL OBSERVATION RECORDS

(State of California Dept. of Water Resources, Red Bluff)

Temperatures - Average

Source/location	Year	July Hi	July Low	August Hi	August Low	September Hi	September Low	October Hi	October Low	November Hi	November Low	December Hi	December Low	January Hi	January Low	February Hi	February Low	March Hi	March Low	April Hi	April Low	May Hi	May Low	June Hi	June Low
California Correctional Center	1977	99	50	95	53	77	43	69	37	55	26	42	22												
	1978	87	52	88	50	69	35	not available		48	26	41	12	45	29	47	28	58	33	60	34	72	42	79	42
	1979	98	48	84	46	83	40	68	38	51	25	47	20	41	18	47	25	59	27	62	31	74	40	82	41
	1980	85	49											43	26	60	30	52	26	67	25	68	36	73	39
Fleming Unit Dept. of Fish & Game/Honey Lake	1977	85	46	89	49	78	40	71	31	56	22	46	23												
	1978	88	49	86	46	77	46	75	29	48	19	38	10	45	26	45	25	61	33	69	38	71	37	80	44
	1979	89	45	87	43	86	38	70	34	52	N/A	45	16	38	17	48	23	59	27	64	29	74	37	84	41
	1980	89	50											43	26	50	30	53	28	65	35	70	41	77	41
Average(both locations)		89.1	48.4	88.1	47.8	78.3	44.3	70.4	33.8	51.6	23.6	43.1	17.1	42.5	23.6	47.8	26.8	56.6	29.0	62.8	31.1	71.5	38.8	79.1	41.

PRECIPITATION RECORD

	Year																								
California Correctional Center	1977	—		.40		2.20		3.52		1.03		.27													
	1978	.43		.03		.37		—		—		.45		8.10		2.50		3.36		3.95		.31		—	
	1979	1.17		.22		—		1.80		.75		2.82		.90		.59		.59		.46		.42		—	
	1980	1.81												3.37		3.98		.88		.94		1.38		.60	
Fleming Unit Dept. of Fish & Game/Honey Lake	1977	.27		.11		.04		.65		.45		2.58													
	1978	.19		.02		.32		—		1.12		.29		2.65		.85		1.94		.53		.30		.07	
	1979	.48		.29		Trace		.98		.26		2.08		.64		.84		.47		.40		.31		—	
	1980	.46												2.72		2.28		.73		.52		.97		.45	
Average(both locations)		.68		.17		.73		1.73		.72		1.41		3.06		1.84		1.32		1.14		.61		.37	

Mean Annual Precipitation from Soil Conservation Office Records is 10-12" at site area

Photo 2-2-D

Section	Mean Annual Precipitation	Mean 32° Frost Free Period
32	10-12 In.	95-105 Days
33	10-12 In.	90-100 Days

Soil information is available only for part of Section 32.

Courtesy of:
Soil Conservation Survey Office
Susanville, California

County of Lassen
DEPARTMENT OF AGRICULTURE

Agricultural Commissioner
Sealer of Weights and Measures

MAIN OFFICE–SUSANVILLE
175 RUSSELL AVENUE
PHONE 257–3526

BRANCH OFFICE–BIEBER
P.O. BOX 324–96009
PHONE 294–2433

FAIRGROUNDS, SUSANVILLE, CALIFORNIA

October 7, 1980

Miller's Custom Work
35 Grand Avenue
Susanville, CA 96130

Attention: Donna Drickey

Gentlemen:

This will serve to confirm previous conversations relevant to the emmissions from the proposed asphaltic concrete batch plant to be located east of Ward Lake Road.

All point sources within California are required to meet minimum state law, whether located in Los Angeles or Lassen. Black smoke shall not surpass a Ringleman II, and dust shall not exceed 40% opacity for more than three minutes in one hour. As evidenced by the recent fine imposed on Butte Creek Rock by the Air Resources Board, their inspectors are in the field eager and looking for violations.

Prior to the issuance of a "Permit to Operate" by this district, a source test will have to be conducted and results submitted to me for evaluation by the Air Resources Board.

If adequate water-bath control devices are properly installed and operated, I'm sure that this or any asphaltic concrete plant can operate within the limits of state law.

If this office can be of service during the planning or building of this installation, please advise.

Respectfully,

F. L. Evans by E. French

Fredric L. Evans
Lassen County
Air Pollution Control Officer

FLE:ehf

APPENDIX H

IN REPLY REFER TO
6514

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
2545 Riverside Drive
Susanville, California
96130

RECEIVED SEP 11 1980

Millers Custom Work
35 Grand Avenue
Susanville, CA 96130
ATTN: Donna

Dear Donna:

I am enclosing some information to assist you in the preparation of the environmental assessment of your proposed project.

My wildlife biologist informs me that the project is located near the periphery of deer winter range and also near a pronghorn migration corridor. It is evident that your proposed project will have an effect on both of these species, but since you have stated that you do not anticipate full scale operation during the winter months, impact on those species would be minor.

The proposed project is located in quail and chukar territory and will remove habitat from those species.

Attached is a list of non-game birds and mammals, and reptiles either known or expected to occur in habitat similar to that of the proposed project. This list was developed from observations, trapping information, and literature searches and should be construed as representative but not all inclusive.

I hope this information is useful, and if you have any questions or require more information, please feel free to come by the office.

Sincerely,

Mark T. Morse

Mark T. Morse
Eagle Lake Area Manager

CONSERVE AMERICA'S ENERGY

Save Energy and You Serve America!

APPENDIX I

Non Game Birds

Raptors

Great Horned Owl
Red-tailed Hawk
Prairie Falcon
American Kestrel
Burrowing Owl
Golden Eagle
Marsh Hawk
Turkey Vulture
Rough-legged Hawk
Swainson's Hawk
Long-eared Owl
Ferruginous Hawk

Others

Common Flicker
Scrub Jay
Horned Lark
Western Meadowlark
Chipping Sparrow
Brown-headed Cowbird
Western Bluebird
Gray Flycatcher
Rufous-crowned Sparrow
Brewer's Blackbird
Black-throated Sparrow
Rock Wren
Savannah Sparrow
Canyon Wren
Rufous-sided Towhee
Sage Thrasher
Green-tailed Towhee
Poor-Will
Sage Sparrow
Brewer's Sparrow
Lark Sparrow
Vesper Sparrow

Non Game Mammals

Bobcat
Badger
Yellow-bellied Marmot
Sagebrush Vole
Longtail Pocket Mouse
Heermann Kangaroo Rat
Least Chipmunk
Desert Woodrat
Mountain Vole
Canyon Mouse
Deer Mouse
Great Basin Pocket Mouse
Antelope Ground Squirrel
Golden-mantled Ground Squirrel

Reptiles

Collared Lizard
Desert Horned Lizard
Western Fence Lizard
Striped Racer
Leopard Lizard
Side-blotched Lizard
Great Basin Rattlesnake
Great Basin Gophersnake

APPENDIX I.

STATE OF CALIFORNIA—RESOURCES AGENCY

EDMUND G. BROWN JR., Governor

'PARTMENT OF FISH AND GAME
.O. Box 1480
Redding, CA 96099
(916) 246-6511

September 15, 1980

Ms. Donna Drickey
35 Grand Avenue
Susanville, CA 96130

Dear Donna:

Enclosed is a copy of the Deer Migration Study in Lassen County that I promised you last month.

The information in the report is relevant; however, most of the documentation of deer winter range is not in your area of concern. Your area includes some winter range of deer summering on Shaffer Mountain.

The project area is critically important as antelope winter range (attached map). Also the area supports valley quail, chuckars, and cottontails. Quail and rabbit use occurs during the entire year. Chucker use is mainly during the winter when it snows at higher elevations.

Doves are known to nest in the sagebrush in the project area.

Hopefully some of this information will be of help to you in your preparation of the Environmental Impact Report.

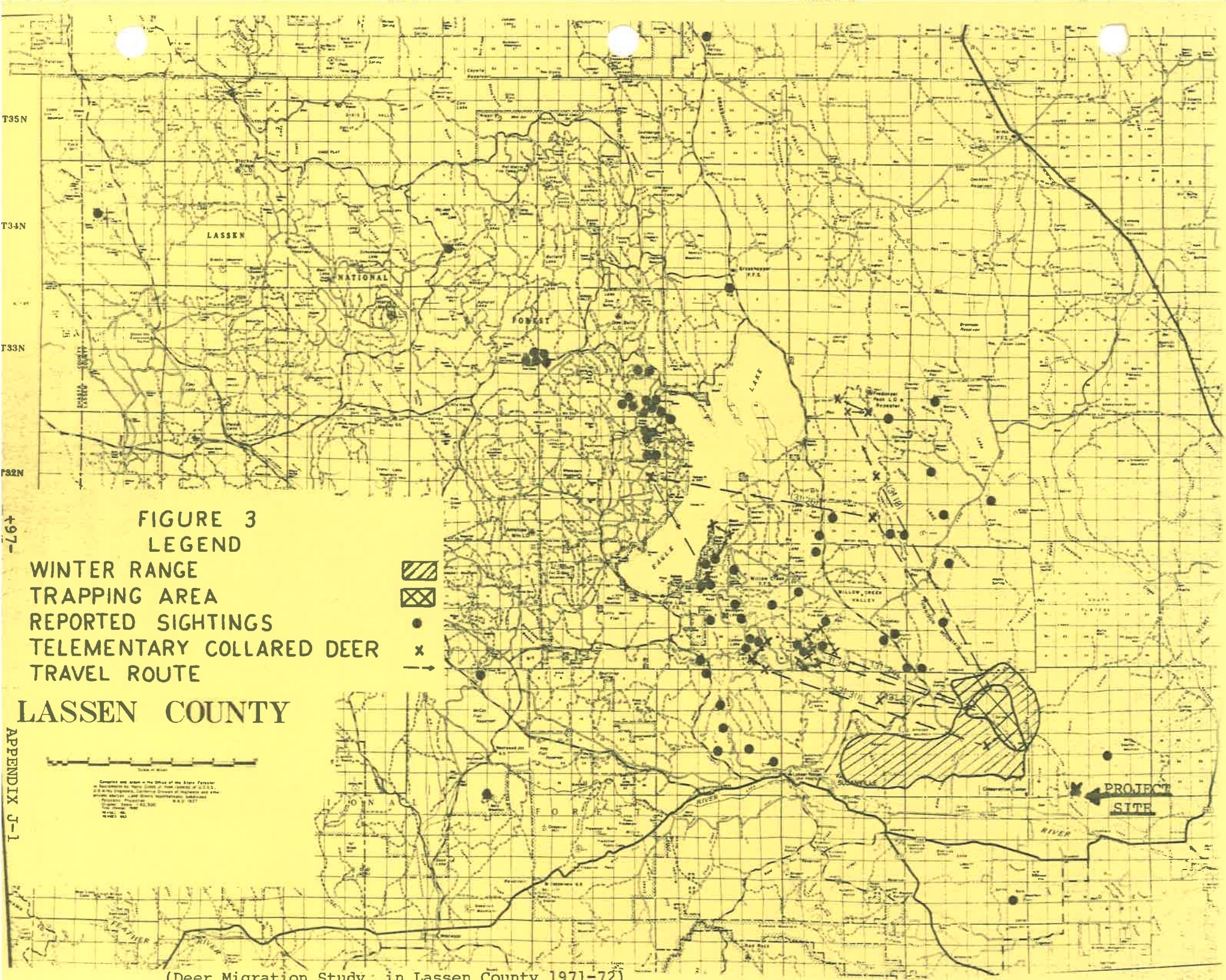
If I can be of any help, please call. My number is (916) 246-6544.

Very truly yours,

Thomas B. Stone
Associate Wildlife Biologist
Region 1

Enclosure

TBS:mar



+97-

APPENDIX J-1

(Deer Migration Study in Lassen County 1971-72)

Re-done from map prepared by Thomas Stone, Associate Wildlife Biologist, California Dept. of Fish and Game, Region 1

APPENDIX J-2

Lassen County HISTORICAL SOCIETY

SUSANVILLE, CALIFORNIA 96130

P.O. BOX 321

August 27, 1980

Donna D. Drickey
Miller's Custom Work
35 Grand Ave.,
Susanville, Ca 96130

Re: Your letter of Aug. 13, 1980

Thank you for your letter of Aug. 13, 1980 advising us of the work you are doing near Ward Lakes.

As far as I know there is nothing in the area that would hinder the work you are planning.

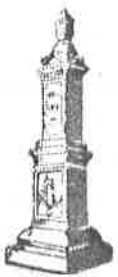
We do very much appreciate your offer to let us know of anything of Historical Value that you might encounter.

I think you write a very nice letter.

Sincerely,

George E. Long

George E. Long
Secretary



Calif No 242545 Nev No 9144

Miller's Custom Work

Heavy Construction — Reservoir & Road Building — Equipment Rental
35 Grand Ave., • Susanville, Calif. 96130
916-257-4207 • Home 916-257-3976

August 13, 1980

Susanville Indian Rancheria
P. O. Box 754
Susanville, California 96130

Attention: Freda Owens, Chairwoman

Subject: Environmental Impact Report/ Initial Use Permit 5-1-80

Dear Mrs Owens:

I am in the process of accumulating research material relative to preparing an Environmental Impact Report on property located approximately 1/2 mile East of Wards Lake (Northwest of Litchfield) in Sections 32 and 33, Township 30, N., Range 14 E., M.D.B.M.

Enclosed is a copy of the map as submitted to Lassen County Planning Commission showing the actual portions of Sections 32 and 33 which we anticipate being utilized for material sources, crusher and hot plant sites; and, a copy of the Use Permit Application which explains the useage desired by Miller's Custom Work.

Lassen County Planning Commission notified the Rancheria of our Use Permit application last Spring and did not receive any correspondance regarding this area from your office. However, since we want to be as thorough as possible in exploring any historical or cultural resources, I would appreciate a letter from the Rancheria indicating whether they have or do not have knowledge of any significant data relative to the referenced sections.

It appears that there are Petroglyph sites north of the project site in Section 27; however, none of the archaeological data available at this point indicates any areas of historical or cultural value in the actual areas which we are anticipating to use. Should any items of significant value be discovered during our research or actual useage, the proper agencies will be notified immediately.

Your assistance and information regarding this area will be appreciated.

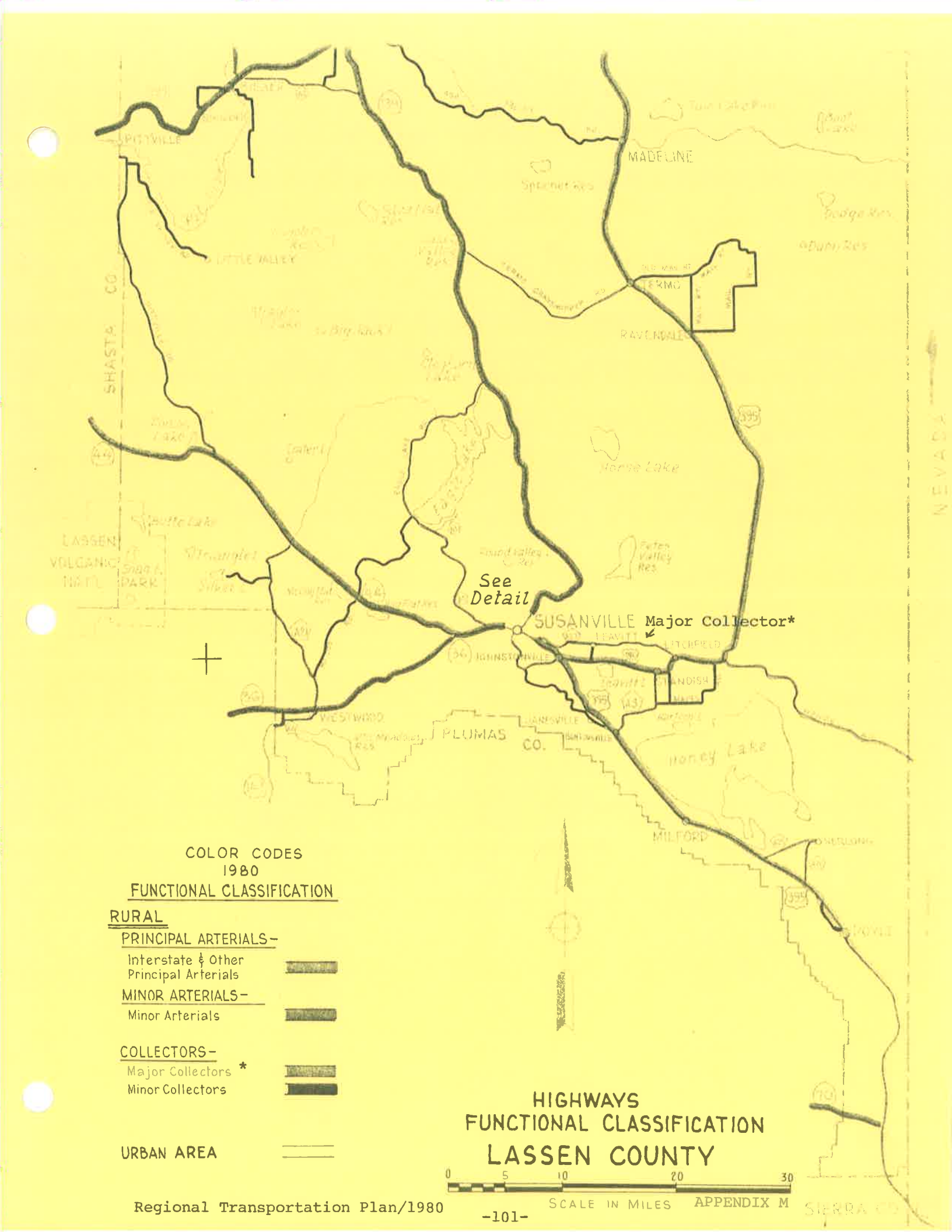
Sincerely,
MILLER'S CUSTOM WORK
Donna D Drickey
Donna D. Drickey,
Secretary

d

Enc. (2)

cc: Bureau of Indian Affairs
Sacramento, California

APPENDIX I


See Detail
SUSANVILLE
Major Collector*
MADELINE
RAVENDALE
TERMO
PLUMAS CO.
SHASTA CO.
MILFORD
COLOR CODES
1980
FUNCTIONAL CLASSIFICATION
RURAL
PRINCIPAL ARTERIALS-
Interstate & Other Principal Arterials
MINOR ARTERIALS-
Minor Arterials
COLLECTORS-
Major Collectors *
Minor Collectors
URBAN AREA
HIGHWAYS
FUNCTIONAL CLASSIFICATION
LASSEN COUNTY
0 5 10 20 30
SCALE IN MILES

(Regional Transportation Plan for Lassen County, 1978) NEVADA

STATE OF CALIFORNIA - BUSINESS AND TRANSPORTATION AGENCY

EDMUND G. BROWN JR., Governor

DEPARTMENT OF TRANSPORTATION
P. O. BOX 2107
REDDING, CALIFORNIA 96001 96099
Phone (916) 246-6405

CERTIFIED MAIL NO. P02 0661931
RETURN RECEIPT REQUESTED

02-Las
SCH #80062304

RECEIVED
AUG 11 1980
PURCHASING DEPT.
COUNTY OF LASSEN

August 8, 1980

Mr. Mark Totten
Lassen County Planning Department
Courthouse Annex, Room 103
Susanville, CA 96130

Dear Mr. Totten:

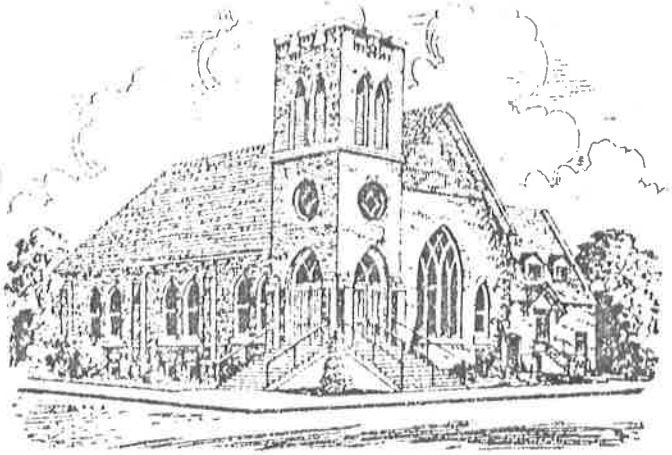
We have reviewed the Notice of Preparation of a draft Environmental Impact Report for the use permit application, and have concluded that we have no comments concerning its scope or content. We would like it noted that the California Department of Transportation has a Materials Agreement (79-11-C) as of November 19, 1979, for the use of materials with the owner of this site.

Very truly yours,

E. W. KNAEBEL, District Director

By G. E. Perry

G. E. Perry
Chief, Environmental Branch,
District 2



Methodist Church
Susanville, California

Methodist Church

Lassen and Cottage Sts.
SUSANVILLE, CALIFORNIA
Telephone 257-4718

Carl Schwarzenberg, MINISTER

708 Cottage St.
Telephone 257-4718

July 9, 1980

Mr. Mark A. Totten, Planning Director
County of Lassen
Court House, Susanville, Ca 96130

Dear Mr. Totten:

Regarding the application of Miller's Custom Work for a use permit for excavation and installation of a "hot plant" in the Ward Lake area, I wish to make the following comments for the record.

I have had contact with Mr. Miller, who has assured me that the proposed plant would not contribute to noise polution or smoke and other fumes in the area of my property, however I will reserve final judgement until the EIR has been submitted.

I have also been assured that the proposed access road from the county road along the Ward Lake Road will be paved and that power supply will be brought in along that road to the plant. As this would enhance the value of my property, I withdraw may objections on the bassis of dust along the haul road.

Regarding possible damage to petroglyph sites, I trust that the EIR will address that issue and await that report.

If the above objections are answered in the EIR to my satisfaction, I am aware of no other problems. I am writing at this time as I will be away for a month and will not be able to make oral comments at any hearings on this matter scheduled before August 11, I did want the Planning Commission to be aware of my attitudes concerning this matter.

Sincerely,
Carl H. Schwarzenberg

RECEIVED
JUL 11 1980
PURCHASING DEPT.
COUNTY OF LASSEN

STATE OF CALIFORNIA—THE RESOURCES AGENCY
DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 2390
SACRAMENTO 95811
(916) 445-8006

RECEIVED
JUL 14 1980
PURCHASING DEPT.
COUNTY OF LASSEN

July 8, 1980

To: Mark Totten
Lassen County Planning Department
Room 103
Courthouse Annnex
Susanville, CA 96130

Subject: Use Permit Application (Lassen County Planning Commission)
SCH #80062304.

Thank you for your notice requesting our views on the scope and content of cultural resource information to be included in a DEIR for the referenced proposal.

Identification of recorded cultural resources located within the project's potential area of environmental impact is the first step in compiling complete cultural resource information. We suggest that your agency routinely consult the following sources for this purpose:

1. National Register of Historic Places

   a. The complete National Register of Historic Places is published annually as part of the Federal Register in either the first or second week of February.

   b. National Register of Historic Places - Periodic Updates. Weekly editions of the Federal Register appear on Tuesday and may contain information--again listed under California and by county--on properties pending or declared eligible for inclusion in the National Register. The section number for these notices is 431C-03M, and they are provided by the Heritage Conservation and Recreation Service, Department of the Interior. Notices appear under the title National Register of Historic Places.

2. California Historical Landmarks

   a. The State Department of Parks and Recreation publishes a booklet listing all California Historical Landmarks with a brief description of each.

b. Updated information can best be obtained from minutes of the State Historical Resources Commission meetings. The booklet may be purchased by writing to Central Distribution, Department of Parks and Recreation, P. O. Box 2390, Sacramento, CA 95811. A request to be placed on the mailing list for the Commission's minutes should be submitted to Mrs. S. Elder, Office of Historic Preservation, at the address given above.

3. California Inventory of Historic Resources

Last published in March of 1976, this book may be useful for identifying cultural properties not already included in the previously mentioned publications. While it occasionally duplicates information found in the latter, it also contains listings based on local and regional surveys as well as the only published compilation of California State Points of Historical Interest. Copies may be ordered by writing to Central Distribution at the address given above.

4. Local Historical Societies or Similar Organizations

Such groups can be of great assistance in providing information not found in the publications mentioned or readily available in this office.

5. California State Archaeological Site Survey

Current archaeological site information may be obtained from the Regional Officer of the California Archaeological Site Survey. For information regarding archaeological sites which may be located in your area, you should contact Dr. Mark Kowta by calling (916) 895-6192. We urge you to contact the Regional Officer for any projects that may involve considerable ground disturbance such as grading, trenching, excavation, etc. Impacts which should also be considered are the increased likelihood for vandalism due to growth-inducing projects, and other indirect effects. The information the Regional Officer should be able to give you should indicate: (a) the presence of archaeological sites in the project's potential impact area; and (b) the absence of such sites, either because field surveys of the area have encountered nothing or because the area has never been subjected to a scientific study to locate cultural resources.

Based upon his knowledgeability, the Regional Officer may recommend a field survey and may make additional suggestions for mitigation or avoidance of potentially adverse effects. With the exception of specific archaeological site locations, complete archaeological site data, including the person responsible for preparing the documentation, should be included in the DEIR.

c. Additional Information

Visual inspection of the project area, either by the agency or a consulting professional, may locate buildings or other structures not previously recorded. If these structures appear to be approximately 50 or more years old or are in some other respect noteworthy, they should be photographically recorded and described in the DEIR.

d. Consultation with Local Ethnic Groups

There may be situations in which a project could impact cultural resources of particular interest or value to a local ethnic or cultural group. If this is the case, the agency should make an effort to ascertain the existance of specific groups and attempt to solicit their views on the undertaking. Typical examples are: archeological or other sites which have religious and medicinal value to Native Americans; burial sites; cemeteries; or other features to which an ethnic community may attach peculiar significance.

As we have said, these steps represent routine avenues of inquiry pertaining to cultural resource identification. The material should be analyzed and used as CEQA and the State EIR Guidelines require. To provide further guidance in the area of cultural resource surveys, a copy of our checklist is attached. This may be used by consultants preparing reports or by your own staff to evaluate the scope and the adequacy of survey reports submitted.

We would be pleased to assist you further at any time. In this regard, please contact Nicholas Del Cioppo of this Office by calling (916) 322-8703.

Sincerely yours,

Dr. Knox Mellon
State Historic Preservation Officer
Office of Historic Preservation

cc: State Clearinghouse
Governor's Office of Planning and Research
1400 10th Street
Sacramento CA 95814

State of California

GOVERNOR'S OFFICE

OFFICE OF PLANNING AND RESEARCH

1400 TENTH STREET

SACRAMENTO 95814

EDMUND G. BROWN JR.
GOVERNOR

RECEIVED
1981
PLANNING DEPT.
COUNTY OF LASSEN

June 26, 1980

TO: Responsible and Commenting Agencies

FROM: Kent Fickett Kent Fickett

SUBJECT: Use Permit Application (Lassen County Planning Commission) -- SCH #80062304

Attached for your comment is Lassen County Planning Commission's Notice of Preparation of a draft Environmental Impact Report (EIR) for the Use Permit Application, SCH #80062304.

Under provisions of AB 884, the project's lead agency must consult with responsible agencies in deciding what type of environmental document to prepare in compliance with the California Environmental Quality Act (CEQA). We ask that responsible agencies transmit their concerns and comments on the scope and content of the EIR, focusing on specific information related to their own statutory responsibility. We also encourage commenting agencies to respond to the lead agency's request for consultation, as it is in their best interest to express their concerns early in the CEQA process.

Comments should be forwarded directly to the lead agency contact:

Mark Totten
Lassen County Planning Dept.
Room 103
Courthouse Annex
Susanville, CA 96130
(916) 257-6177

with a copy to the Clearinghouse, within 45 days of receipt of this notice. Please refer to the State Clearinghouse number noted above in all correspondence concerning this project.

If you have any questions about the review process, call me at (916) 322-7787.

Attachments
cc: Mark Totten

RECEIVED
PLANNING DEPT.
COUNTY OF LASSEN

Plans and Project Evaluation Unit
Air Resources Board
1800 - 15th Street
Sacramento, CA 95814
916/445-0960

William Travis
California Coastal Commission
631 Howard Street, 4th Floor
San Francisco, CA 94105
415/543-8555

Justin Tierney
California Energy Commission
1111 Howe Avenue, Room 331 B
Sacramento, CA 95825
916/920-6405

Burd Miller
CalTrans - Division of Aeronautics
1120 N Street
Sacramento, CA 95814
916/322-9954

Bill Felts
Dept. of Boating and Waterways
1629 S Street
Sacramento, CA 95814
916/322-4165

Environmental Protection Coordinator
Dept. of Conservation
1416 Ninth Street, Room 1354
Sacramento, CA 95814
916/445-8733

John Turner
Dept. of Fish and Game
1416 - 9th Street
Sacramento, CA 95814
916/445-1383

Harry Krade
Dept. of Food and Agriculture
1220 N Street
Sacramento, CA 95814
916/445-0682

Paul Cox
Dept. of Forestry
1416 Ninth Street, Room 1506-17
Sacramento, CA 95814
916/445-9144

James Hargrove
Dept. of General Services
1015 L Street
Sacramento, CA 95814
916/445-0780

Kenneth Buell
Dept. of Health
714 P Street, Room 430
Sacramento, CA 95814
916/322-2308

Dave Williamson
Dept. of Housing & Community Dev't.
921 - 10th Street, 6th Floor
Sacramento, CA 95814
916/445-4725

James Tryner
Dept. of Parks and Recreation
1220 K Street Mall, Third Floor
Sacramento, CA 95814
916/322-2481

Nick del Cioppo
Office of Historic Preservation
1220 K Street Mall, Third Floor
Sacramento, CA 95814
916/322-8703

Robert Penny
Public Utilities Commission
1210 Fox Plaza
San Francisco, CA 94108
415/557-0442

Mel Schwartz
Reclamation Board
1416 Ninth Street
Sacramento, CA 95814
916/445-3624

Robert Batha
S.F. Bay Cons. & Dev't. Comm.
30 Van Ness Avenue, Room 2011
San Francisco, CA 94102
415/557-3686

Bob Sleppy
Solid Waste Management Board
1020 Ninth Street, Room 300
Sacramento, CA 95814
916/322-4915

Ted Fukushima
State Lands Commission
1807 - 13th Street
Sacramento, CA 95814
916/322-7813

Fred Lercari
State Water Resources Control Board
2125 - 19th Street
Sacramento, CA 95814
916/322-3583

Ken Fellows
Dept. of Water Resources
1416 Ninth Street
Sacramento, CA 95814
916/445-7416

Department of Transportation
District Contacts

Bob Brown
Department of Transportation
District 1
1656 Union Street
Eureka, CA 95501

Robert E. McBroome
Department of Transportation
District 2
1657 Riverside Drive
Redding, CA 96001

R. D. Skidmore
Department of Transportation
District 3
703 B Street
Marysville, CA 95901

Robert W. Sieker, Jr.
Department of Transportation
District 4
150 Oak Street
San Francisco, CA 94102

Win Evans
Department of Transportation
District 5
50 Higuera Street
San Luis Obispo, CA 93401

Mert Parlier
Department of Transportation
District 6
1352 West Olive Avenue
Fresno, CA 93778

A. H. Hendrix
Department of Transportation
District 7
120 Spring Street
Los Angeles, CA 90012

Harvey Sawyer
Department of Transportation
District 8
247 West Third Street
San Bernardino, CA 92403

Jim Jelinek
Department of Transportation
District 9
500 South Main Street
Bishop, CA 94514

John Gagliano
Department of Transportation
District 10
1976 East Charter Way
Stockton, CA 95206

Jim Cheshire
Department of Transportation
District 11
2829 Juan Street
San Diego, CA 92138

Fish and Game - Regional Offices

R. O'Brien, Regional Manager
Department of Fish and Game
627 Cypress
Redding, CA 96001

R. Lassen, Regional Manager
Department of Fish and Game
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670

E. Toffoli, Regional Manager
Department of Fish and Game
Yountville Facility, Bldg. C
Yountville, CA 94599

A. Naylor, Regional Manager
Department of Fish and Game
1234 East Shaw Avenue
Fresno, CA 93726

R. Montgomery, Regional Manager
Department of Fish and Game
350 Golden Shore
Long Beach, CA 90802

STATE OF CALIFORNIA—RESOURCES AGENCY EDMUND G. BROWN JR., Governo

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
LAHONTAN REGION

092 LAKE TAHOE BOULEVARD
P. O. BOX 14367
SOUTH LAKE TAHOE, CALIFORNIA 95702
(916) 544-3481

October 23, 1980

Miller's Custom Work
35 Grand Avenue
Susanville, CA 96130

ATTN: Donna

Dear Madam:

WATER QUALITY GUIDELINES FOR POTENTIAL GRAVEL WASHING OPERATION

This letter is a response to your request for information on our requirements for waste discharge at a possible gravel washing operation, to be included in the Environmental Impact Report which you are now preparing. Below is a list of minimum requirements for such a project:

1. All water used in washing should be contained on-site and used for groundwater recharge or recycled through a series of ponds for reuse. There should be no discharge to surface waters off the site.

2. We assume that no chemicals (e.g., wetting agents) would be added to the wash water.

3. Any oil spilled on the site should be properly cleaned up.

4. There should be adequate dust control measures for sediments in the ponds when they are dry.

5. Any cooling water used on-site should be discharged to the wash water ponds.

6. Adequate solid waste disposal facilities and sanitary facilities should be provided.

Enclosed for your information is a copy of waste discharge requirements adopted by the Regional Board for a gravel pit in Alpine County. Please contact Judith Unsicker at this office if you have any questions.

Very truly yours,

Roy C. Hampson

ROY C. HAMPSON
EXECUTIVE OFFICER

Enclosure

WRITE IT — DO IT SAY IT

TO File:

DATE 6-4 19 80 A.M.

Phone This Date Allen Vaughn Salem Oregon - opposed To granting miller use permit. Owns 20 acres next To ward Lake Road. Formerly Davis ownership.

Marla [illegible]

Read into Planning Commission Record 6/4/80

REPLY ON THIS SHEET

FROM

APPENDIX S

Read into Record - Planning Commission 7/2/80

Dear Mark:

My comments relative to the proposed hot plant of Miller's Custom Work in section 32 and 33 of Township 30N Range 14E favour an enviornmental impact report for two reasons.

1. Because I own property in section 32 within less than 1/2 mile of the proposed plant, I am concerned about both air and noise polution from the operations. I purchassed this property with the intention to either build or convey to my children for this purpose at some time in the future. Such an impact would greatly reduce its value for such use.

2. My second consideration is even more important to me. It concerns the fact that there are known sites of petroglyphs in the area. According to Tom Eilers, who published a paper on the Petroglyphs of Northeastern California and Nevada in the January 26 issue of the Lassen Historical Society Publication, there are petroglyphs in the eastern portion of section 29. As it has been determined that these sites are usually in neighbourhood of 4200' to 4400' elevation, and it is in this elevation that the proposed plant is situated, itiis important that thorough study be carried on before the land is disturbed.
Contiguous to the east is BLM land which has been identified as 020-310 in their Wilderness Study process. It was deleted from Wilderness designation, not because it did not contain historical interest but because the sloping nature and lack of vegitation of the area did not provide opportunity for solitude. To my knowledge BLM has done no careful study of such historical resources in the preparation of their findings.

Thankyou much for conveying my opinions to the Planning Commission if I am unable to be there. I would appreciate being notified if this matter is handled before 7PM.

Blessings,

Carl Schwarzenberg

APPENDIX T

Controlled powder blasts
Control on wild life
Dust control
all Rds Black top
Speed control 25 mile a hour
these thing I am concerned about

Frank A. + Mary Helen Myers
288 Redwood Dr.
Felton, Ca. 95018

RECEIVED
JUN 1980
PURCHASING DEPT.
COUNTY OF LASSEN

(Retyped from note received 6-2-80)

Controlled powder blasts
Control on wildlife
Dust control
All roads black top
Speed control 25 miles a hour
These things I am concerned about

Frank A. & Mary Helen Myers
288 Redwood Dr.
Felton, Ca. 95018

May 31, 1980

Mark Totten
Planning Director
Lassen County Planning Department

RECEIVED
JUN 04 1980
PURCHASING DEPT.
COUNTY OF LASSEN

SUBJECT: Miller's Custom Work, Initial Study 5-01-80

RE: Your Letter Dtd 5-15-80

Gentlemen;

After receiving(May 30 1980) and reviewing the subject letter I have considerable doubts and concerns for such an industrial project on an adjoining property.

As you know, my property lies directly west of the proposed plant site. I estimate at a distance no greater than one-half mile. Since this property is in an open range/farm area, I have assumed it to be zoned Agricultural. If so, how can the county approve this proposed Industrial use; as an Asphaltic Plant certainly must be considered.My property was purchased over five years ago with the idea of an investment and/or future retirement in mind. Having an Asphalt Plant next door does not strike me as being an enhancement to my property value or my desire to live there. The impact of this type of activity would be totally detrimental from my point of view.

As you can see, I fully believe that an Environmental Impact Report is required and necessary to understand the full impact of such an operation as proposed. I believe the rights of the surrounding property owners will seriously compromised if such a project were to be approved. Besides significant physical changes to the area such as, Air Pollution(dust, foul odors, etc) there will be negative subjective changes as well.

I am also upset with fact that an initial study by the Lassen County Environmental Advisory Committee was prepared but not made available to us for review. Is it so unreasonable to consider that the County should send to us, the out of county property owners, a report that obviously should clarify the potential impact of such a project. Certainly the cost of mailing the study can't be the prohibiting factor, and if so, what have been paying property taxes for.

Also, one last note of disgruntlement. Your letter of May 15, 1980, was postmarked May 28, 1980 at Reno, Ne. I received it on May 30, 1980. What happened to it between May 15 and May 28? Since you take this matter up on June 4, 1980, it is with some doubt that you will even recieve this letter by then. It appears that somewhere within your inter-office staff someone dropped the ball as far as sending out these requests to the property owners.

I certainly hope you will advise me of the disposition of this project as well as answering some of my questions pertaining to zoning etc.

Sincerely,

Jack R. Sturges

Jack R. Sturges
Route 1, Box 185
Arroyo Grande, Ca 93420
(805) 489-8345

STATE OF CALIFORNIA · RESOURCES AGENCY

EDMUND G. BROWN JR., Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
LAHONTAN REGION

2092 LAKE TAHOE BOULEVARD
P.O. BOX 14367
SOUTH LAKE TAHOE, CALIFORNIA 95702
(916) 544-3481

RECEIVED

MAY 30 1980

PURCHASING DEPT.
COUNTY OF LASSEN

May 29, 1980

Mr. Mark A. Totten, Planning Director
Lassen County Planning Department
Lassen County Courthouse
Susanville, CA 96130

Dear Mr. Totten:

REVIEW OF NOTICES OF CONSULTATION, AISPURO PARCEL MAP (INITIAL STUDY #5-02-80) AND MILLER'S CUSTOM WORK USE PERMIT (INITIAL STUDY #5-01-80)

We have reviewed the notices of consultation sent to us in May, and wish to comment on the two notices above.

The Aispuro project site appears to present possible problems for septic tank/leachfield systems. However, since the lot sizes are large, we will defer to the judgement of the County Health Department on the siting of these systems.

We understand that the Miller's Custom Work project will not involve the discharge of water except for on-site washing of vehicles. Since no surface waters or drainage courses are involved, we will not require a Report of Waste Discharge at this time. However, if plans change to include gravel washing operations, the applicant should contact our staff regarding Waste Discharge Requirements (Water Code Section 13260).

Please contact Judith Unsicker at this office if you wish to discuss these comments.

Very truly yours,

Roy C. Hampson

ROY C. HAMPSON
EXECUTIVE OFFICER

STATE OF CALIFORNIA—RESOURCES AGENCY EDMUND G. BROWN JR., Governor

DEPARTMENT OF FISH AND GAME
P.O. Box 1480
Redding, CA 96099
(916) 246-6511

RECEIVED
JUN 03 1980
PURCHASING DEPT.
COUNTY OF LASSEN

May 28, 1980

Mr. Mark Totten, Director
Lassen County Planning Department
Courthouse Annex
Susanville, CA 96130

Dear Mr. Totten:

We have reviewed Initial Study 5-1-80 for Miller's Custom Work Use Permit Application to excavate ledge rock; crush, stockpile, and haul materials for use as an aggregate materials source, for use as asphaltic concrete aggregates; and operate asphalt concrete (hot plant) batch plant in Sections 32, 33, of Township 30N, Range 14E, MDB&M.

The proposed project area is within critical wildlife habitat near Shaffer Mountain and the proposed uses will not only alter the existing vegetation and wildlife populations dependent on the site, but also will alter the wildlife use on surrounding lands because of the daily disturbance and noise created by the batch plant operations, crushing, and trucking.

The project area is classified as mule deer winter range, antelope winter range, chuckar range, valley quail range, and cottontail range. We believe that this project will adversely affect these species and that a Draft Environmental Impact Report (DEIR) should be prepared. The DEIR should assess the direct impacts upon all the wildlife species mentioned, the indirect effects of off-site wildlife impacts, the cumulative impacts of past, present and future developments in this area because of this type of industry, and the growth inducing impacts that this industry will generate on the wildlife populations of the area.

If you have any questions regarding our comments, please contact Tom Stone of our Redding office at (916) 246-6544.

Very truly yours,

A. E. Naylor
Regional Manager
Region 1

RECEIVED

June 03, 1980

PURCHASING DEPT.
COUNTY OF LASSEN

May 15, 1980

Dear Property Owner:

RE: Notice of Consideration for Initial Study #5-01-80, Miller's Custom Work, Use Permit Application in which the applicant proposes to excavate ledge rock, crush, stockpile and hauling of materials for use as aggregate materials source and asphaltic concrete aggregates; operation of asphalt concrete (hot plant) batch plant located 1/2 mile east of Wards Lake northwest of Litchfield, Sections 32 and 33, Township 30 N, Range 14E, M.D.B.M.

The County of Lassen hereby solicits the aid of the general public in determining whether a Negative Declaration or Significant Effect on the Environment or Environmental Impact Report is required for the above referenced project pursuant to Article IX, Section 4(q) of Lassen County Resolution No. 78-79-102. The Lassen County Planning Commission will make such determination at their meeting on June 4, 1980 at 3:00 P.M. in the Board of Supervisor's Room, Courthouse Annex, Susanville, California. Any comments you may have regarding this project must be received by this office prior to the above determination date.

Receipt of this letter indicates that you are an owner of property contiguous to the boundary of the project site. The Initial Study, prepared by the Lassen County Environmental Advisory Committee is available for review at the Lassen County Planning Department, Room 103, Courthouse Annex, Susanville.

If you have any questions regarding this matter, please do not hesitate to contact this office.

Respectfully,

for Mark A. Totten
Planning Director

MAT:eg

Dear Mr. Totten:
I can't see any objection to the proposal if the road from the the Center Road to Wards Lake is maintained in reasonable condition.

Yours very truly,
George A. Farris
6/3/80

STATE OF CALIFORNIA--RESOURCES AGENCY

EDMUND G. BROWN JR., Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
LAHONTAN REGION

2092 LAKE TAHOE BOULEVARD
P. O. BOX 14367
SOUTH LAKE TAHOE, CALIFORNIA 95702

RECEIVED
JUN 2 1980
PURCHASING DEPT.
COUNTY OF LASSEN

June 23, 1980

Mr. Mark Totten, Director
Lassen County Planning Director
Lassen County Courthouse Annex, Rm. 103
Susanville, CA 96130

Dear Mr. Totten:

REVIEW OF NOTICE OF PREPARATION, MILLER'S CUSTOM WORK USE PERMIT, INITIAL STUDY #5-01-80

We have reviewed this notice. Enclosed is a copy of the "List of Information Subjects for Environmental Documents," which was prepared by the State Water Resources Control Board as a basis for State and Regional Board responses to Notices of Preparation. This list, which has been modified as appropriate to the proposed project, constitutes the information we require as a "responsible agency" under the California Environmental Quality Act.

Please contact Judith E. Unsicker at this office if you have any questions.

Very truly yours,

Roy C Hampson

ROY C. HAMPSON
EXECUTIVE OFFICER

Enclosure

LIST OF INFORMATION SUBJECTS
FOR ENVIRONMENTAL DOCUMENTS

I. Description of Project

The description should provide sufficient information to allow an understanding of the relationship of the project to the surrounding area and to provide a clear background for determining how the project affects the area. Specific items to be included are as follows:

A. Purpose of and need for the project (specific problem and its significance related to development, health, and the biotic and social environment)

B. Applications, permits required (name of agencies, status of permits)

C. A detailed discussion of:

1. Kinds and quantities of materials to be treated, transported, discharged, or released to the environment

2. Methods of treatment, transport, and disposal

D. Photographs, charts, or figures to show location and interrelationships of project components

E. Methods which will be incorporated in the project to conserve and reclaim water and to reduce waste

Describe the proposed water supply and wastewater disposal system for the project.

II. Describtion of Environmental Setting

The environmental description should provide an understanding of the interactions between the area (both local and regional) and the project. The description should include the present setting without

the project, and the probable future setting without the project. Emphasis should be placed on those items related to potential effects of the project. Specific items to be included are as follows:

A. Physical setting

1. Location (USGS topographic map and description) including the immediate vicinity of the project and the regional setting

2. Geology (soil type, erodability, permeability)

3. Topography (slopes, hills, creeks, marshes, swamps, drainage ways)

4. Climate (precipitation, winds, seasonal variation)

B. Water

1. Watershed area and physiography (bays, estuaries, lakes, streams, ocean)

2. Hydrology--surface runoff and groundwater

a. Quantities, seasonal variations, trends, uses, recharge

b. Status (e.g., water-short area? overdraft?)

3. Uses of the water (water supply, receiving water, recreation, and other instream uses), occurrence, quantities, value or importance

4. Quality of surface waters and groundwater, including existing problems and constraints (chemical and physical condition)

a. Domestic water sources--their quality, quantity, and per capita consumption including large water using industries and amount of their consumption

b. Receiving waters--characterize, chemically and physically, the existing receiving waters. Indicate whether the receiving water is a stream, lake, groundwater basin, bay, estuary, or the ocean.

C. Biota--aquatic and terrestrial (emphasis should be placed on those items which may be affected by changes in the quantity or quality of water resulting from the project)

1. Habitat types

2. Plant and animal species

3. Sensitive species or habitat

a. Rare and endangered plant or animal species (occurrence, locations, abundance, condition)

b. Sensitive or special use habitat (e.g., migration routes, spawning or nursery areas, marsh land), occurrence, locations, abundance, and condition

D. Social/Political relationships

1. Land use patterns (agricultural, urban, industrial, etc.)

2. Zoning and other special requirements (e.g., coastal zone, flood plain, wild and scenic rivers, watershed, and local plans)

3. Population density and trends

4. Recreation, esthetic areas

5. Housing and economy

6. Relationships to State and Regional Board policies and plans, including the State Board's Resolution 68-16, "Statement of Policy With Respect to Maintaining High Quality of Waters in California" (nondegradation policy), and the Regional Board's Water Quality Control Plan (Basin Plan).

III. Impacts

Impacts should be discussed in relation to those items included in the project and environmental description sections. Generally, concerns of the State and Regional Boards relate to effects on the quantity and quality of surface and groundwaters. Construction activities, as well as the effects of the project, must be discussed. This section should

describe direct and indirect effects of normal and worst case situations (e.g., project failures or accidents) and anticipated durations of impacts. Specific items to be included are as follows:

A. Changes in surface and groundwater quantity (total quantities and changes in seasonal variations)

1. Effects on other users

2. Effects on surface water instream uses (fish and wildlife, riparian vegetation, recreation, esthetics)

3. Effects on groundwater uses (water supply, saltwater intrusion, land subsidence, phreatophytes)

B. Changes in surface and groundwater quality (degree of change, seasonal variations, and effects)

1. Physical changes

a. Wastewater

b. Drainage patterns

c. Temperature

d. Turbidity

2. Chemical changes (volumes, constituents, and concentrations)

a. Biostimulants

b. Toxic chemicals (acute and chronic)

c. Dissolved inorganic and organic materials

d. Dissolved oxygen

e. Oxygen-demanding substances

3. Potential impacts from accidental releases of chemicals

a. Identity and properties including any hazards associated with chemical or physical properties

b. Proposed mode of transport

c. Expected transport routes and destinations, with identification of locations of vulnerable areas along route

d. Risk analysis for significant accidents during transport

e. Volume of material capable of being released into the environment at each stage of loading and transport

f. The forms of life or resources which might be affected by the release of materials

C. Social and land use changes

1. Effects on special use areas (flood plain, wild or scenic rivers, prime agricultural land, and other special or protected areas)

2. Social effects (land use, cultural resources, energy, zoning, and other social/political constraints)

3. Conflicts with State or Regional Board policies or plans (see II.D.6.)

4. Population changes

5. Effects on regional and local services

a. Water supply

b. Waste disposal

c. Cumulative effects

6. Project-related safety and health hazards

7. Energy relationships of project

8. Effects on cultural resources

D. Effects on aquatic and terrestrial biota

1. Vegetation, invertebrates, fish, and wildlife

2. Sensitive habitats

3. Rare or endangered species

IV. Alternatives

All project alternatives must be briefly described, including relationships to the environment, potential significant impacts, and reasons for rejecting each alternative. In addition, future options associated with each alternative should be discussed (e.g., reclamation, regionalization, etc.)

V. Mitigation measures for adverse impacts (methods to eliminate or minimize impacts, the levels to which impacts would be reduced and the basis for selecting levels as acceptable). Where alternative mitigation measures are available, each should be discussed and the basis for selection of a specific alternative should be given. Water conservation measures and wastewater reclamation must always be discussed. Contingency plans in the event of accidents or project malfunctions should also be included, especially if the project has a potential for accidental releases of chemicals. EIRs for projects with a significant potential for chemical spills must include a spill prevention and control plan to prevent or limit damage. The EIR should specify those conditions needed to ensure that the mitigation measures will be implemented.

AIR POLLUTION CONTROL OFFICER:
JESS R. GRISHAM

525 SO. FOOTHILL DR.
YREKA, CALIFORNIA 96097
PHONE: (916) 842-3531, EXT. 60

County of Siskiyou

AIR POLLUTION CONTROL DISTRICT

COUNTY AIR POLLUTION CONTROL BOARD:
(BOARD OF SUPERVISORS, EX-OFFICIO)

DISTRICT ENGINEER:
XXXXXXXX
Kenneth L. Corbin

December 9, 1980

Donna Drickey
Millers Custom Work
35 Grand Avenue
Susanville, CA 96130

Dear Ms. Drickey:

Attached is the information which you requested on air quality for Lassen County.

Although much of the data is not current, it does provide a good indication of air quality for the Susanville area.

If we can be of further assistance, please give us a call.

Sincerely,

JESS R. GRISHAM
AIR POLLUTION CONTROL OFFICER

Kenneth L. Corbin

By: Kenneth L. Corbin
Air Pollution Specialist

KLC:eb

Attachment

TABLE 7

1977 ANNUAL SUMMARY OF 24-HOUR TOTAL SUSPENDED PARTICULATE

BASIN, COUNTY, STATION	TOTAL NUMBER OF SAMPLES IN YEAR	NUMBER OF SAMPLES			CONCENTRATIONS ($\mu g/m^3$)				
		$\geq 100\ \mu g/m^3$	$> 150\ \mu g/m^3$	$> 260\ \mu g/m^3$	HIGH	2ND HIGH	LOW	ANNUAL GEOMETRIC MEAN	GEOMETRIC STANDARD DEVIATION
NORTHEAST PLATEAU									
Lassen									
Susanville	22	0	0	0	66	50	12	32.3 †	1.5
Modoc									
Alturas	51	6	2	0	215	164	19	64.2	1.6
Shasta									
Burney	57	10	1	0	161	146	16	57.2	1.8
Sierra									
Sierra City	14	0	0	0	26	22	14	18.8 †	1.2
Siskiyou									
Weed	3	0	0	0	94	71	51	69.8 †	1.4
Yreka	51	0	0	0	96	93	13	39.7	1.6
SACRAMENTO VALLEY									
Butte									
Chico	56	12	0	0	134	133	16	66.8	1.6
Chico-Manzanita	50	5	1	0	153	124	15	54.5 †	1.7
Chico-State	14	1	0	0	114	90	15	51.7 †	1.8
Gridley - Graylodge	59	5	0	0	137	122	7	39.5	2.1
Nord	35	0	0	0	84	68	13	37.8 †	1.5
Oroville - Bird St.	59	4	0	0	118	114	14	48.4	1.7
Colusa									
Williams	18	4	0	0	143	118	28	68.8 †	1.2
Glenn									
Willows	19	2	0	0	132	106	13	49.3 †	1.9
Willows - 5M West	8	0	0	0	92	76	10	30.2 †	2.4
Sacramento									
Rancho Cordova	56	18	1	0	188	138	19	75.6	1.6
Sacramento-Branch Center	59	12	2	0	167	162	22	70.0	1.5
Sacramento-1025 P Street	56	9	0	0	133	115	19	63.3	1.5
Shasta									
Anderson-Cntr St.	49	13	4	0	250	220	18	69.9	1.7
Redding-H.D. Roof	58	8	1	0	153	129	15	53.4	1.7

† May not be representative of year's average

AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Oxidant[10]	1 hour	0.10 ppm (200 ug/m³)	Ultraviolet Photometry	—	—	—
Ozone	1 hour	—	—	240 ug/m³ (0.12 ppm)	Same as Primary Standard	Chemiluminescent Method
Carbon Monoxide	12 hour	10 ppm (11 mg/m³)	Non-Dispersive Infrared Spectroscopy	—	Same as Primary Standards	Non-Dispersive Infrared Spectroscopy
	8 hour	—		10 mg/m³ (9 ppm)		
	1 hour	40 ppm (46 mg/m³)		40 mg/m³ (35 ppm)		
Nitrogen Dioxide	Annual Average	—	Saltzman Method	100 ug/m³ (0.05 ppm)	Same as Primary Standards	Gas Phase Chemiluminescence
	1 hour	0.25 ppm (470 ug/m³)		—		
Sulfur Dioxide	Annual Average	—	Conductimetric Method	80 ug/m³ (0.03 ppm)	—	Paraosanilne Method
	24 hour	0.05 ppm (131 ug/m³)[9]		365 ug/m³ (0.14 ppm)	—	
	3 hour	—		—	1300 ug/m³ (0.5 ppm)	
	1 hour	0.5 ppm (1310 ug/m³)		—	—	
Suspended Particulate Matter	Annual Geometric Mean	60 ug/m³	High Volume Sampling	75 ug/m³	60 ug/m³	High Volume Sampling
	24 hour	100 ug/m³		260 ug/m³	150 ug/m³	
Sulfates	24 hour	25 ug/m³	AIHL Method No. 61	—	—	—
Lead	30 day Average	1.5 ug/m³	AIHL Method No. 54	—	—	—
	Calendar Quarter	—	—	1.5 ug/m³	1.5 ug/m³	Atomic Absorption
Hydrogen Sulfide	1 hour	0.03 ppm (42 ug/m³)	Cadmium Hydroxide Stractan Method	—	—	—
Hydrocarbons (Corrected for Methane)	3 hour (6-9 a.m.)	—	—	160 ug/m³ (0.24 ppm)	Same as Primary Standards	Flame Ionization Detection Using Gas Chromatography
Vinyl Chloride (Chloroethene)	24 hour	0.010 ppm (26 ug/m³)	Gas Chromatography (ARB staff report 78-8-3)			
Ethylene	8 hour	0.1 ppm	—	—	—	—
	1 hour	0.5 ppm				
Visibility Reducing Particles	1 observation	In sufficient amount to reduce the prevailing visibility to less than 10 miles when the relative humidity is less than 70%	(8)	—	—	—
APPLICABLE ONLY IN THE LAKE TAHOE AIR BASIN:						
Carbon Monoxide	8 hour	6 ppm (7 mg/m³)	NDIR	—	—	—
Visibility Reducing Particles	1 observation	In sufficient amount to reduce the prevailing visibility to less than 30 miles when the relative humidity is less than 70%	(8)	—	—	—

(FOOTNOTES ON REVERSE SIDE)

NOTE:

1. California standards are values that are not to be equaled or exceeded.

2. National standards, other than those based on annual averages or annual geometric means, are not to be exceeded more than once per year.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 mm of mercury. All measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of Hg (1,013.2 millibar); ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent procedure which can be shown to the satisfaction of the Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health. Each state must attain the primary standards no later than three years after that state's implementation plan is approved by the Environmental Protection Agency.(EPA).

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standards within a "reasonable time" after implementation plan is approved by the EPA.

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

8. Prevailing visibility is defined the greatest visibility which is attained or surpassed around at least half of the horizon circle, but not necessarily in continuous sectors.

9. At locations where the state standards for oxidant and/or suspended particulate matter are violated. National standards apply elsewhere.

10. Measured as ozone.

INITIAL STUDY #5-1-80, MILLER'S CUSTOM WORK

Totten stated the applicant proposes to excavate ledge rock, crush, stockpile and haul materials for use as aggregate material sources and asphaltic concrete aggregates; operate asphalt concrete (hot plant) batch plant, located ½ mile east of Wards Lake northwest of Litchfield.

Totten stated Cal Trans was issued a Use Permit for the same general area several months ago. That Use Permit is still in effect.

Totten stated Mr. Quarisa, a nearby resident, was concerned as he had not received notification. Mr. Quarisa's property fronts Ward Lake Road. Totten stated only property owners within 300 ft. of the project site were notified. The Planning Department staff will send additional Notices of Consultation to all property owners fronting Ward Lake Road. Mr. Quarisa also stated the applicant has been proceeding without a Use Permit.

Totten stated he verified this by driving to the project site with Mr. Quarisa.

Totten stated he discussed this matter with Mr. Miller and also informed Mr. Miller that additional property owners will be notified.

Totten stated correspondence has been received from Mr. Schwarzenberg and a phone call from Allen Vaughn from Oregon, in opposition to this application. The letter was read into the record.

Quarisa stated he is concerned with large scale hauling: The road will not stand pick up traffic, much less trucks.

Pearson asked if the applicant will be required to bring road up to County standards.

DePasquale stated applicant should not be using any road until Use Permit is issued.

Quarisa stated he is also concerned with the effect on the agriculture land and the possible noise from this operation.

Totten stated a simple solution might be to require a different access. He stated largest concern will be the transportation of aggregates. The applicant has the right to use the County Road if he has access to it.

Quarisa stated Cal Trans was able to obtain right-of-way, however, Mr. Miller could not. He therefore must purchase easement from owners of the strawberry field.

The following correspondence was received and read into the record: letters from Dept. of Fish & Game, George Farris, Mr. Sturges, Lahontan Regional Water Quality Control Board, and Mr. Myers. Also a phone call from Mr. Sturges was received.

Totten referred to a letter from Dept. of Fish & Game in response to Cal Trans application. It stated the project will not have any impact on the fish and wildlife. The letter from Dept. of Fish & Game pertaining to Miller's application states there would be impact on the fish and wildlife.

Pearson stated as the second letter from Fish & Game is more current, our decision should be based on that letter.

INITIAL STUDY #5-1-80, MILLER'S CUSTOM WORK, CONTINUED

Totten stated there is a provision in the Board's Environmental Resolution that an E.I.R. may be required if new information of substantial importance to the project becomes available.

Hinman stated there is significant difference between Cal Trans and Miller's: length of time involved, amount of materials being removed, erection and operation of a plant. He questioned the Environmental Advisory Committee's analysis that led them to conclude there would be no significant impact.

Totten stated at the time the Environmental Advisory Committee reviewed this application, they did not have anxiety and apprehension. The Committee was basing their decision on the lack of problems with the Cal Trans application.

There was further discussion about the location and the noise.

Hinman moved that an E.I.R. be required for this project, on the basis that there is insufficient information on which to make the finding that there will not be a significant environmental impact and due to the particular fact that substantial environmental concerns have been addressed to the Commission. DePasquale seconded the motion and the motion carried with Hagata voting NO.

Appendix B
1997 EIR

Miller's Custom Work, Inc.
Ward Lake Pit Expansion
Draft Environmental Impact Report

June, 1997

Prepared by:

309 Commercial St., Nevada City, CA 95959 (916) 265-8068

Table of Contents

1. INTRODUCTION.....1-1

2. PROJECT DESCRIPTION.....2-1

3. SUMMARY.....3-1

ENVIRONMENTAL ANALYSIS

4. LAND USE.....4-1

5. WILDLIFE / VEGETATION.....5-1

6. VISUAL.....6-1

7. HYDROLOGY / WATER QUALITY.....7-1

8. ARCHEOLOGY / CULTURAL RESOURCES.....8-1

9. TRAFFIC.....9-1

10. AIR QUALITY.....10-1

11. NOISE.....11-1

12. PUBLIC FACILITIES and SERVICES.....12-1

13. GEOLOGY.....13-1

14. CEQA CONSIDERATIONS.....14-1

15. ALTERNATIVES.....15-1

SOURCES AND AGENCIES CONTACTED / REPORT PREPARERS

APPENDIX

A. Standish-Litchfield Area Plan Project Related Goals / Policies.....A-1

B. Project Related Text in Standish-Litchfield Planning Area MEA.....B-1

C. Relevant Sections of 1981 Original Mining Project EIR.....C-1

D. July, 1996 Early Consultation Comments.....D-1
1. APCD
2. California Regional Water Quality Control Board
3. Spill Prevention Control and Countermeasure Plan
4. California Department of Fish and Game (includes 1994 letters also)
5. NST Engineering - Noise Measurements
6. Lassen County Department of Public Works - Traffic Report
7. Caltrans
8. Northeast Center of the California Historical Resources Information System
9. Everd McCain

E. 1996 Initial Environmental Study.....E-1

F. Notice of EIR Preparation Comments, November and December, 1996.....F-1
1. NOP
2. California Department of Fish and Game

G. Deer Herd Impact Analysis by Tom Kucera, PhD.....G-1

List of Tables

1-1 Approval / Permits Required.....1-2
3-1 Summary Table.....3-4
5-1 Wildlife Species Occurring in Area of site 5-1

List of Figures

2-1 Project Location....2-3
2-2 Site Plan....2-4
2-3 Existing Site Conditions....2-5
6-1 Pre- Project Topography....6-6
6-1a Pre-Project Cross-Section....6-7
6-2 Current Topography....6-8
6-2a Current Topography Cross-Section....6-9
6-3 After Project Topography....6-10
6-3a After Project Topography Cross-Section....6-11
6-4 Viewpoints Map....6-12
6-5 Photo of First Site View from Conservation Center Road....6-13
6-6 Photo North of Conservation Center Road on Belfast Road....6-14
6-7 Photo of First View from Ward Lake Road....6-15
6-8 Photo of Site from Intersection of Ward Lake Road with Quarry Access Road....6-16
6-9 Photo of Concrete Plant Taken On-Site....6-17
6-10 Photo of Quarry Face Mining in Progress to Top of Ridge....6-18

1. Introduction

This Environmental Impact Report (EIR) assesses the anticipated effects of the proposed expansion of the Miller's Custom Work Ward Lake Pit operations east of Susanville.

This EIR has been prepared in accordance with the California Environmental Quality Act (CEQA) of 1970 adopted by the California Resource Agency amended through 1996. The County of Lassen was determined to be the "lead agency" (following the guidance of Section 15050 of the State EIR Guidelines which defines the lead agency as the ". . . public agency with the greatest responsibility for supervision or approving the project as a whole.") The responsibility of the lead agency and its consultant, if any, is to ensure that the two basic functions of the EIR, reporting and project modification, are realized.

> An EIR is an informational document which will inform public agency decision-makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. (CA, 1995)

The strategy used in preparing this report was to use specialists for any issue (impact) which had the potential to be significant. This method results in the best characterization of impacts possible under the time constraints established by CEQA.

Focused EIR

Pursuant to December, 1995 Lassen County Superior Court order in the case of Maidu Nation and Everd and Iona McCain v Miller's Custom Work and Lassen County, and in response to the comments received by the Community Development Department through the Notice of Preparation, this EIR is focused on two issues of concern: 1) project impacts on local deer and antelope herds; and 2) visual impacts.

A number of additional issues were brought forward in the lawsuit cited above, but were either dismissed by the court as unsupported by the record, or found to be less than significant in the August 1996 Initial Environmental Study prepared by the County for this project. Although not mandated by the Court, this EIR does include summary discussion of other issues taken from the August, 1996 Initial Study with additional treatment where warranted. The 1996 Initial Study is included in the Appendix of this EIR, and the mitigation measures contained therein, related to the non-focus areas of this EIR, are listed within the Summary Table in Section 3 of this document.

Comments Requested

This consultant and the County have attempted to contact all affected agencies, organizations and individuals through the Notice of Preparation. Parties who did not have an opportunity to comment during the preparation of the administrative draft EIR may do so before the final EIR is completed.

Intended Uses of EIR

This EIR will be used by Lassen County Planning Commission and Board of Supervisors to determine whether or not the project as proposed will create significant environmental impacts and what types of mitigation measures are available. In addition, the applicant will be required to secure the following permits or approvals. This document, particularly the proposed mitigation measures, will be used in part by the appropriate regulatory agencies in determining the conditions of these approvals.

Table 1-1
APPROVAL/PERMITS REQUIRED

Conditional Use Permit	Lassen County Planning Commission and Board of Supervisors
Rezoning from Upland Conservation to Upland Conservation / Resource Management	Lassen County Planning Commission and Board of Supervisors
Reclamation Plan	Lassen County Planning Commission andBoard of Supervisors
Spill Prevention Control and Countermeasure Plan	Lahontan Regional Water Quality Control Board
National Pollutant Discharge Elimination System Permit (possibly)	Lahontan Regional Water Quality Control Board

2. Project Description

The proposed project is the expansion of an aggregate excavation and processing operation currently allowed and operating under Lassen County use permits #79-80-44, #11-02-85, and #94032, and reclamation plan #94032. The project is located on an approximately 160 acre portion of a 240 acre parcel of private land. The proposal includes:

1. The rezoning of the parcel from "U-C" (Upland Conservation) to "U-C-2" (Upland Conservation/ Resource Management) to allow operation of a ready-mix concrete plant (already on-site and operating within limits imposed by the Superior Court).

2. On-site production of ready mix concrete added to the use permit as an allowed use.

3. Increase in the height of the exposed rock quarry face from the existing +/- 84 feet to a maximum of 150 feet with associated increase in harvest volume from 500,000 cubic yards (cy) to 1,700,000 cy.

4. Expansion of the season of operation from seven months (April through October) to year round as weather permits.

NOTE: A Reclamation Plan has already been approved for the mining operation which includes regrading of slopes to no greater than 2H:1V, benching of the quarry face, and revegetation with native plants.

Background

Mining on the site began at a smaller scale in 1980 under a use permit issued to Caltrans. Caltrans had an agreement dated November, 1979 with Miller's Custom Work to use materials from the site.

In 1981, Miller's Custom Work applied for and was granted an expansion of the operation to include excavation and removal of rock over an 80 acre area and installation of a hot plant site for asphaltic concrete processing. The road connecting Ward Lake Road to the site was also approved at this time and operations were limited to May through October (closed November 1 to April 1). An EIR was prepared on that project in May, 1981 (SCH #80062304).

In 1994, Miller's Custom Work applied for the expansion of the 1981 permitted operation. The requested expansion was the same project now being applied for again. An Initial Environmental Study/ Mitigated Negative Declaration was prepared by the County, the project was approved, and expanded operations began. However, a lawsuit was brought against the applicant and the County by the Maidu Nation and Everd and Iona McCain maintaining, among other items, that the Initial Environmental Study and Mitigated Negative Declaration were inadequate under CEQA and the concrete plant was not a permitted use in the U-C zone. The Lassen County Superior Court agreed,

in part, on these two points. Related to the inadequacy of the environmental review, the Initial Study and Mitigated Negative Declaration were found to be deficient in two areas - impacts to the deer and antelope herds and visual impacts. These two issues are the focus of this EIR which is being prepared in response to the Court's findings.

Circulation

The project proposal does not include any new roads. The existing road which links the site to Ward Lake Road will be used for expanded hauling. Haul routes will be via Ward Lake Road to Conservation Center Road. Ward Lake Road (County Road 308) is a paved road from the mine site access (1 mile north of Conservation Center Road) to Conservation Center Road, and is natural surface after that point. Conservation Center Road (County Road A27) is a paved major collector.

Public Facilities

No new utilities will be needed to serve the project. The site is currently served by electric power, an on-site well, and chemical toilets.

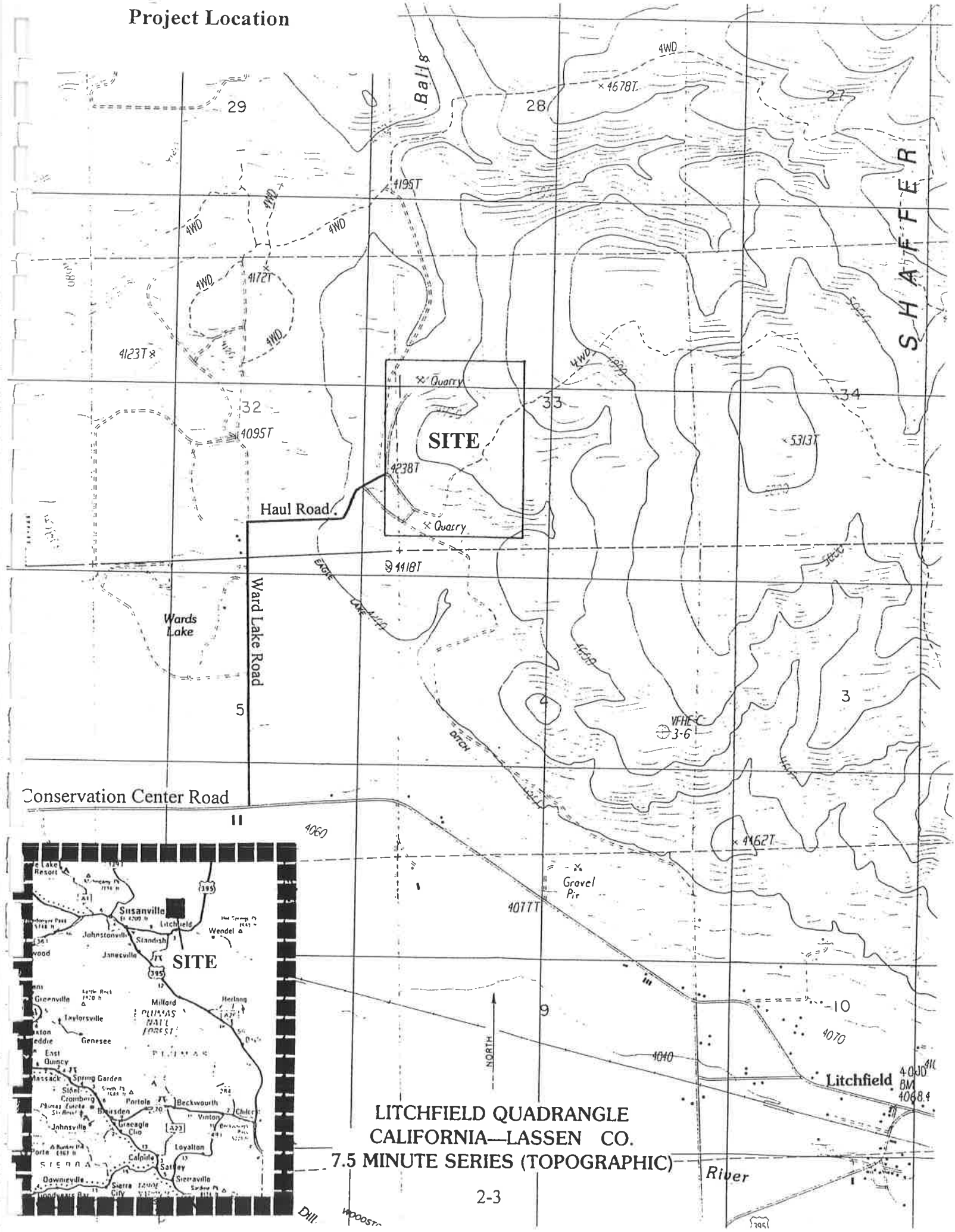
Environmental Characteristics of the Proposed Project

The following aspects of the project as proposed will mitigate environmental impacts to some degree:

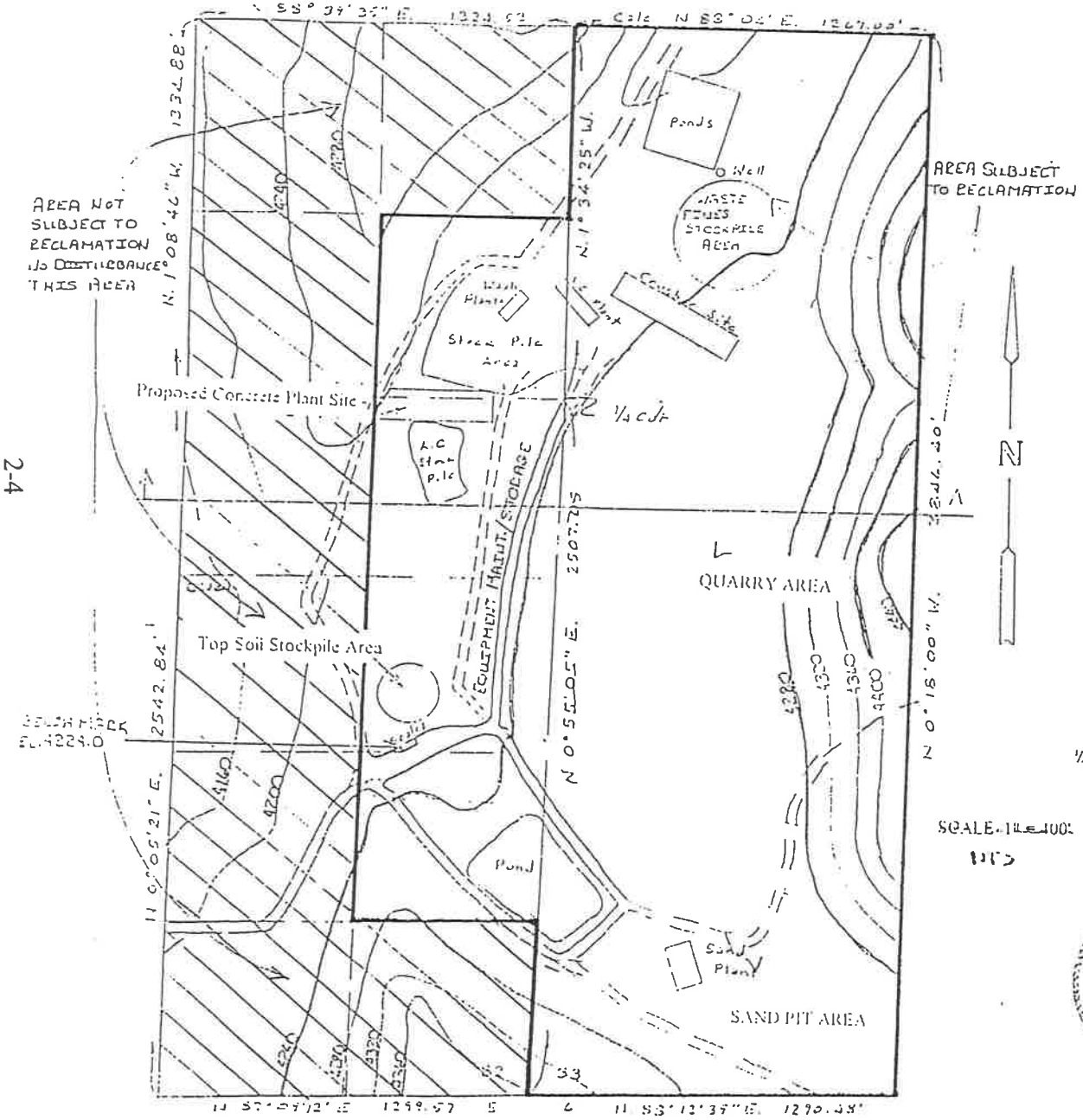
- **Landform/ Vegetation Disturbance:** A reclamation plan has been submitted to and approved by the County (file #94032). Sand and gravel excavation sites will be smoothed and shaped to blend with surrounding topography, kept to slopes of no steeper than 2H:1V, and revegetated with native shrubs and grasses.

- **Water Quality:** The existing project includes secondary containment structures for the above ground fuel tanks. Water retention and recirculation ponds for runoff and equipment wash also already exist to retain runoff on-site. A Spill Control and Countermeasure Plan submitted with this application relies mainly on use of the retention ponds and pumping or skimming them if pollutants are observed or fuel spills occur.

Project Location



LITCHFIELD QUADRANGLE
CALIFORNIA—LASSEN CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)



SECTIONAL BREAKDOWN
SCALE 1" = 1600'

LICENSED LAND SURVEYOR DARRELL E. HATCH EXP. 12-31-95 No. LS 5353 STATE OF CALIFORNIA

Figure 2-2
Proposed Project

MILLER'S CUSTOM WORK, INC
WARD LAKE PIT
Being a Portion of
Sections 32 & 33, T. 30N, R. 14 E., M.D.M.

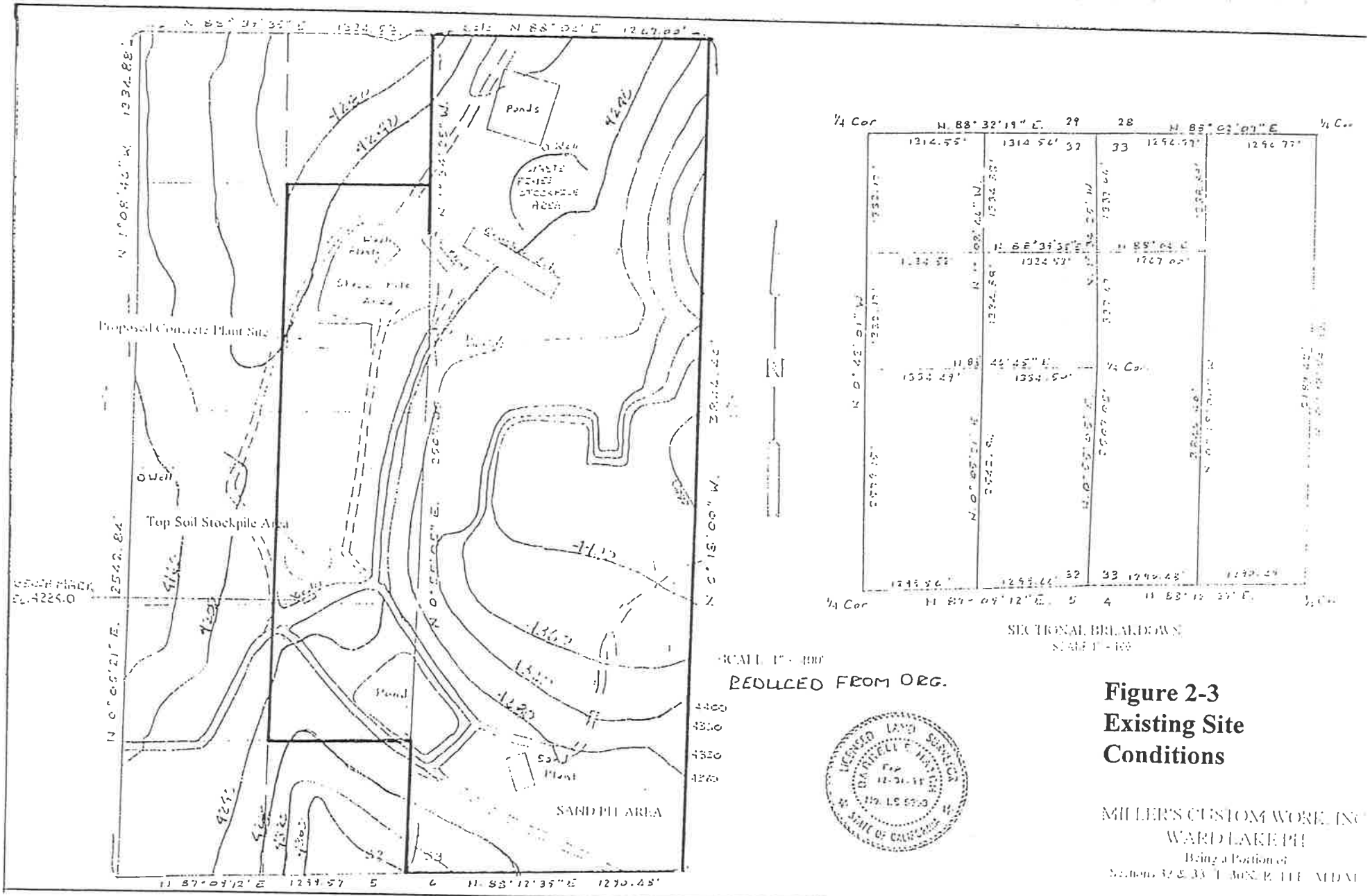


Figure 2-3
Existing Site Conditions

MILLER'S CUSTOM WORK, INC.
WARD LAKE PIT
Being a Portion of
Sections 32 & 33, T.30S., R.11E., M.D.M.

3. Summary

The Summary Table in this section lists each impact from the proposed project and the measures recommended to mitigate them as well as impacts which were determined to be less than significant. These introductory paragraphs further summarize the avoidable and unavoidable significant impacts, areas of controversy, issues to be resolved, and project alternatives.

Significant Avoidable Impacts (Project Alone).

Impacts from the proposed project which have the potential to be significant and adverse, but which can be avoided or reduced to a less than significant level are:

Impacts to deer and antelope herds

Impacts to other wildlife species

Impacts to vegetation

Long-term visual impacts

Water quality, drainage, hazardous waste impacts

Dust and other air pollutants

Changes in surface geology and topography

Risk of upset (explosives)

Significant Avoidable Cumulative Impacts.

Impacts from the proposed project combined with other projects in the vicinity, which have the potential to be significant and adverse, but which can be avoided or reduces to a less than significant level are:

Impacts to local deer and antelope herds

Impacts to other wildlife species

Impacts to on site vegetation

Long-term visual impacts

Water quality, drainage, hazardous waste impacts

Impacts on local air quality related to dust and emissions

Impacts to topography and surface geology

Unavoidable Adverse Impacts (Project Alone).

The project alone would have the following unavoidable significant impacts (adequate mitigation has not been identified).

Short-term close-in visual impacts

Unavoidable Adverse Impacts (Cumulative).

The project will play a role in the following unavoidable significant cumulative impacts:

Short-term close-in visual impacts

Areas of Controversy

The project was the subject of a law suit filed against Miller's Custom Work and the County. As described in earlier sections of this document, the law suit alleged that the environmental document prepared be the County in 1994 was inadequate in many areas. The Court ruled that the record supported re-examination of two impact issues: visual impacts related to the proposed expansion, and impacts to local deer and antelope herds within the U-C zone. The remainder of the issues raised in the suit were dismissed by the Court as unsubstantiated by the record.

As a result of the Court order and the comments received by the County during the Notice of Preparation, this EIR focuses its discussion on the environmental issues of concern to the Court. The discussion of other environmental issues derived largely from the 1996 Initial Environmental Study prepared by the County and supplemented here where warranted, is included for the reader's convenience.

Issues to be Resolved by the County

1. Mitigation measures are recommended in this EIR for the identified impacts related to the focus areas. Mitigation measures for other impacts areas are reiterated from the 1996 Initial Study with additions where warranted. The County will have to decide whether to implement these measures, and whether or not to utilize any of the alternatives discussed herein.

2. This EIR also concludes that the project will result in one significant, unmitigable impact - (short-term close-in visual impacts). As a result, the County will need to determine if the project should be approved with overriding considerations, and what these considerations might entail.

3. One other issue to be resolved is whether or not the concrete plant portion of the project is consistent with the goals and policies of the Standish Litchfield Area Plan related to the location of secondary resource processing uses.

Alternatives Summary

The alternatives selected for discussion in this EIR (see Chapter 15) are summarized below:

No Project, No Expansion - This alternative would involve continuing operations as approved in 1980 with no mining expansion. The concrete plant would discontinue operation and be removed from the site. The unmitigable project impact (short-term, close-in visual impacts) would still result, though to a lesser degree.

Mining as Proposed, No Concrete Plant - Under this alternative, mining would progress and expand as proposed, but the concrete plant would not operate. The unmitigable project impact (short-term, close-in visual impacts) would remain.

Alternative Site - This alternative would involve identification of another mining and processing site which would result in fewer wildlife, visual, and land use consistency issues. The unmitigable project impact (short-term, close-in visual impacts) might be eliminated.

Summary, Environmentally Superior Alternative - CEQA requires that, if available, the environmentally superior alternative (other than a No Project alternative) should be identified. In this case, an alternative site might be the environmentally superior alternative. Of the other alternatives, the no expansion alternative would result in fewer environmental impacts.

Table 3-1
MILLER'S CUSTOM WORK, INC.
WARD LAKE PIT EXPANSION EIR
SUMMARY TABLE OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance - Before Mitigation	Recommended Mitigation Measures	Level of Significance - After Mitigation
LAND USE			
1. Land use conflict with adopted land use plans and regulations related to the proposed concrete batch plant.	Project: Significant, mitigable. Cumulative: Less than significant.	1. Land Use Compatibility. Implementing the mitigation measures recommended for individual physical impacts identified in other sections of this EIR will concurrently mitigate any land use impacts. 2. Conflict with Adopted Land Use Plans and Regulations. A) Redesign the project to eliminate the proposed concrete batch plant to avoid conflict with adopted policies and zoning; or B) Amend the area plan goal and policy to allow production of ready mix concrete on approved mine sites within the planning area where allowed by the zoning, and subsequently rezone the site to a zoning district that allows for such production.	Project: Less than Significant. Cumulative: Less than significant.
WILDLIFE / VEGETATION			
1. Deer and antelope herds.	Project: Significant, mitigable. Cumulative: Significant, mitigable.	1. a. Reclamation of graded areas. The intent of the Reclamation Plan shall be to recreate to the extent possible a viable, self-sustaining plant community similar to that which existed prior to mining. <u>Sand and Gravel Excavation Areas:</u> These areas shall be regraded to maximum slopes of 2H:1V, shall be resoiled with adequate growth medium to support vegetation including fines from the crusher and stockpiled topsoil and shall be revegetated with native species including sage, bitterbrush, and rabbit brush. The success of revegetation in these areas shall be monitored by qualified personnel with reports submitted to the County Community Development Department at least once per year for five years. The final approved species list and planting density must be approved by the County in consultation with the Department of Fish and Game. <u>Rock Quarry Area:</u> This area shall be re-graded to a maximum overall slope of 2H:1V and shall be benched with minimum 10-foot wide benches at vertical intervals appropriate for the type of material, but not greater than 15 feet. The benches shall be sloped to drain toward the hillside, shall be resoiled with adequate growth medium to support vegetation including fines from the crusher and stockpiled topsoil and revegetated using native range grasses, shrubs, and trees if they can be supported. The operator shall institute a test plot program on the first available rock face bench to determine the best species mix and planting scheme for subsequent benches. The test plots shall be set up and monitored by	Project: Less than significant. Cumulative: Less than significant.

Table 3-1
MILLER'S CUSTOM WORK, INC.
WARD LAKE PIT EXPANSION EIR
SUMMARY TABLE OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance - Before Mitigation	Recommended Mitigation Measures	Level of Significance - After Mitigation
		qualified personnel with reports submitted to the County Community Development Department at least once per year for five years. The final approved species list and planting density must be approved by the County in consultation with the Department of Fish and Game. Timing/ Phasing of Reclamation: Reclamation of sub-areas shall take place in a phased manner where possible as excavation is completed. Protection of Replanted Areas: Replanted areas shall be protected by fencing or other approved method intended to exclude livestock and deer until vegetation is established. Perimeter livestock fencing shall be provided and shall be four wires maximum, bottom wire smooth and no closer than 18 inches to the ground with total fence height not to exceed 42 inches. More site specific deer proof fencing shall also be provided directly around replanting areas. b. Limits on Operations from December 1 to March 31. No grading, excavating, blasting or equipment use on the site shall be allowed between December 1 and March 31 annually.	
2. Impacts to other wildlife species including Swainson's hawk, golden eagle and small game and nongame species.	Project: Significant, mitigable. Cumulative: Significant, mitigable.	2. Reclamation activities listed under Mitigation Measures #1a above related to required reclamation and revegetation are expected to reduce impacts below the significant level.	Project: Less than significant. Cumulative: Less than significant.
3. Impacts to vegetation.	Project: Significant, mitigable. Cumulative: Significant, mitigable.	3. Mitigation measures listed under #1a above related to required reclamation and revegetation are expected to reduce impacts below the significant level.	Project: Less than significant. Cumulative: Less than significant.

Table 3-1
MILLER'S CUSTOM WORK, INC.
WARD LAKE PIT EXPANSION EIR
SUMMARY TABLE OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance - Before Mitigation	Recommended Mitigation Measures	Level of Significance - After Mitigation
VISUAL			
1. Visual impacts of site mining and other operations.		1. a. Reclamation measures recommended in Vegetation/ Wildlife chapter (measure 1a). b. Paint concrete plant to blend with surrounding background color.	
Long Distance Views	Project: Less than significant Cumulative: Less than significant		Project: Less than significant Cumulative: Less than significant
Mid Range Views	Project: Less than significant Cumulative: Less than significant		Project: Less than significant Cumulative: Less than significant
Views from Nearby Homes/Residential Properties			
-Short Term	Project: Significant, unmitigable Cumulative: Significant, unmitigble		Project: Significant, unmitigable Cumulative: Significant, unmitigble
-Long Term	Project: Significant, mitigable Cumulative: Significant,mitigable		Project: Significant, mitigable Cumulative: Significant, mitigable

Table 3-1
MILLER'S CUSTOM WORK, INC.
WARD LAKE PIT EXPANSION EIR
SUMMARY TABLE OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance - Before Mitigation	Recommended Mitigation Measures	Level of Significance - After Mitigation
HYDROLOGY/ WATER QUALITY			
1. Water quality, hazardous waste, and drainage impacts.	Project: Potentially significant, mitigable. Cumulative: Potentially significant, mitigable.	1. Adherence to California Regional Water Quality Control Board Conditions. The applicant shall fully comply with Regional Board requirements prior to continued operation of the concrete plant, including: a. Implement the following on site and submit plans for washout basin to the Regional Board and detailed overall mining site drainage plans which must include: - Segregation of process water from storm water runoff. - Pretreatment (sediment, oil/grease removal) of storm water runoff containing pollutants prior to discharging to percolation/containment basins. Precast sand/oil interceptors may be an acceptable means for providing pretreatment of storm water runoff. - Pretreatment of storm water runoff from areas subject to hydrocarbon deposition (fueling areas, parking areas, heavy equipment storage areas). Precast drop inlets with inverted outlet and hydrocarbon absorbent pillows may be an acceptable means for hydrocarbon removal. - Provide non-percolating containment (such as lined evaporation ponds) for process water runoff. - Diversion of non-impacted runoff (runoff from upland areas) around areas of industrial activities. Provide diversionary structures (earthen berms, culverts) as necessary to minimize contact with industrial activities. b. The Spill Prevention and Countermeasure Plan shall be revised to meet the approval of the Regional Board including: - A list of hazardous materials to be used and stored on-site - Plans for the washout basin - Description of the disposal location for waters pumped from the secondary containment area - A Spill Contingency Plan	Proect: Less than significant. Cumulative: Less than significant.

Table 3-1
MILLER'S CUSTOM WORK, INC.
WARD LAKE PIT EXPANSION EIR
SUMMARY TABLE OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance - Before Mitigation	Recommended Mitigation Measures	Level of Significance - After Mitigation
		- Provisions for an on-site Spill Cleanup Kit - Provisions for employee training on spill prevention and clean up. c. Dust control measures (as required in the Air Quality chapter of this EIR) to minimize degradation of surface waters from the deposition of fugitive dust. d. Obtain and provide evidence of proper documentation/ application/ approval related to the National Pollutant Discharge Elimination permit system.	
ARCHEOLOGY/ CULTURAL RESOURCES			
1. Impacts to Cultural Resources	Project: Less than significant. Cumulative: Less than significant.	1. Work stop if cultural resources uncovered. If cultural resources or human remains are uncovered during site operations, work shall stop immediately. The Lassen County Community Development Department shall be contacted and a qualified archaeologist shall be called in to assess the resources and recommend appropriate mitigation which shall be implemented prior to additional work.	Project: Less than significant. Cumulative: Less than significant.
TRAFFIC			
1. Increased traffic Volumes	Project: Less than significant. Cumulative: Less than significant.	1. a. Safety Measures. No measures were recommended in the 1996 Initial Environmental Study for this less than significant impact. However, the 1981 EIR recommended the use of a number of measures if they become warranted as the project progresses. The County should continue to monitor the project traffic flow for safety concerns and institute any of the following or other appropriate measures if it becomes necessary: - Installation of a STOP sign at the junction of the access road with County Road 308 by the applicant and if warranted, "Truck Crossing" warning signs along Road 308. - Decrease speed limits on Ward Lake Road to 25 MPH due to the road conditions and the short length encompassed (approximately one mile). b. Load limits. Trucks hauling materials should not exceed the legal allowable load limit of 80,000 lbs. (40 tons) gross weight.	Project: Less than significant. Cumulative: Less than significant.

Table 3-1
MILLER'S CUSTOM WORK, INC.
WARD LAKE PIT EXPANSION EIR
SUMMARY TABLE OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance - Before Mitigation	Recommended Mitigation Measures	Level of Significance - After Mitigation
AIR QUALITY			
1. Increases in dust and other air pollutants.	Project: Significant. mitigable. Cumulative: Significant, mitigable.	1. Compliance with Air Pollution Control District Permit to Operate Conditions. These conditions are listed below (with changes made to ensure consistency with this EIR underlined and lined out as appropriate). a. Miller's Custom Works shall apply water to all roads on the plant site which are being used during plant operation. All roads being used shall be wet at all times without exception. Additionally, stockpiles of sand, gravel, etc. should also be watered when feasible. b. Miller's Custom Work shall install or replace any and all metal flashing around hoppers, conveyors or fans in order that fugitive dust resulting from operation of the plant is reduced to a level which is in compliance with District Rule 4:18. Installation or replacement of such metal flashing shall occur prior to startup of the plant in 1991 (and the concrete plant in 1996). Additionally, Miller's Custom work shall notify the Lassen County Air Pollution Control District at the start or the first days of operation in 1991(and the concrete plant in 1996), so that an inspection can be made of the plant sites to determine compliance with this condition. c. Millers Custom Work shall contract with a California Air Resources Board certified private contractor for an annual compliance test at the Ward Lake facility to determine compliance with Lassen County Air Pollution Control District Rule 4:3. (Grain Loading Rule -0.3 grain per cubic foot gas). This test shall be performed prior to January 1 of every year. Permit conditions for concrete plant: a. Not more than 7,000 cubic yards of concrete shall be processed annually. b. Aggregate charged and/or processed shall be kept sufficiently moist to prevent visible dust emissions. c. Dust collected by the baghouse filter shall be discharged into closed containers only.	Project: Less than significant. Cumulative: Less than significant.

Table 3-1
MILLER'S CUSTOM WORK, INC.
WARD LAKE PIT EXPANSION EIR
SUMMARY TABLE OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance - Before Mitigation	Recommended Mitigation Measures	Level of Significance - After Mitigation
		d. Cloth bags in the baghouse shall be cleaned and/or replaced periodically. e. Annual operation shall be limited to ~~from March 1 - December 31, as stated in the County Use Permit~~ dates as recommended by the wildlife biologist in the EIR and/or as adopted by the lead agency.	
NOISE			
1. Increased noise related to site operations in the immediate vicinity.	Project: Less than significant. Cumulative: Less than significant.	1. At the operator's expense, project noise levels next to equipment and at property lines adjacent to residentially zoned parcels shall be monitoredat the request of the lead agency by a qualified acoustical analyst with reports to the Community Development Department to ensure that County and federal noise standards are not exceeded. If noise standards are exceeded, the applicant shall take corrective action under the direction of the Lassen County Community Development Department.	Project: Less than significant. Cumulative: Less than significant.
PUBLIC FACILITIES	Project: Less than significant. Cumulative: Less than significant.	None recommended for this less than significant impact.	
GEOLOGY			
1. Changes in surface geology and topography	Project: Significant, mitigable. Cumulative: Significant, mitigable.	1. The mitigation measures related to reclamation practices in the Vegetation and Wildlife chapter are expected to mitigate these impacts (measure 1a).	Project: Less than significant. Cumulative: Less than significant.
		MITIGATION MEASURES FROM 1996 INITIAL ENVIRONMENTAL STUDY NOT ALREADY INCORPORATED ABOVE	
RISK OF UPSET	Project: Significant, mitigable. Cumulative: Not applicable.	1. Explosives shall be handled by a licenced operator, and shall be stored in an ATF inspected and approved magazine on site.	Project: Significant, mitigable. Cumulative: Not applicable.

Environmental Analysis

4. Land Use

Setting

The site is surrounded by open grazing lands, generally zoned Upland Conservation and designated in the Standish-Litchfield Area Plan as Extensive Agriculture. Immediately adjacent to and south of the site, a smaller aggregate mine is located on BLM administered land. Other BLM land is located to the east and south and the Wells Ranch is located directly to the north. Six homes are located on parcels from 10 to 80 acres in size to the west and south along Ward Lake Road.

Impacts

1. Land Use Compatibility and Conflict with Adopted Land Use Plans and Regulations.

Zoning. The project site is currently zoned "U-C" (Upland Conservation) which the Lassen County Superior Court has determined allows for mining and processing, but does not explicitly allow ready mix concrete plants as proposed. As a result, the applicant has requested a rezoning of the parcel to "U-C-2"(Upland Conservation/ Resource Management), which does allow ready mix plants upon approval of a use permit. Both the "U-C" and "U-C-2 districts are intended to promote natural resource oriented land uses such as agriculture, logging, and surface mining while protecting such uses from development which is incompatible with resource-based activities. The "U-C-2" district, developed more recently than the "U-C" zone, allows for a greater range of resource based land uses than does the "U-C" zone, and reflects more contemporary land use policies and language.

The uses allowed within "U-C-2" that are not allowed in "U-C" are the following:

By Right

1. A second dwelling when associated with an agricultural operation
2. Hunting clubs
3. Firewood processing (under 100 cords per year)
4. Temporary agricultural produce stands
5. Similar uses to those listed

By Use Permit

1. Retail nurseries
2. Hot plants
3. Commercial recreation facilities such as guest ranches, RV parks, campgrounds
4. Similar uses to those listed

Area Plan Policies. The Standish-Litchfield Area Plan was adopted as an amendment to the Lassen County General Plan in 1986, and serves as the general plan for the Standish-Litchfield area. The Area Plan contains general community Goals and Objectives, specific policies designed to carry out those goals, and implementation measures to put the policies into practice. Mineral extraction and processing activities are addressed in the Industrial Land Use portion of the Area Plan (pages 8, 50a, and 50b) as follows:

> 1E. Issue: Industrial Land Uses
>
> GOAL AND OBJECTIVE: Maintain the rural quality of the Planning Area by restricting industrial activity to primary-type operations, e.g., natural resource extraction, and assign secondary and tertiary activities, e.g., processing and sales, to areas so designated outside the Planning Area. This shall not include processing of agricultural products.
>
> (Standish-Litchfield Area Plan, p.8.)
>
> Policy 16A Industrial land use activities shall be confined to mineral extraction, agricultural processing activities or to industrial activities incidental to the mixed use residential / commercial designation for the Town Centers of Standish and Litchfield.
>
> (Standish-Litchfield Area Plan p.50a and 50b.)

The area plan designates surface mining as an acceptable industrial land use within the planning area. However, the production of ready mix concrete, as contemplated by the current project, would be secondary processing which the Area Plan does not allow. Therefore, a conflict exists between the land uses as prescribed in the Standish-Litchfield Area Plan and that portion of the project that proposes ready mix concrete production on the mine site.

Recent changes in CEQA denote that project inconsistencies with adopted plans and regulations may or may not have a significant effect on the environment. (Previously, the term "will normally have" was used), and have to be assessed in terms of potential physical impacts based on substantial evidence in light of the whole record. It should be noted that the Area Plan would allow an industrial processing facility if such a facility were related to agricultural production. Therefore, an industrial facility at the subject location is not necessarily incompatible with surrounding lands in terms of Area Plan policy. The question is whether or not significant adverse physical effects will result from operation of the ready mix concrete plant, which is not explicitly allowed be the current zoning on the site (U-C) and is inconsistent with Area Plan goal 1E and policy 16-A. In light of the significant, mitigable impacts that have been identified in this EIR related to the project, including the ready mix concrete plant, it must be concluded that in this case significant physical impacts could result.

Cumulative Impacts: Mining activity would combine with the nearby mine on BLM lands south of the project site to create an area of approximately 260 acres dedicated to mining land use

activities. Mining has been designated in the Area Plan as acceptable industrial land use, therefore, no significant cumulative impacts would result from the expansion of the mining operation relative to land use policies. The concrete plant is the only such plant proposed in the vicinity and would not, therefore, combine with any other plant. The operation of the plant could, however, add to the impacts of the mining operation by creating additional noise, activity, dust, etc. (these physical impacts are addressed in their respective sections of this EIR).

Level of Significance: **Project impacts -- Significant, mitigable**
Cumulative Impacts -- Less than significant

Mitigation Measures

1. **Land Use Compatibility.** Implementing the mitigation measures recommended for individual physical impacts identified in other sections of this EIR will concurrently mitigate any land use impacts.

2. **Conflict with Adopted Land Use Plans and Regulations.** a) Redesign the project to eliminate the proposed ready mix concrete plant to avoid conflict with adopted area plan policies and zoning; or b) Amend the area plan goal and policy to allow production of ready mix concrete on approved mine sites within the planning area where allowed by the zoning, and subsequently rezone the site to a zoning district that allows for such production.

Responsibility for Implementation:

1. Implementation responsibility for individual physical impacts is addressed in the section addressing each impact within this EIR.

2. Redesigning and/or revising the Area Plan is the responsibility of the applicant.

Effectiveness of Measures:

1. **Level of Significance after Mitigation:** **Project impacts -- Less than Significant**
Cumulative impacts -- Less than Significant

2. **Level of Significance after Mitigation:** **Project impacts -- Less than Significant**
Cumulative impacts -- Less than Significant

A concern with mitigation measure 2b above, is related to the potential cumulative effects if additional concrete plants were to be constructed and operated within the Planning Area with a change in the Area Plan policy as suggested. Two sites are operated by the County and are not permitted for concrete production, nor does the zoning of these sites allow such production. The fourth site is already permitted for concrete production, but does not have a plant on site at this

time. The remaining two sites are contiguous and operated by the applicant for this project as one operation. It can be reasonably concluded that construction of now permitted concrete plants on existing sites (in addition to the one proposed) is highly unlikely. The County has indicated that there are no applications pending for new mine sites or concrete plants within the Planning Area at this time. To assume that new applications would be submitted and to try to anticipate their locations would be purely speculative and not conducive to meaningful analysis. Any future proposal for a new mine site and/or a new concrete plant would be subject to site-specific review and approval under CEQA.

5. Wildlife/ Vegetation

This chapter was based on the contents of the August, 1996 Initial Environmental Study, the 1981 EIR, and an impact analysis of the deer and antelope herds specific to this project prepared by Dr. Thomas Kucera for this EIR. The full text of the Kucera report is located in Appendix G of this EIR as is the August, 1996 Initial Environmental Study.

The 1996 Initial Environmental Study concluded that impacts to vegetation would be potentially significant but mitigable by measures which are repeated below for ease of reference by the reader. Impacts to wildlife, particularly deer and antelope, were considered potentially significant based on the Superior Court order and further study was considered necessary to determine if impacts could be mitigated. This chapter focuses on the impacts to the deer and antelope herds.

Setting

Wildlife. As noted in the June 1, 1994 letter from the Department of Fish and Game to the County providing input to the 1994 Initial Environmental Study, the project area consists mainly of shrub communities such as sagebrush, bitter brush, and rabbit brush. The site is within the forage area of several bird species including sage grouse, chukar, Swainson's hawk, golden eagle, and a variety of other nongame birds and mammals. A complete list of those wildlife species likely to occur on or in the vicinity of the site is located in Table 5-1.

Table 5-1
WILDLIFE SPECIES OCCURRING IN AREA OF SITE

NON-GAME BIRDS		
Raptors		
Great Horned Owl	Burrowing Owl	Rough-legged Hawk
Red-Tailed Hawk	Golden Eagle	Swainson's Hawk
Prairie Falcon	Marsh Hawk	Long-eared Owl
American Kestrel	Turkey Vulture	Ferruginous Hawk
Others		
Common Flicker	Rufous-crowned Sparrow	Sage Thrasher

Scrub Jay	Brewer's Blackbird	Green-tailed Towhee
Horned Lark	Black-throated Sparrow	Poor-Will
Other bird species		
Western Meadowlark	Rock Wren	Sage Sparrow
Chipping Sparrow	Savannah Sparrow	Brewer's Sparrow
Brown-headed Cowbird	Canyon Wren	Lark Sparrow
Western Bluebird	Rufous-sided Towhee	Vesper Sparrow
Gray Flycatcher		
NON-GAME MAMMALS		
Bobcat	Heerman Kangaroo Rat	Deer Mouse
Badger	Least Chipmunk	Great Basin Pocket Mouse
Yellow-bellied Marmot	Desert Woodrat	Antelope Ground Squirrel
Sagebrush Vole	Mountain Vole	Golden-mantled Ground Squirrel
Longtail Pocket Mouse	Canyon Mouse	
REPTILES		
Collared Lizard	Striped Racer	Great Basin Rattlesnake
Desert Horned Lizard	Leopard Lizard	Great Basin Gophersnake
Western Fence Lizard	Side-blotched Lizard	

Source: Lassen County Planning Commission, Final Environmental Impact Report, Miller's Custom Work, May, 1981.

However, throughout the various use permit applications on this site since 1981, as well as the 1995 lawsuit, the main concern has been the location of the site within the important deer winter range of the Horse Lake deer herd as well as its use by resident and wintering antelope.

The mule deer are seasonal migrants; they summer at higher elevations, probably on Shaffer Mountain, where fawns are born. Deer descend to lower elevations in fall and early winter, where they remain until spring. Pronghorn antelope are less specifically predictable in their seasonal movements, and do not have such a pronounced elevational change in summer and winter. On the winter range, deer feed mainly on sagebrush and bitterbrush. Winter is a difficult period for deer and

for antelope; cold temperatures and low-quality vegetation combine to cause nutritional stress. Breeding occurs sometime around December, and so most does are pregnant during the coldest, most severe weather. After several months on the winter range, deer are typically in very poor nutritional condition. When spring green-up occurs, deer rapidly switch their diets to take advantage of the nutritious new plant growth and reverse their winter caloric deficiencies.

According the East Lassen Deer Herd Plan, prepared by the California Department of Fish and Game in 1982, the deer of concern in this project are part of the East Lassen herd. Defined largely by administrative rather than ecological boundaries, this herd occupies some 2,000 square miles in east-central Lassen County and extreme western Nevada. At the time the plan was written, the estimate of total population size of the East Lassen herd was about 16,000. It was thought that this was substantially smaller than the population several decades earlier. An objective of the herd plan was to increase habitat quality sufficient to maintain a herd size of 20,000. Management problems identified included poor recruitment of fawns into the yearling age class, poorly known herd boundaries and migration routes, and generally poor range condition. The herd plan identified several sub-herds, admittedly based on incomplete knowledge, within the range of the East Lassen herd. While the overall East Lassen deer herd has a large occupation area, it is likely that the animals near the project area form a much smaller sub-population that summers higher on Shaffer Mountain and winters at its base, without making the long migrations characteristic of other animals in the East Lassen herd. However, according to the Kucera report, it appears that no site-specific research into the behavior and ecology of these animals has been conducted. The plan identifies the area around Shaffer Mountain as "critical" winter range, that is, winter range where deer are concentrated during severe winters.

The project site is at the southwest base of Shaffer Mountain, several hundred feet above the valley floor. This elevation is important because it is above the thermal inversion that makes the valley floor colder than nearby slopes, and below the deeper snow at higher elevations that impedes deer movement and covers forage. The site is also located among south- and west-facing slopes. This exposure is important because it not only facilitates rapid melting of snow but also accelerates plant phenology to produce the first green vegetation in late winter and early spring. This early "green-up" is particularly important to wintering deer by providing their first opportunity to reverse the pattern of winter malnutrition and caloric deficit. Thus, the combination of elevation, exposure, and the presence of favored browse species, particularly bitterbrush, provides conditions favorable for deer in the winter.

Empirical data from the DFG confirm the value of the area as deer winter range. On standardized censuses from a helicopter conducted between 15 and 30 March from 1985 to 1994, DFG observers have counted between 73 and 233 deer near the project site. This is in late winter and early spring when deer are probably at their most precarious nutritional state, females are in the last half of gestation, and vegetation is just beginning to grow.

During winter and early spring, deer also tend to occur in groups, perhaps as a result of threat of predation during this vulnerable period when they are concentrated on winter ranges. Mountain lions

are probably the most important predator on deer in the area. The open slopes and benches near the project site provide little opportunity for concealment, or "hiding cover", and the deer may be particularly sensitive to disturbance. This is supported anecdotally be the DFG observation that during their censuses, when human activity at the project site was minimal, deer were nearer to, or on, the project site.

Pronghorn antelope are less regular and predictable in their movements, but many of the concerns are similar. Human disturbance during a time of particular nutritional stress may effectively remove a portion of their winter range.

Vegetation. According to the 1981 EIR on the site, within the project area, rocky and gravelly soils combined with a lack of water source have limited the amount of natural plant life. It is an area of marginal grazing land with a short sparse cover of annual native grasses and rabbit brush. A minimal amount of sage brush is found on level areas and bitterbrush survives on northern exposures. The Department of Fish and Game commented in its response to the 1994 Initial Environmental Study (letter of June 1, 1994) that the site has the potential to support Ornate Dalea, (List 2 species, California Native Plant Society Inventory of Rare and Endangered Plants). A survey for the presence of this species was conducted in 1996 with none found and is included in the appendix of this EIR.

Impacts

1. **Impacts to deer and antelope herds.** The project expansion proposed is both spatial and temporal. The spatial expansion of the project is from the existing 110 acres to 160 acres, and involves the removal of vegetation from about 40 acres for the duration of the project, through the year 2020. The temporal expansion is from an operating season of April though October as envisioned in the original project, approved in 1981, to year-round operation. The seasonal closure was due to unsuitable winter conditions for aggregate excavation and processing and was assumed as part of the project application. This assumed closure was noted in the 1981 EIR as having the effect of reducing the project's impacts on mule deer and pronghorn antelope using the area in the winter (1981 DEIR, page 34).

   Thus, there are two types of impacts to mule deer and antelope from the proposed project: direct habitat loss, and displacement due to human disturbance. These arise from the project's spatial and temporal components, respectively. The loss of some 40 additional acres of vegetation during the planned operation of the project is of less concern than the potential effective loss of a larger area due to disturbance and displacement of the deer if the season of operation is expanded from April-October to year-round. Because there are several hundred deer potentially affected, this would be a significant environmental impact. The only way to reduce this impact to non-significance is to maintain the seasonal closure through March. Simply closing the site, for example, in December and January, or just during periods of heavy snow, might ameliorate some negative effects due to snow depth, if otherwise displaced deer were allowed to descend to the project site without disturbance.

However, this would do nothing about displacing animals taking advantage of late-winter and early spring plant phenology, or the spring green-up, due to noise and activity at the site. The Kucera report stresses that both of these factors, escaping mid-winter snow and accessing late-winter green-up, are important for deer.

It is likely, however, that early winter presents fewer constraints regarding facility operation and disturbance to wintering deer. The animals then are in better nutritional condition, coming off the summer range, and may not be yet in the area while the weather remains mild. If that is in fact the case, operations at the site during November could occur without affecting wintering deer. It is assumed that deer arrive on the low part of the winter range later in the fall or in response to severe weather. In the event of severe weather or deep snow that drove the animals to the base of the mountain, operations at the facility would cease because of this same weather. Thus, operations at the plant during November, under mild weather conditions before the deer arrive in the area, would not disturb wintering deer.

There is nothing to be done regarding the loss of 40 acres of vegetation on the site for the duration of the project. However, this is not as great a concern as the impacts of noise and activity during critical winter months. In addition, with an appropriate reclamation plan developed and adhered to, the Kucera report concluded that this loss of habitat would be a less than significant impact over the long term. The reclamation plan should involve stockpiling topsoil for reuse, post-closure planting with bitterbrush, sagebrush, and native grasses, all from local sources, and protection from grazing and browsing by both wildlife and livestock until the plants are well established. Monitoring to ensure compliance must be a component of reclamation. DFG can be helpful in developing and reviewing a reclamation plan, and should be involved in its approval.

In summary, to reduce effects of the planned project on mule deer and pronghorn antelope to a less than significant level, the Kucera report concludes that the seasonal closure must extend from at least December through March to reduce the impact due to displacement from noise and human activity, and that a reclamation plan must be developed and approved by DFG to reduce the impacts from direct habitat loss.

Cumulative Impacts: The discussion above applies to both project alone and cumulative impacts; project impacts are difficult to separate from cumulative impacts in this case because the deer and antelope herds are migratory and any impact as a result of the project will impact the larger herd, cumulatively. In addition, other development in the nearby area including homes and the mining site on the BLM land likely combine with activity on the site to impact the deer and antelope visitation to the area to some degree.

The Department of Fish and Game response to the Notice of Preparation for this EIR (December 17, 1996) also noted that cumulative impacts may be occurring over time when past impacts on the project site for the last 15 years which may have remained unmitigated are combined with the potential impacts from the proposed expansion. Relative to this point,

given the studies available, it is difficult to determine what impacts the project may have had on the deer herd over the past 15 years. However, in this case, based on the discussion above, to the extent that seasonal closures were not strictly observed (at least in the most critical months of December through March), impacts probably occurred; deer visitation to the site and vicinity would likely have been limited by noise and activity during these critical months. This behavior was noted by helicopter census takers when operations were taking place. The Department of Fish and Game letter also notes that seasonal closures alone cannot mitigate impacts to this habitat. The Kucera report agrees with this point; it notes that in the short-term, impacts due to the loss of 40 acres of vegetation will occur. However, this short-term loss is not as critical as the need for appropriate seasonal closures in this instance and alone is not considered a significant impact.

In summary, the project is expected to result in significant cumulative impacts when combined with loss of habitat which has occurred and is expected to continue countywide as a result of agricultural and urban development and with impacts which may have occurred due to operations on the site in the past.

Level of Significance: **Project impacts -- Significant, mitigable**
Cumulative impacts -- Significant, mitigable

2. **Impacts to other wildlife species including Swainson's hawk, golden eagle, and small game and nongame species.** As described in the Setting section, the site supports a number of wildlife species. In addition, the 1994 letters from the Department of Fish and Game (June 1 and June 30, 1994) noted concerns about project impacts to the species listed above and wildlife habitat in general. As a result, the 1996 Initial Environmental Study concluded that the project may cause a reduction in wildlife habitat in general.(1996 Initial Environmental Study, Appendix B, page 3). Impacts to Swainson's hawk were discounted in the June 30, 1994 letter from Fish and Game attached as background to the 1996 Initial Study because of the distance (one mile) to the nearest nest. Impacts to golden eagles were not specifically discussed, but in general the site would only provide hunting area for the eagles since there are no trees or nesting opportunities on the site or nearby; no specific mitigation measures were recommended by Fish and Game or in the Initial Study. (The letter from Fish and Game is included in the Appendix.)

To summarize, it was assumed in the 1996 Initial Environmental Study that impacts to wildlife habitat in general (other than the deer and antelope herds) would be significant, but mitigable via the reclamation practices required.

The issue of wildlife habitat impacts is, by nature, both project specific and cumulative.

Level of Significance: **Project impacts -- Significant, mitigable**
Cumulative impacts-- Significant, mitigable

3. **Impacts to vegetation.** The 1996 Initial Environmental Study concluded that impacts specifically to vegetation on the site would be significant, but mitigable via the reclamation measures recommended (Appendix B, page 2). This was supported by a survey conducted on the site for the Ornate Dalea (List 2 species, California Native Plant Society Inventory of Rare and Endangered Plants), which did not locate the plant on the site. In general, the vegetation impacts on the site relate mainly to their value as wildlife habitat and winter browse which is discussed under Impacts 1 and 2 above.

The issue of vegetation impacts is, by nature, both project specific and cumulative in this case.

Level of Significance: **Project impacts -- Significant, mitigable**
Cumulative impacts-- Significant, mitigable

Mitigation Measures

1. **Impacts to Deer and Antelope Herds.**

a. Reclamation of graded areas. The intent of the Reclamation Plan shall be to recreate to the extent possible a viable, self-sustaining plant community similar to that which existed prior to mining.

Sand and Gravel Excavation Areas: These areas shall be regraded to maximum slopes of 2H:1V, shall be resoiled with adequate growth medium to support vegetation including fines from the crusher and stockpiled topsoil and shall be revegetated with native species including sage, bitterbrush, and rabbit brush. The success of revegetation in these areas shall be monitored by qualified personnel with reports submitted to the County Community Development Department at least once per year for five years. The final approved species list and planting density must be approved by the County in consultation with the Department of Fish and Game.

Rock Quarry Area: This area shall be re-graded to a maximum overall slope of 2H:1V and shall be benched with minimum 10 foot wide benches at vertical intervals appropriate for the type of material, but not greater than 15 feet. The benches shall be sloped to drain toward the hillside, shall be resoiled with adequate growth medium to support vegetation including fines from the crusher and stockpiled topsoil and revegetated using native range grasses, shrubs, and trees if they can be supported.

The operator shall institute a test plot program on the first available rock face bench to determine the best species mix and planting scheme for subsequent benches. The test plots shall be set up and monitored by qualified personnel with reports submitted to the County

Community Development Department at least once per year for five years. The final approved species list and planting density must be approved by the County in consultation with the Department of Fish and Game.

Timing/ Phasing of Reclamation: Reclamation of sub-areas shall take place in a phased manner where possible as excavation is completed.

Protection of Replanted Areas: Replanted areas shall be protected by fencing intended to exclude livestock and deer until vegetation is established. Perimeter livestock fencing shall be provided and shall be four wires maximum, bottom wire smooth and no closer than 18 inches to the ground with total fence height not to exceed 42 inches. More site specific deer proof fencing shall also be provided directly around replanting areas.

b. Limits on Operations from December 1 to March 31. No grading or equipment use on the site shall be allowed between December 1 and March 31 annually.

Responsibility for Implementation:

Reclamation work, closure, and monitoring reports by applicant. Mitigation monitoring by Lassen County Community Development Department.

Effectiveness of Measures:

Level of Significance after Mitigation: **Project impacts -- Less than Significant**
Cumulative impacts -- Less than Significant

These measures are expected to reduce the level of impacts to the deer and antelope herds identified to a less than significant level largely because they incorporate both the conclusions of the Kucera report and the recommendations of the June 1 and June 30, 1994 Department of Fish and Game letters. The Kucera report concluded that these measures would reduce impacts below the significant level. The June 30, 1994 Department of Fish and Game letter concluded the same relative to each of its recommended measures which are included above with the exception of the allowance of operations in November which the Kucera report feels would not result in significant impacts.

The intent of the measures is to address both the spatial and temporal impacts identified. Through a combination of reclamation and revegetation as the project progresses and, more critically, limiting season of operation - each of these impacts are addressed.

In addition, whether or not the recommended measures will be thoroughly implemented is an issue which has been raised by the Department of Fish and Game. This has been addressed by the inclusion of required monitoring reports, required timing/phasing of reclamation, and participation of the DFG in replanting oversight. These assigned

responsibilities and deadlines will be incorporated into the County's Mitigation Monitoring Report and file which will be available to the public as required by State law.

Cumulative as well as project specific impacts will be mitigated below the significant level by these measures. By mitigating on-site impacts, the project's contribution to areawide deer and antelope herd habitat reduction will be mitigated. In addition, the proposed reclamation as well as a monitored winter closure period will serve to mitigate cumulative impacts which may have resulted over time related to the existing mining operation.

Alternative Wildlife Mitigation Measures Considered or Available:

CEQA Section 15126(c) calls for exploration of all available mitigation measures and an explanation of the reason for selecting the recommended measures. Other mitigation options which are available are listed below as well as the reason they were not recommended in this EIR. However, the Planning Commission and Board of Supervisors may choose to consider any of these measures in their deliberations.

a. **Off-site acquisition of deer/ antelope herd habitat.** This mitigation option would involve requiring the applicant to purchase, lease, or acquire conservation easements on off-site lands to compensate for the loss of habitat for the 24 year project life. This option was not selected because it is not clear that it would provide a greater level of mitigation than that proposed. The most effective form of wildlife impact mitigation is generally to reduce impacts directly on the site or to avoid impacts altogether. This is the intent of both the reclamation requirements as well as the closure period. There is no evidence that set aside of any alternative area for habitat would directly benefit the Shaffer Mountain mule deer sub-herd. There does not appear to be acreage in the vicinity of the site which is otherwise threatened by development which could benefit by set aside.

b. **Addition of November closure.** The Kucera report concluded that the most critical closure period for the project would be December through March, though the previous closure period included November also. December through March was considered most critical because of the key features of the site which provide a south facing area, slightly up slope of the Valley floor for deer and antelope to escape mid-winter snow and access late winter green-up. Typically, the month of November is not a critical month relative to these concerns. In the event of early winter storms in November, the plant would not be able to operate anyway.

c. **Habitat enhancement.** Another option would be enhancing habitat on-site or on nearby property to provide additional cover or browse opportunities for the deer and antelope in an amount equal to the mining operation. This option was not selected because it would likely be less effective than the most direct form of mitigation - requiring closure during the critical winter months. Closure will have the effect of

limiting the noise and human activity which would impact a herd area much larger than the site itself and, as a result, is of somewhat more concern than the loss of vegetation.

2. **Impacts to other wildlife species including Swainson's hawk, golden eagle, and small game and nongame species.** Reclamation activities listed under Mitigation Measures #1a above related to required reclamation and revegetation are expected to reduce impacts below the significant level.

Effectiveness of Measures:

Level of Significance after Mitigation: **Project impacts -- Less than significant**
Cumulative impacts -- Less than significant

These measures are expected to reduce impacts to wildlife species other than the deer and antelope herds to below the significance level by ensuring that native habitat will be replaced on the site in a phased manner as the project progresses. Success of the revegetation will be ensured via the required mitigation monitoring and coordination with the Department of Fish and Game. It was assumed in the 1996 Initial Environmental Study that impacts to wildlife habitat in general (other than the deer and antelope herds) would be significant, but mitigable via the reclamation practices required.

3. **Impacts to vegetation.** Mitigation measures listed under #1a above related to required reclamation and revegetation are expected to reduce impacts below the significant level.

Effectiveness of Measures:

Level of Significance after Mitigation: **Project impacts -- Less than significant**
Cumulative impacts -- Less than significant

In general, the vegetation impacts on the site relate mainly to their value as wildlife habitat and winter browse which is discussed under Impacts 1 and 2 above. The reclamation measures are expected to reduce impacts to site vegetation and its value for wildlife by ensuring that native habitat will be replaced on the site in a phased manner as the project progresses. The 1996 Initial Environmental Study concluded that impacts specifically to vegetation on the site would be significant, but mitigable via the reclamation measures recommended in it which are included in mitigation measure #1a above.

6. Visual Impacts

Setting

The project site is located at the base of the southwestern slope of Shaffer Mountain in a gentle to moderately sloped area. The site lies just adjacent to Ward Lake Road. A number of homes are located on Ward Lake Road including three homes just south of the quarry entrance on the west side of the road. One half mile to the west is the intersection with Conservation Center Road. Four miles to the west is the California State Correctional Center, and the farming community of Litchfield is three miles to the southeast. To the south lies the Honey Lake Basin with the southernmost peak of the Cascade Range to the northwest and Sierra Nevada range to the south. The City of Susanville is fourteen miles to the west.

In the past (prior to any grading), the site was characterized by a small knob rising approximately 200 feet from the current base of operations (see Figures 6-1 and 6-1a). Since mining began in 1981, an approximately 27 acre area has been disturbed which includes the crushing operation, asphalt plant, and concrete plant as well as the sand/ gravel mining area and the rock quarry face which had been developed to approximately 84 feet in height as of May, 1996. Much of the operation is shielded from short and long range view by a low ridge. Off-site, currently the new concrete plant is slightly visible from Conservation Center Road at various locations up to 5.7 miles away because of its white coloration. The remainder of site operations (asphalt plant, sand and gravel excavation) are not visible from Ward Lake Road or Conservation Center Road except for the top reaches of the rock quarry. Figures 6-2 and 6-2a show the extent of existing operations.

Impacts

1. **Visual impacts of site mining and other operations.** 1.7 million cubic yards of material are expected to be excavated over the life of the project (to approximately the Year 2020) including the area that has already been mined. Other site operations include the asphalt plant, crusher, fuel tank storage, retention ponds, and concrete plant. All of these facilities already exist and will not be expanded. However, the concrete plant construction did not undergo adequate environmental review and, as a result, is discussed here even though it already exists.

   As mining progresses, a total of up to 110 acres will be involved. The remainder of the 160 acre site will be used for topsoil, overburden, or equipment storage. The knoll on the site will be cut back to form a relatively flat face at (2H:1V) 150 feet in height (the mined area extends to a height of 84 feet currently). The face will extend to the existing top of the ridge. Figures 6-3 and 6-3a show the proposed after project topography of the site.

As noted previously, much of the site is obscured from short and long distance views by a low ridge bordering the northwest side of the asphalt plant, concrete plant, and pond area at elevation 4280. Another ridge to elevation 4360 shields the site from the southwest to some degree. The top of the graded face can currently be viewed beginning 5.7 miles from the site on Conservation Center Road. The graded area is seen as a break in the sage green covered lower face of Shaffer Mountain, making up a sand colored swath. This swath will almost double in height (an additional 66 feet in height) in the area visible now and an additional area approximately equal in width to the now visible area to the south will be noticeably disturbed above the intervening ridgeline (approximately 40 feet in height). The other site operations, storage areas, etc. are located in a depression and will continue to be invisible with the exception of the top of the white colored concrete plant which is visible because of its height and color.

From the initial point that the site is visible, 5.7 miles to the west on Conservation Center Road, almost the entire 150 foot height of the northern portion of the quarried face will be visible eventually. (See Figure 6-5.) However, the distance of the views from most public vantage points softens the impact; the cut will be noticeable in the relatively undisturbed surroundings, but will not dominate the landscape or form an eyesore. The top of the concrete plant is also visible from these locations. Before this point, homes and trees as well as the Conservation Center sewage treatment ponds along the road obstruct views of the site or call the viewers' eyes to close-in points. Travelling toward the site, the cut will become more visible and becomes a mid-range view approximately 2.5 miles from Ward Lake Road near Belfast Road (see Figure 6-6). The view of the site is lost on Conservation Center Road just east of the intersection with Ward Lake Road.

Travelling north on Ward Lake Road, the site quarry face then becomes visible again, approximately .4 miles from the intersection with Conservation Center Road at the first home, a mobile home on the east side of the road. (See Figure 6-7.) The southerly ridge hides the lower portion of the quarry face from this vantage point, but at least 40 feet is visible at this time and approximately 66 additional feet will ultimately be visible. The views are closer-in than those from Conservation Center Road, but will be mitigated by the fact that the intervening ridge catches initial views. The concrete plant is not visible from these vantage points.

Figure 6-4 maps each of the viewpoints discussed above.

The degree of significance of visual impacts is normally rated relative to the number of viewers and their degree of sensitivity to visual impacts. In this case, Conservation Center Road can be considered a moderately travelled road (as compared to a highway or arterial) with a relatively small number of residents, but these viewers can be expected to have a moderate to high sensitivity to visual impacts because they live in the area or because expected views in the area are of relatively unaltered vistas particularly to the east and north.

Ward Lake Road is a very low travelled road, but residents and viewers can be expected to have a moderate to high level of concern for views, for the same reasons listed above related to Conservation Center Road. Close-in to the site, the ultimate face will be highly visible, and these viewers, particularly residents, will be low in number (currently 3 homes) but can be expected to have a high level of concern for site views because of the foreground position and the fact that views are from homes.

Other impact evaluation criteria that can be used to determine the level of impact that can be expected from the project include the Bureau of Land Management's (BLM) Visual Resource Management Classification System. Though the site is not on BLM land, the adjacent BLM site includes an 80 acre mine classified in Class 3 under this system which allows changes in the landscape characteristics that do not dominate the landscape (personal communication, Russ Elam, BLM, January 1997). A similar criteria would be appropriate for this site because of its proximity.

Finally, the Standish-Litchfield Area Plan can be used to direct conclusions relative to visual impacts of the proposal. The Area Plan designated the site Upland Conservation which assumed some level of resource development. The site is outside the area designated as "Scenic Corridor" in the Area Plan. The Master Environmental Assessment (MEA) prepared for the Standish Litchfield Planning Area identifies the site and surrounding lands as within a Class II scenic area which indicates that scenic values are common to the area and that impacts would be influenced by distance and scale. (See Appendix A and B for related Area Plan and MEA text respectively.)

Cumulative Impacts: The project will combine to form cumulative impacts only with the nearby, smaller mine site on BLM land which is a pit operation rather than a quarry face, and with impacts which have already occurred on-site. Though the adjacent BLM mine is visible from a distance, it will ultimately be less visible and potentially completely mitigated because reclamation will have a greater chance for full coverage since a quarry face is not involved. Other area existing and future land uses (residential and agricultural) are not expected to combine to form similar visual impacts.

Summary of Impacts. Based on the discussion above, the following impacts are expected:

> **Long distance views including those from Conservation Center Road** -- The quarry face will be visible as is a portion of the concrete plant, but impacts are expected to be less than significant particularly because they will not dominate the landscape, are consistent with views normally expected and present in this type of resource production/agricultural area, and because of the distance between the viewer and the site.

Level of Significance:

Project impacts -- Less than significant
Cumulative impacts -- Less than significant

Mid-range views including those approximately 2 miles from the site along Conservation Center Road and from Ward Lake Road -- The quarry face will be visible, but impacts are expected to be less than significant relative to the quarry face particularly because it will not dominate the landscape. At some vantage points along Conservation Center Road, the concrete plant will be visible which is a greater concern because it is industrial in appearance and is not necessarily an expected view even in this type of resource production/ agricultural area. However, only the top approximately 10-15 feet of the plant is visible and it is difficult to determine what it is from this distance.

Level of Significance: **Project impacts -- Less than significant**
Cumulative impacts -- Less than significant

Views from homes/ residential properties closest to entry to quarry off Ward Lake Road -- The quarry face will be visible; impacts are expected to be significant until reclamation occurs mainly because the close proximity of the quarry to viewers will cause the quarry to dominate views. The concrete plant is not visible. Cumulative impacts from this vantage point result only in combination with past mining on the site that has already occurred, since existing similar activities cannot be seen from these homes and properties and are not expected in the future in the visible surroundings based on the mining plans.

Level of Significance: **Project impacts -- Short-term - significant, unmitigable**
Long-term - Significant, mitigable
Cumulative impacts -- Short-term - significant, unmitigable
Long-term - Significant, mitigable

Mitigation Measures

1. a. **Reclamation measures recommended in Vegetation/ Wildlife chapter (measure 1a).**

   b. **Paint concrete plant to blend with surrounding background color.**

Responsibility for Implementation:

See Vegetation/ Wildlife chapter measure 1a. Measure 1b above is the responsibility of the applicant.

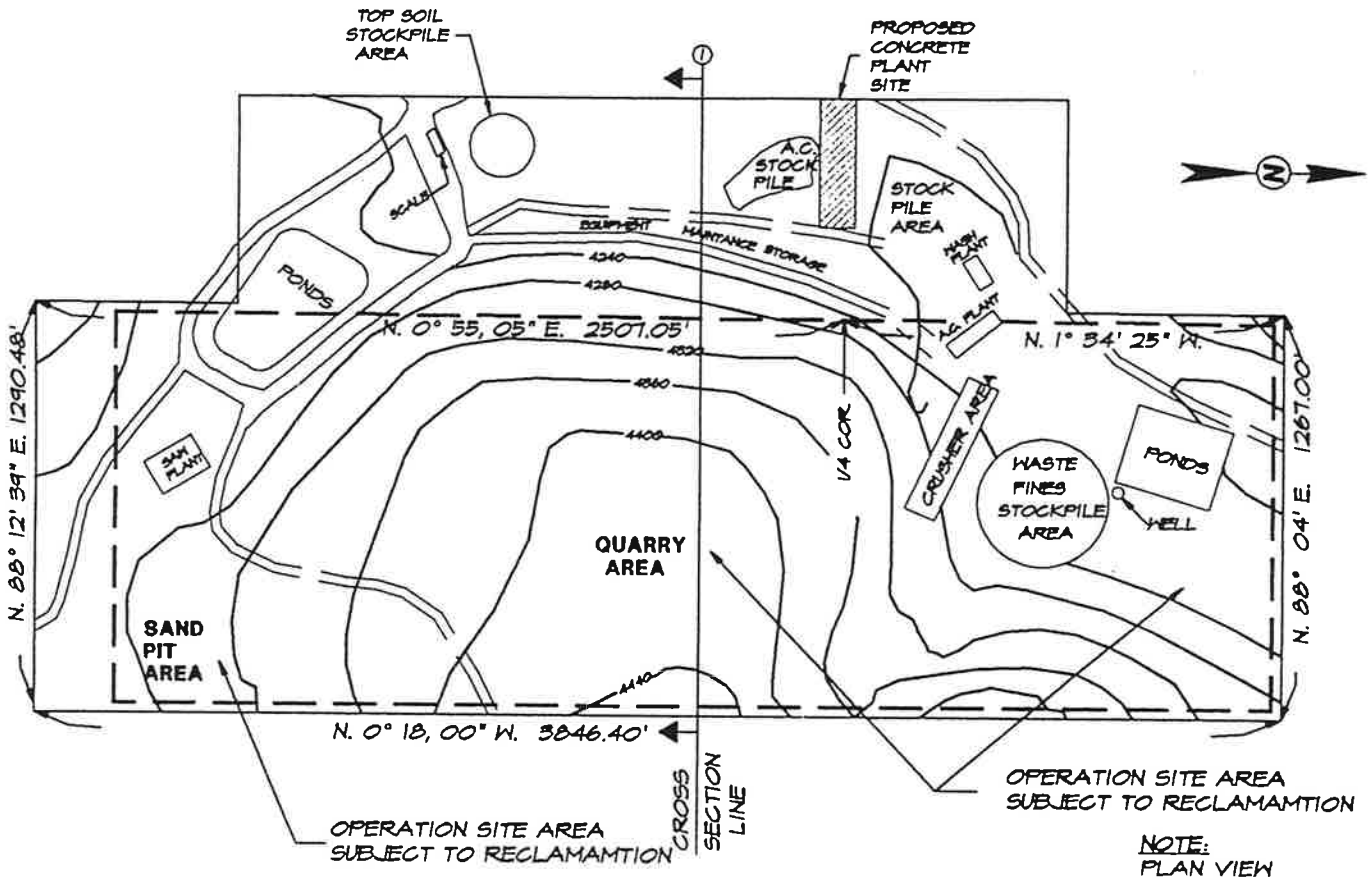
Effectiveness of Measures:

Level of Significance after Mitigation:	**Project impacts -- Less than Significant** **Cumulative impacts -- Less than Significant**
Long Distance Views -	**Project Impacts--Less than Significant** **Cumulative Impacts-- Less than Significant**
Mid Range Views-	**Project Impacts--Less than Significant** **Cumulative Impacts-- Less than Significant**
Close-In Views- **(nearby homes)**	
Short-term-	**Project Impacts--Significant, Unmitigable** **Cumulative Impacts--Significant, Unmitigable**
Long-term-	**Project Impacts--Significant, Mitigable** **Cumulative Impacts--Significant, Mitigable**

These measures are expected to reduce the level of long-term visual impacts identified mainly by softening the ultimate impact of the quarry face visible from the properties closest to the site. The face will still be at a noticeably different grade than the surrounding area and will not be fully recovered in vegetation because of its rocky material. However, the vegetated benches to be formed will provide some vegetative softening and coloration. In the short-term, very close-in impacts cannot be mitigated because it will not be possible to revegetate the quarry face incrementally while operations are underway. Other grading on site can be revegetated as each area is worked, but these areas are not visible off-site.

Views of the concrete plant are not expected to be significant, but painting the plant to blend with the background will reduce the level of impact identified.

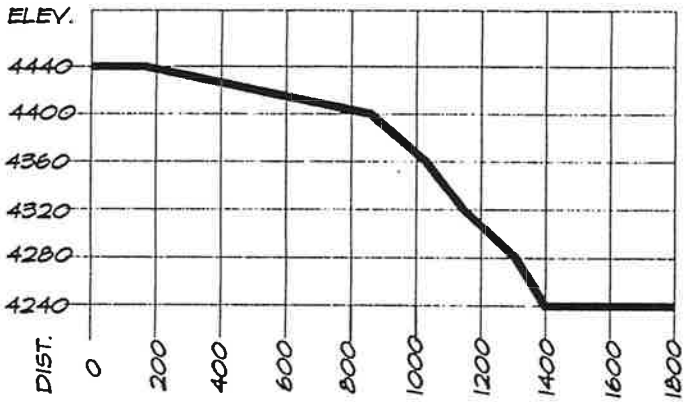
FIGURE 6-1



PLAN VIEW

PRE-MINING TOPOGRAPHIC CONDITION

FIGURE 6-1A



① PROFILE VIEW

LEGEND

① CROSS-SECTION

APPROX. BOUNDARY ORIGINAL APPROVED PROJECT SITE

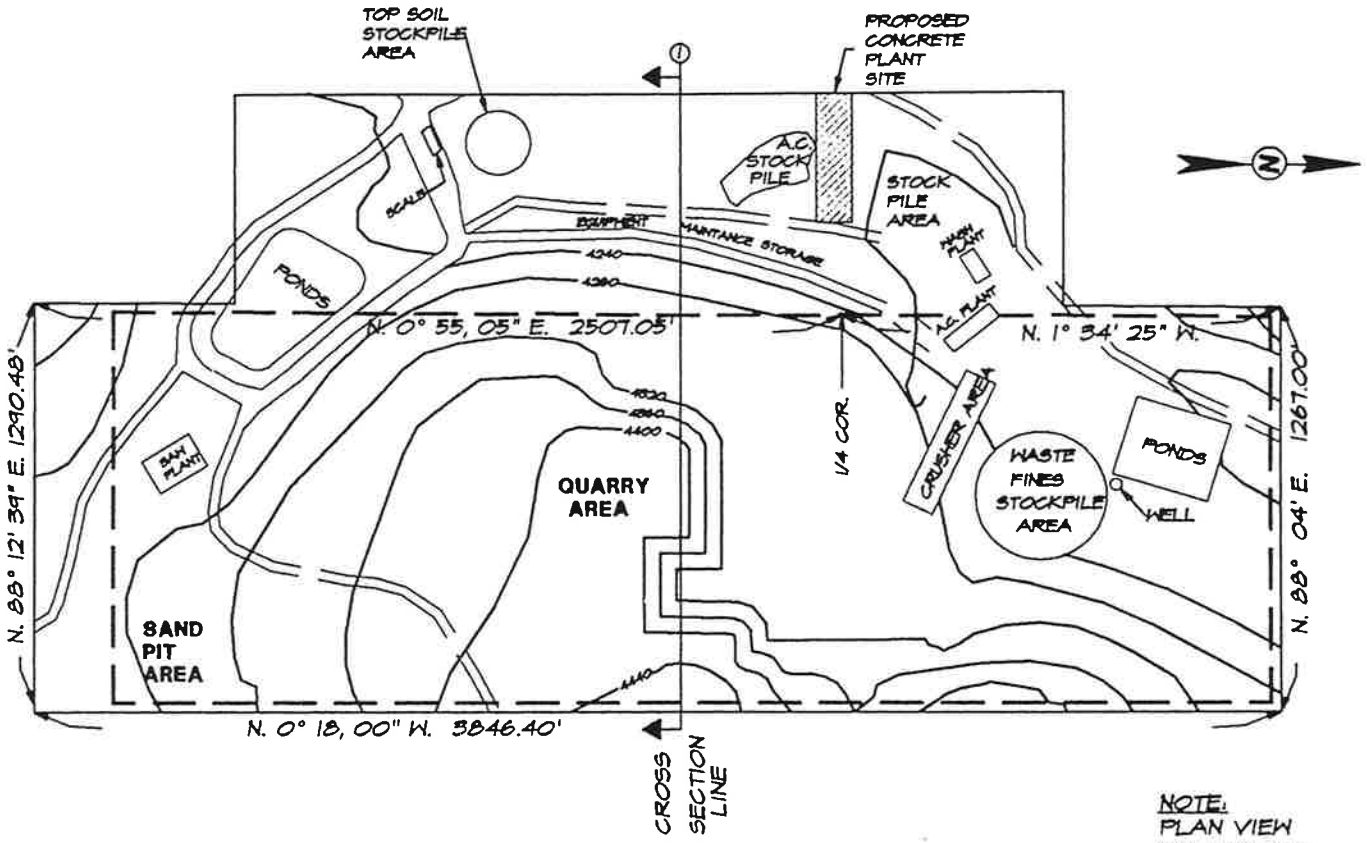
APPROX. BOUNDARY PROPOSED EXPANDED PROJECT

MILLER'S CUSTOM WORK INC.
WARD LAKE PIT E.I.R.

SCALE: 1" = 600'
DATE: 1\27\97
PLOT SCALE: 1"= 600'

planning concepts

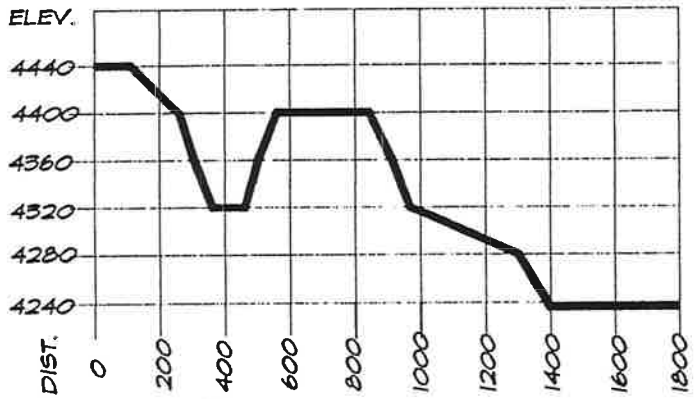
FIGURE 6-2



PLAN VIEW

EXISTING TOPOGRAPHIC CONDITION AS OF MAY, 1996

FIGURE 6-2A



① PROFILE VIEW

LEGEND

① CROSS-SECTION

APPROX. BOUNDARY ORIGINAL APPROVED PROJECT SITE

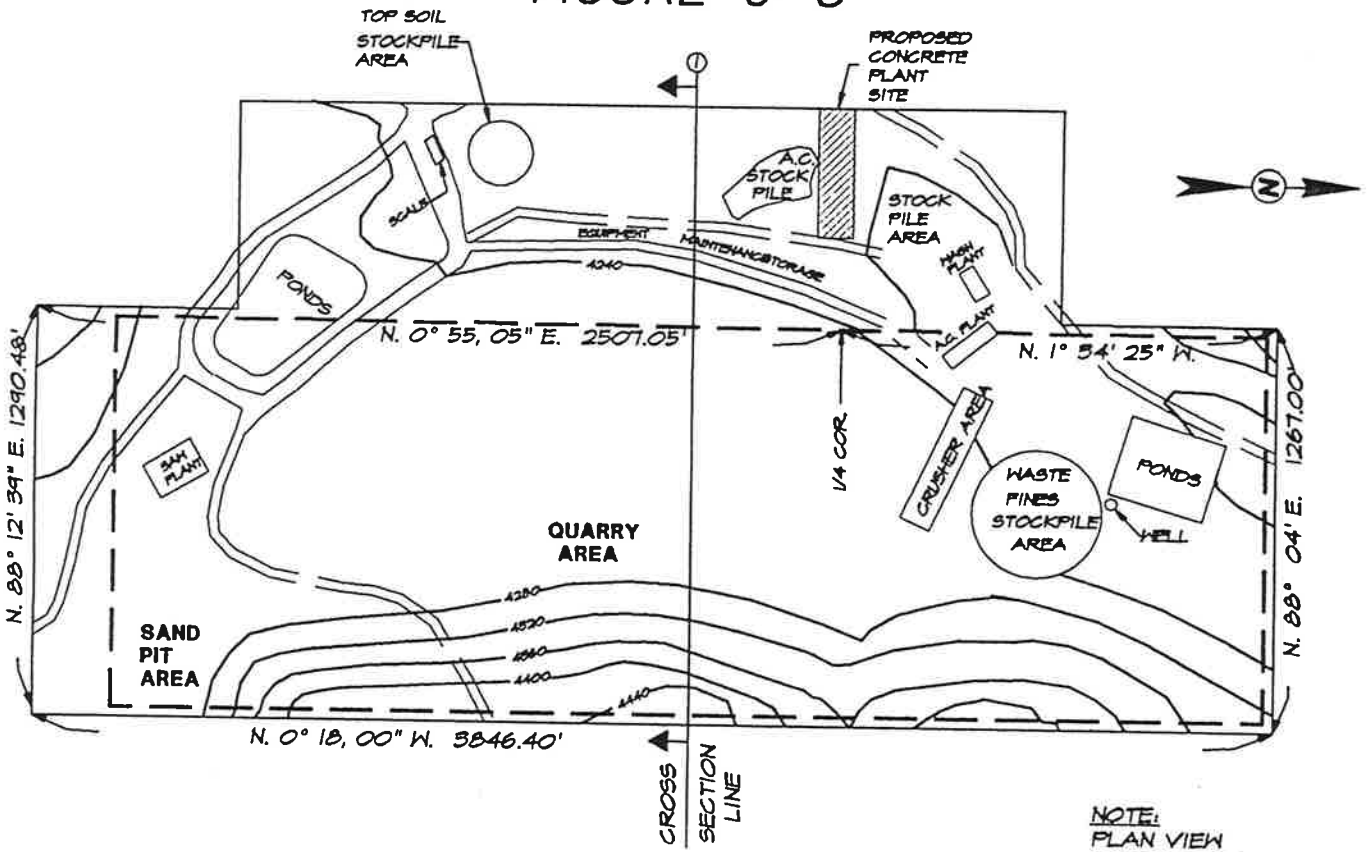
APPROX. BOUNDARY PROPOSED EXPANDED PROJECT

MILLER'S CUSTOM WORK INC.
WARD LAKE PIT E.I.R.

SCALE: 1" = 600'
DATE: 1\27\97
PLOT SCALE: 1"= 600'

planning concepts

FIGURE 6-3

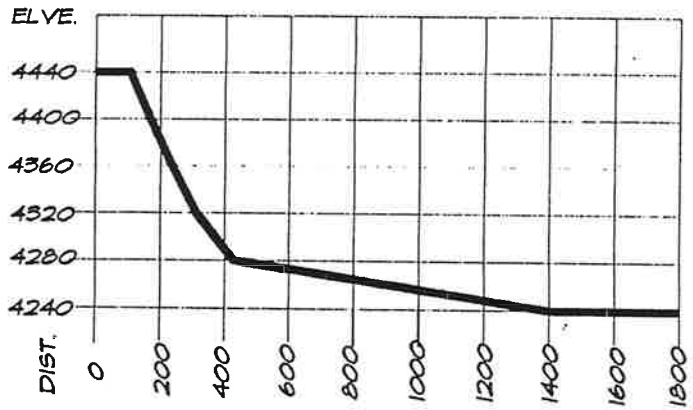


NOTE:
PLAN VIEW REDRAFTED FOR E.I.R.

PLAN VIEW

POST-MINING TOPOGRAPHIC CONDITION

FIGURE 6-3A



① PROFILE VIEW

LEGEND

① CROSS-SECTION

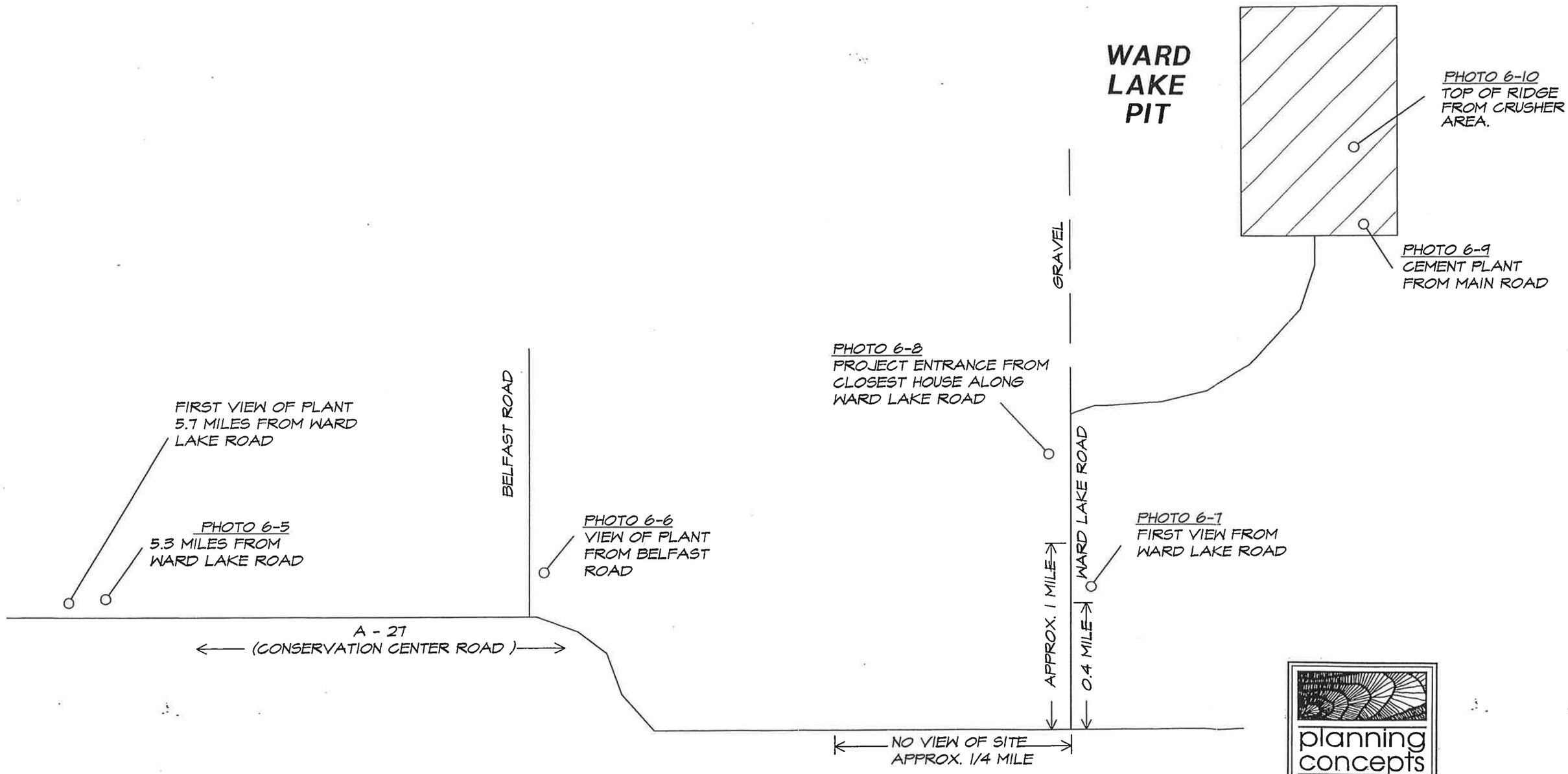
APPROX. BOUNDARY ORIGINAL APPROVED PROJECT SITE

APPROX. BOUNDARY PROPOSED EXPANDED PROJECT

MILLER'S CUSTOM WORK INC.
WARD LAKE PIT E.I.R.

SCALE: 1" = 600'
DATE: 1\27\97
PLOT SCALE: 1"= 600'

planning concepts



planning concepts

FIGURE 6-4

SITE VIEWS FROM AREA LOCATIONS

NOT TO SCALE
DATE 1\29\97
PLOT SCALE: 1-1

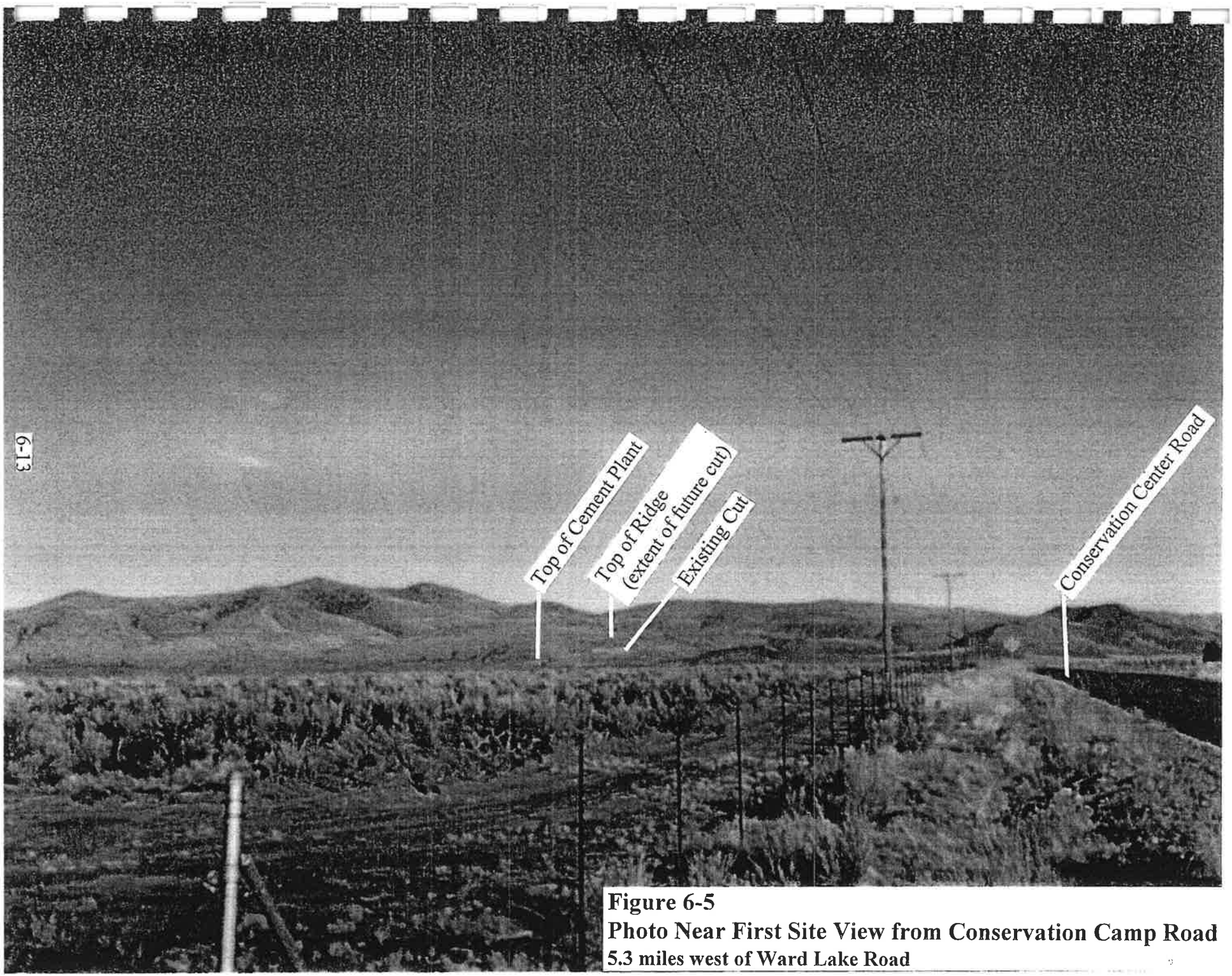


Figure 6-5
Photo Near First Site View from Conservation Camp Road
5.3 miles west of Ward Lake Road

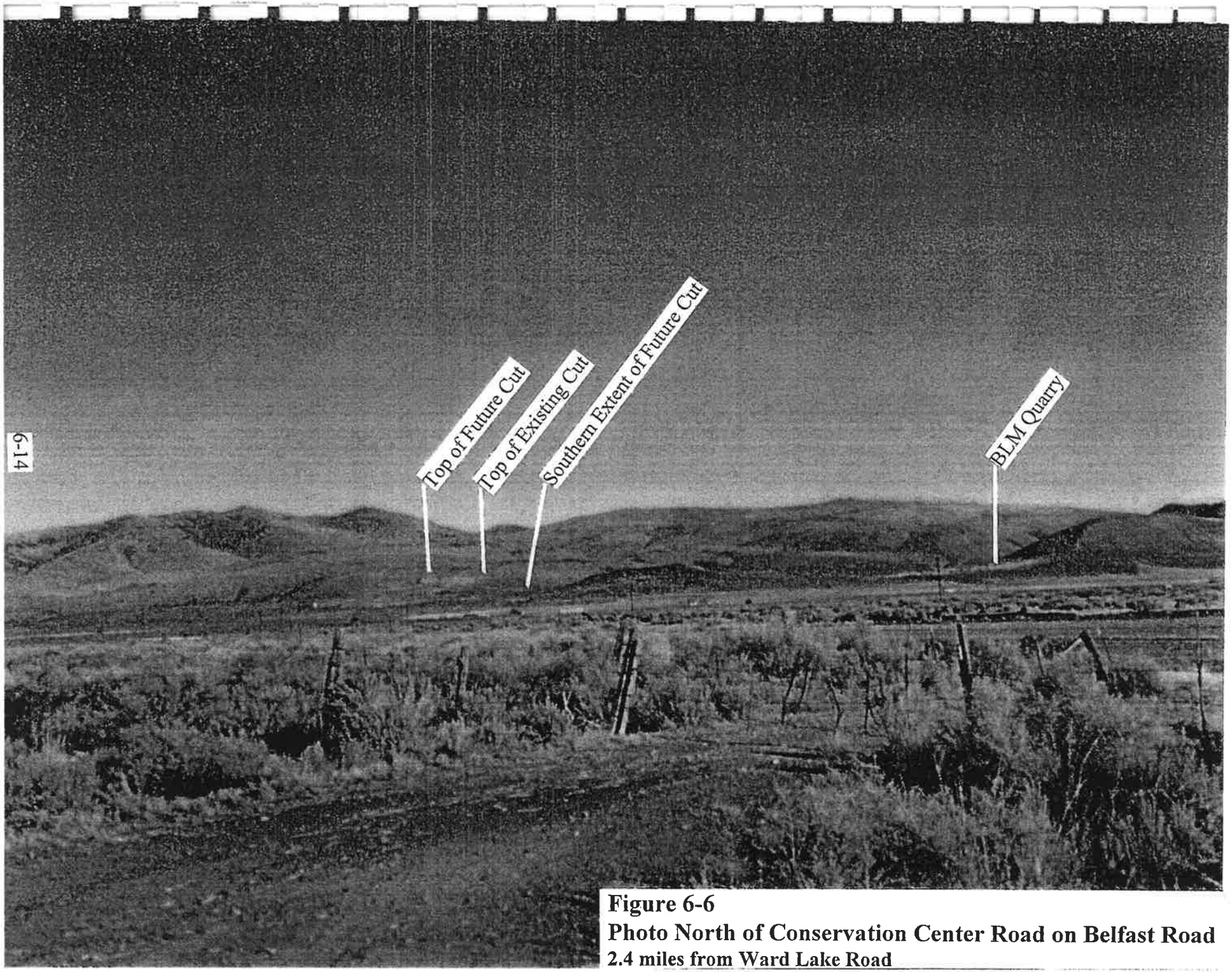


Figure 6-6
Photo North of Conservation Center Road on Belfast Road
2.4 miles from Ward Lake Road

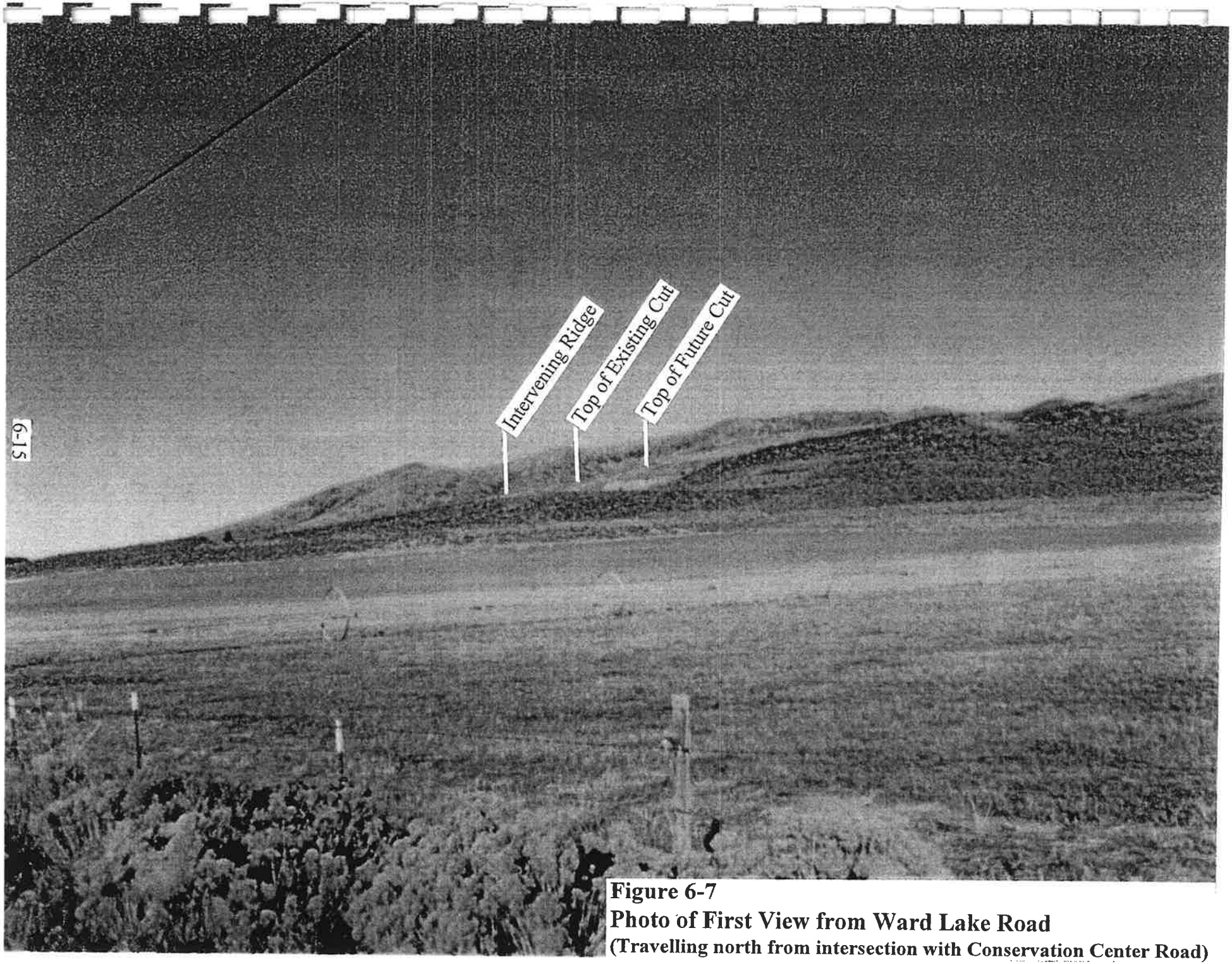


Figure 6-7
Photo of First View from Ward Lake Road
(Travelling north from intersection with Conservation Center Road)

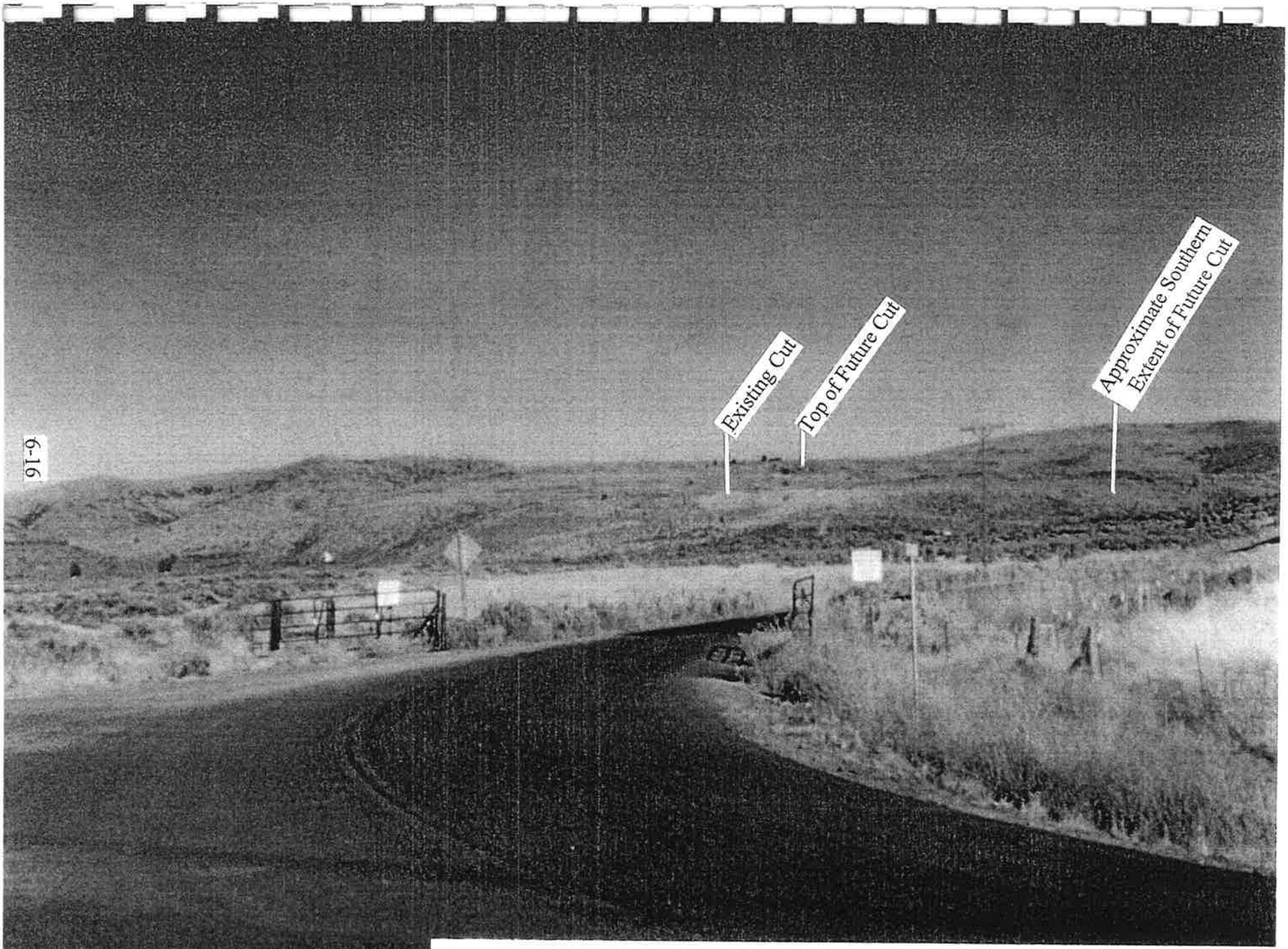


Figure 6-8
Photo of Site from Intersection of Ward Lake Road with Quarry Access Road

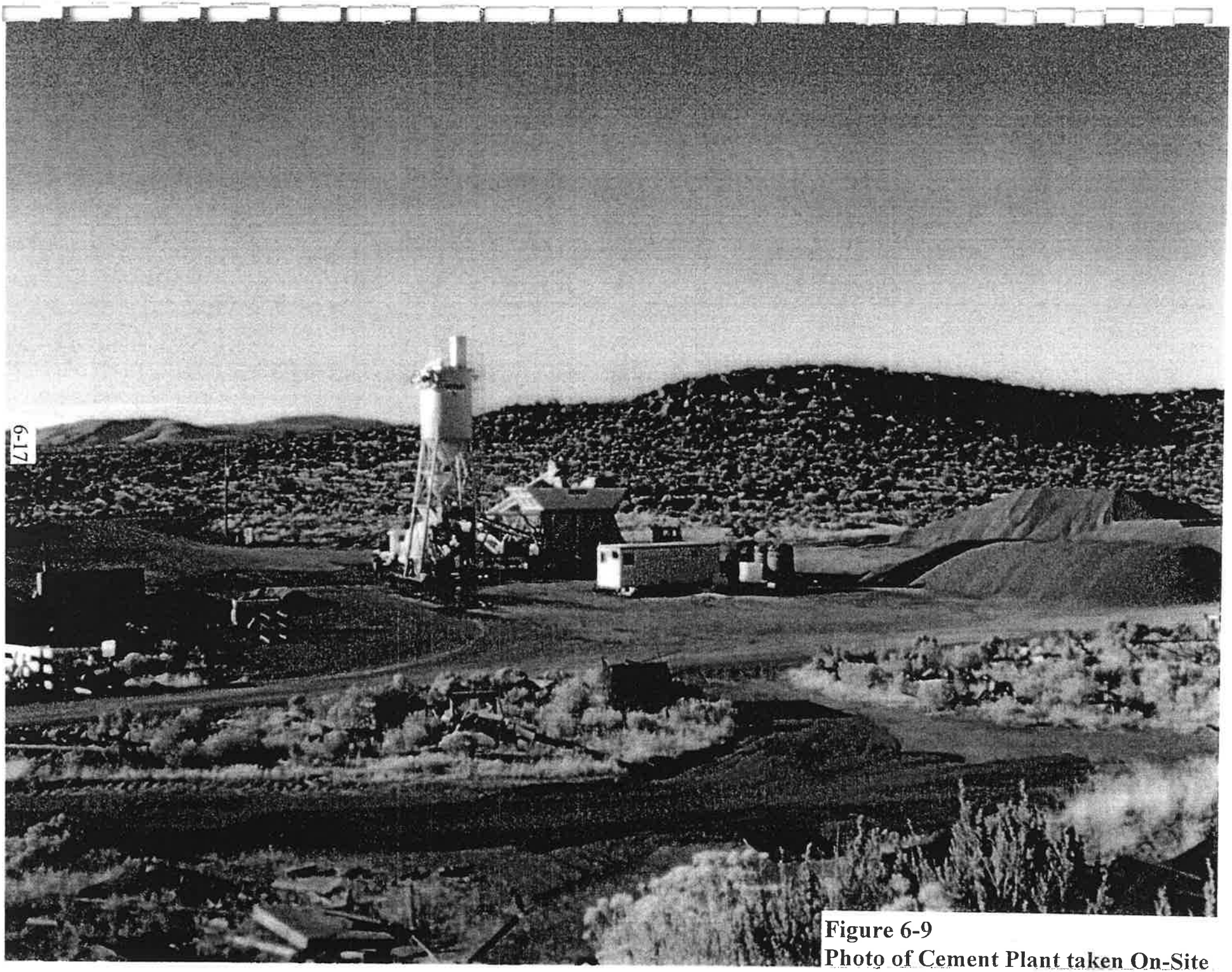


Figure 6-9
Photo of Cement Plant taken On-Site

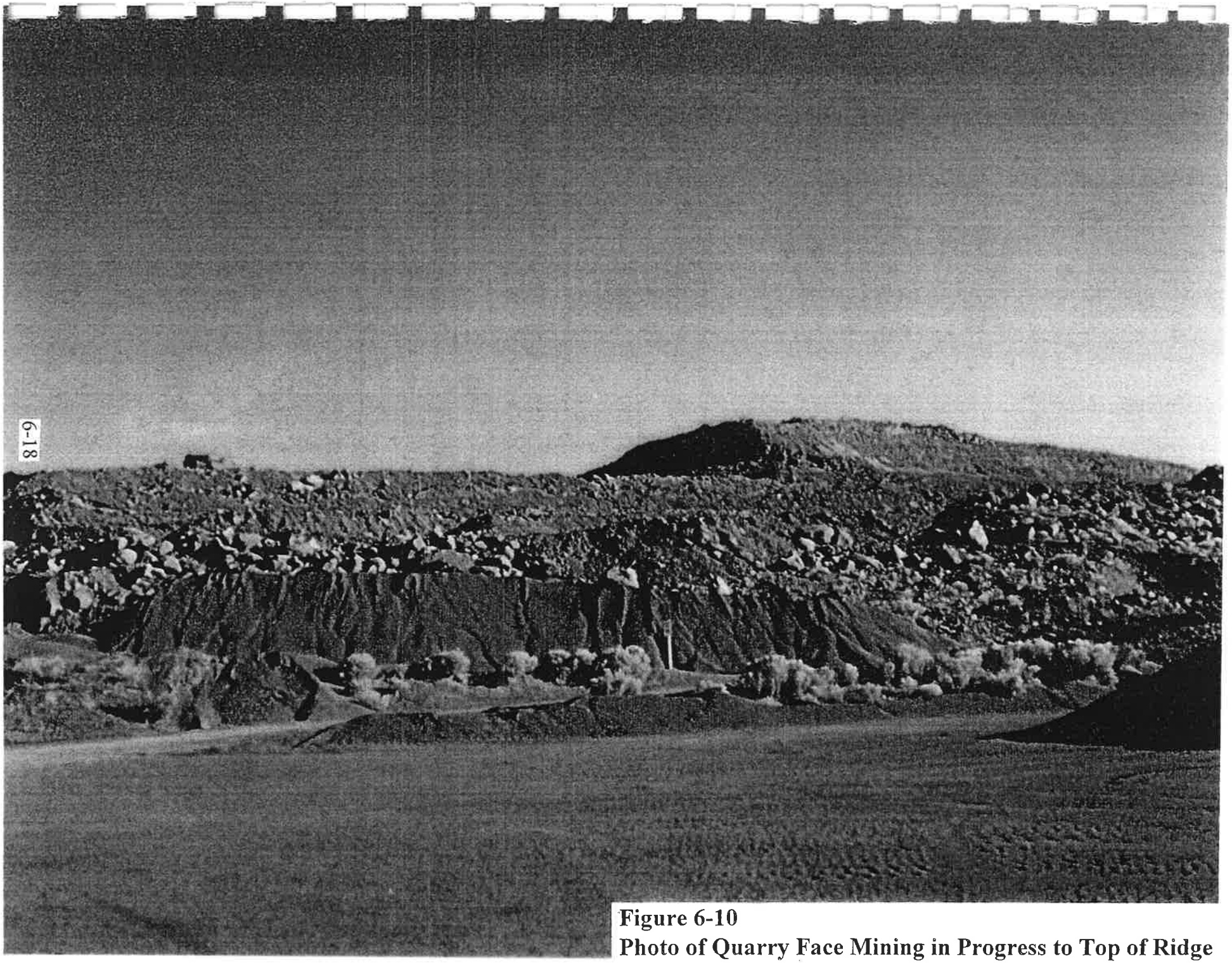


Figure 6-10
Photo of Quarry Face Mining in Progress to Top of Ridge

7. Hydrology/ Water Quality

Setting

There are no existing streams or bodies of water within the project boundaries and the site generally drains naturally northerly toward Balls Canyon. According to the 1981 EIR, the area which includes the site is classified as of fair potential for development of ground water. The site is located out of the upland recharge areas and only partially within the Honey Lake ground water basin boundaries. Site water holding capacity is low to moderate.

Impacts

The following impact discussion is a summary of the conclusions in the August, 1996 Initial Environmental Study prepared on the project by the Lassen County Community Development Department with additional text resulting from this study.

1. **Water quality, hazardous waste, and drainage impacts.** Mining operations and associated asphalt and concrete plants and related facilities can result in water quality and drainage impacts related to erosion and sedimentation, introduction of total dissolved solids and fuel and other hazardous materials into surface and ground water, and increased storm water flows. These issues are discussed briefly below.

   The disturbed areas of the project drain toward two unlined detention ponds in the northern and southern sectors of the site. There is also an unlined wash/ recirculation pond between the concrete and asphalt plants. The 1996 Initial Environmental Study noted that these ponds have recently been inspected and approved by the Regional Water Quality Control Board (Regional Board). However, the Regional Board indicated in its December 20, 1996 Notice of Preparation (NOP) comment that it has not approved the plans for the washout ponds and the concrete batch plant. They are concerned that total dissolved solids could have an impact on ground water quality when discharged to unlined ponds.

   Related to the on-site storage of hazardous materials, the 1996 Initial Environmental Study notes that the project already includes secondary containment structures for fuel tanks. Community Development Department staff conversations with the Regional Board staff confirmed that asphaltic oil (for the plant) does not require secondary containment due to its high viscosity. In addition, a Spill Prevention Control and Countermeasure Plan (Spill Prevention Plan) has been prepared for the project. However, the Regional Board NOP comment noted that they feel the Spill Prevention Plan is inadequate and significant impacts on water resources may occur if additional features are not added to it.

Related to drainage and discharge off site in general, the Regional Board letter notes that impacts will not occur if project runoff is fully detained on-site as the applicant maintains. However, the applicant must prepare the appropriate documentation of this fact in writing to the Board or apply for a National Pollutant Discharge Elimination System Permit which includes mitigation requirements.

Cumulative impacts: Based on the discussion above, the applicant has not fully demonstrated that significant water quality impacts will not result from the project. Any project impacts could combine with other area releases of degraded waters which might be occurring now or which might result in the future (such as agricultural or urban runoff). The extent of future off-site contributions to water quality degradation is beyond the scope of this study; impacts must be considered potentially significant, as a result.

Level of Significance: **Project impacts -- Potentially significant, mitigable**
Cumulative impacts -- Potentially significant, mitigable

Mitigation Measures

1. **Adherence to California Regional Water Quality Control Board Conditions.** The applicant shall fully comply with Regional Board requirements prior to continued operation of the concrete plant, including:

   a. Implement the following on site and submit plans for washout basin to the Regional Board and detailed overall mining site drainage plans which must include:

      - Segregation of process water from storm water runoff.
      - Pretreatment (sediment, oil/grease removal) of storm water runoff containing pollutants prior to discharging to percolation/containment basins. Precast sand/oil interceptors may be an acceptable means for providing pretreatment of storm water runoff.
      - Pretreatment of storm water runoff from areas subject to hydrocarbon deposition (fueling areas, parking areas, heavy equipment storage areas). Precast drop inlets with inverted outlet and hydrocarbon absorbent pillows may be an acceptable means for hydrocarbon removal.
      - Provide non-percolating containment (such as lined evaporation ponds) for process water runoff.
      - Diversion of non-impacted runoff (runoff from upland areas) around areas of industrial activities. Provide diversionary structures (earthen berms, culverts) as necessary to minimize contact with industrial activities.

b. The Spill Prevention and Countermeasure Plan shall be revised to meet the approval of the Regional Board including:

- A list of hazardous materials to be used and stored on-site
- Plans for the washout basin
- Description of the disposal location for waters pumped from the secondary containment area
- A Spill Contingency Plan
- Provisions for an on-site Spill Cleanup Kit
- Provisions for employee training on spill prevention and clean up.

c. Dust control measures (as required in the Air Quality chapter of this EIR) to minimize degradation of surface waters from the deposition of fugitive dust.

d. Obtain and provide evidence of proper documentation/ application/ approval related to the National Pollutant Discharge Elimination permit system.

Responsibility for Implementation:

Design and construction of water quality features by applicant. Mitigation monitoring for compliance by Lassen County Community Development Department in consultation with the Regional Water Quality Control Board.

Effectiveness of Measures:

Level of Significance after Mitigation: **Project impacts -- Less than Significant**
Cumulative impacts -- Less than Significant

These measures are expected to reduce the level of potential water quality impacts by ensuring that project design meets the requirements of the Water Quality Control Board and that it will not proceed without the clearance of this Responsible Agency which has expertise as well as permitting authority in this issue area.

8. Archaeology/ Cultural Resources

The following impact discussion is a summary of the conclusions in the August, 1996 Initial Environmental Study prepared on the project by the Lassen County Community Development Department with additional text resulting from this study. In each case, impacts were determined to be less than significant.

Setting

The 1996 Initial Environmental Study notes that an archaeological study was performed on the site in 1980. This report was prepared by Trygve Sletteland of ECO and is located in the Appendix of the 1981 EIR (Exhibit II, page 44). The report details the area and regional setting relative to archaeological and historic resources. To summarize briefly, the report notes that the site is located in an area which was probably used by the members of two bordering tribes: the Northeastern Maidu and the Northern Paiute. It also discusses the early colonization of the area in the 1850s. The Nobles' Road trail began use for westward immigration in 1852 and passed just south of Shaffer Mountain. The report also notes that two archaeological sites are located within a one mile radius of the site, including petroglyphs at the mouth of Balls Canyon about one mile to the northwest.

No cultural resources sites were located on the site during the survey for the 1980 report.

Impacts

1. **Impacts to Cultural Resources.** To summarize, the 1996 Initial Environmental Study concluded that impacts to cultural resources on the site or in the surrounding area would be less than significant, supported by the 1980 Sletteland study as well as the July 22, 1996 letter from the Northeastern Center of the California Historical Resources Information Center which agreed with the report's conclusions. The Information Center did call for work stoppage if any cultural resources are uncovered during operations.

Level of Significance: **Project impacts -- Less than significant**
Cumulative impacts -- Less than significant

Mitigation Measures

1. **Work stop if cultural resources uncovered.** If cultural resources or human remains are uncovered during site operations, work shall stop immediately. The Lassen County Community Development Department shall be contacted and a qualified archaeologist shall be called in to assess the resources and recommend appropriate mitigation which shall be implemented prior to additional work.

Responsibility for Implementation:

Oversight of project by operator who shall make all employees aware of this requirement. Mitigation monitoring by Lassen County Community Development Department.

Effectiveness of Measures:

Level of Significance after Mitigation: **Project impacts -- Less than Significant**
Cumulative impacts -- Less than Significant

Cultural resource impacts are expected to be less than significant. However, this measure will ensure that impacts due to the uncovering of resources will not result in significant impacts by requiring their protection.

9. Traffic

Setting

County Road A27, Conservation Center Road, extends from the urban limits of Susanville to State Route 395 near Litchfield. Conservation Center Road is functionally classified as a "Major Collector" type route according to the "Regional Transportation Plan for Lassen County (1994)". Traffic counts conducted for the 1996 Initial Environmental Study for the 1pm average daily peak hour were 107. According to the 1981 EIR, this road has no special weight restrictions other than a legal load limit of 80,000 lbs.

County Road 308, Ward Lake Road, runs northerly off of A27 serving the few residents of that area and providing access to Ward Lake and surrounding properties. Traffic counts for the 1996 Initial Environmental Study show a 6am average daily peak hour of 44. Ward Lake Road to the site has an asphalt surface and the legal load of 80,000 lbs. (40 tons) is the only weight restriction (1981 EIR). The access road to the project is one-quarter mile beyond the last resident's approach and has an asphalt surface joining an old haul road which also has an asphalt surface .

Impacts

The following impact discussion is a summary of the conclusions in the August, 1996 Initial Environmental Study prepared on the project by the Lassen County Community Development Department with additional text resulting from this study. In each case, impacts were determined to be less than significant.

1. **Increased Traffic Volumes.** Because of the low traffic volumes (which includes project traffic) on the two roads of concern, the main issue which warranted analysis was that of safety at the intersection of Ward Lake Road and Conservation Center Road. Based on separate traffic counts (which include project traffic) by the applicant and the County, the County Road Department has determined that the use of the Center Road/ Ward Lake Road intersection does not warrant improvements to accommodate the proposed expansion on the operation and that the project will not have significant traffic impacts or effects on the transportation system. (See letters from the County Road Department attached to the Initial Environmental Study in Appendix D6. of this EIR.)

   The concrete batch plant will result in an increased number of truck trips. However, the increase will be in concrete trucks (13.5 tons laden) which are lighter than the aggregate haul trucks (22.5 tons laden). Aggregate hauls may decrease in the short-term by as many as 1 to 2 trips per day on average since aggregate which would have been taken to off-site concrete plants can be processed on-site. There are approximately 20 aggregate haul truck trips/day generated by the current operation, (Jim Miller, 3/97.)

(Average 1.65 tons aggregate/concrete batch load (Aggregate Producers Association average) X 6 concrete loads (estimate of activity by Jim Miller)/ 7.5 tons/aggregate haul truck = 1.3 aggregate truck trip reductions.)

Approximately 6 concrete truck loads would replace this aggregate load reduction, for a net increase of 4 to 5 truck loads/day. These lighter loads will result in less wear on County roads and are quieter than the heavier trucks. However over time, if business increases, the 6 concrete loads per day could be additive to the current 20 aggregate hauls/day.

Cumulative Impacts: The conclusion above relates to cumulative impacts also since area land use buildout will be of low traffic generating low density residential and agricultural uses. As a result, cumulative traffic impacts including project impacts are not expected to be significant. For example, AASHTO warrants cited by the Road Department in their 1996 Early Consultation letter, would not require a turn lane even with peak hour advance volumes of 115 (the lowest level listed on AASHTO Table IX-15, 1990,) and 30% turns at 60 mph approach speed until opposing traffic levels reached 800 (peak hour). Current volumes are only 42 at peak hour (opposing) with turning volumes of about 25% and advancing volumes of about 40.

Summary: To summarize, it was determined in the 1996 Initial Environmental Study that traffic impacts would be less than significant. This EIR concurs with the 1996 determination. The Superior Court order apparently agreed with this conclusion as well in that it only ordered additional environmental analysis related to visual impacts and the deer and antelope herd, and dismissed the complainants allegation that increased truck traffic was not adequately discussed in the original Initial Study.

Level of Significance: **Project Impacts--Less than significant**
Cumulative Impacts--Less than significant

Mitigation Measures

1. Increased Traffic Volumes.

a. Safety Measures. No measures were recommended in the 1996 Initial Environmental Study for this less than significant impact. However, the 1981 EIR recommended the use of a number of measures if they become warranted as the project progresses. The County should continue to monitor the project traffic flow for safety concerns and institute any of the following or other appropriate measures if it becomes necessary:

- Installation of a STOP sign at the junction of the access road with County Road 308 by the applicant and if warranted, "Truck Crossing" warning signs along Road 308.

- Decrease speed limits on Ward Lake Road to 25 MPH due to the road conditions and the short length encompassed (approximately one mile).

b. Load limits. Trucks hauling materials should not exceed the legal allowable load limit of 80,000 lbs. (40 tons) gross weight.

Responsibility for Implementation:

Annual and on complaint mitigation monitoring by Lassen County Road Department.

Effectiveness of Measures:

Level of Significance after Mitigation: **Project impacts -- Less than Significant**
Cumulative impacts -- Less than Significant

Project traffic impacts are expected to be less than significant. However, these measures will serve to ensure this conclusion by monitoring for changed conditions over the life of the project as well as monitoring for compliance with County standards.

10. Air Quality

Setting

The project area is located in the Northeast Plateau Air Basin under the jurisdiction of the Lassen County Air Pollution Control District (APCD). Lassen County is in attainment of all air-quality standards currently.

Impacts

1. **Increases in dust and other air pollutants**. The 1981 EIR noted concerns that the project could impact air quality via the release of dust from mining, crushing, and transport of site materials. In addition, odor and emissions for the asphalt and fuel storage tanks were concerns. Various mitigation measures were recommended at that time which were then included in the APCD's operating permit. These same concerns were raised during permitting of the concrete plant and identical conditions were attached to the new APCD permit which was granted July 1, 1996 and included AB2588 Air Toxics Assessment and other Title V Federal Operating Permit requirements.

   To summarize, the 1996 Initial Environmental Study concluded that the APCD measures would reduce any impacts to below the significant level.

   Level of Significance: **Project impacts--Significant. mitigable**
   Cumulative impacts--Significant, mitigable

Mitigation Measures

1. **Compliance with Air Pollution Control District Permit to Operate Conditions.** These conditions are listed below (with changes made to ensure consistency with this EIR underlined and lined out as appropriate).

   a. Miller's Custom Works shall apply water to all roads on the plant site which are being used during plant operation. All roads being used shall be wet at all times without exception. Additionally, stockpiles of sand, gravel, etc. should also be watered when feasible.

   b. Miller's Custom Work shall install or replace any and all metal flashing around hoppers, conveyors or fans in order that fugitive dust resulting from operation of the plant is reduced to a level which is in compliance with District Rule 4:18. Installation or replacement of such metal flashing shall occur prior to startup of the plant in 1991 (and the concrete plant in 1996). Additionally, Miller's Custom work shall notify the Lassen County Air Pollution

Control District at the start or the first days of operation in 1991(and the concrete plant in 1996), so that an inspection can be made of the plant sites to determine compliance with this condition.

c. Millers Custom Work shall contract with a California Air Resources Board certified private contractor for an annual compliance test at the Ward Lake facility to determine compliance with Lassen County Air Pollution Control District Rule 4:3. (Grain Loading Rule -0.3 grain per cubic foot gas). This test shall be performed prior to January 1 of every year.

Permit conditions for concrete plant:

a. Not more than 7,000 cubic yards of concrete shall be processed annually.

b. Aggregate charged and/or processed shall be kept sufficiently moist to prevent visible dust emissions.

c. Dust collected by the baghouse filter shall be discharged into closed containers only.

d. Cloth bags in the baghouse shall be cleaned and/or replaced periodically.

e. Annual operation shall be limited to ~~from March 1 - December 31, as stated in the County Use Permit~~ dates as recommended by the wildlife biologist in the EIR and/or as adopted by the lead agency.

Responsibility for Implementation:

Measures to be carried out by the operator. Mitigation monitoring by Lassen County APCD via annual reports from the operator and spot inspections for dust control by the APCD during dry months.

Effectiveness of Measures:

Level of Significance after Mitigation: **Project impacts -- Less than Significant**
Cumulative impacts -- Less than Significant

These measures are expected to reduce the level of air quality impacts of the project below the significant level by compliance with State and federal standards. This will ensure that the project's additions to areawide emissions are kept to an acceptable level and which will not result in a perceptible change in area air quality.

11. Noise

Setting

In May, 1996 NST Engineering measured ambient noise levels and noise levels with the concrete plant operating, at the edge of the project area between 7am and 8am (1996 Initial Environmental Study). With no operations taking place, the ambient noise level was 42dBa, typical of a quiet agricultural or residential area.

Impacts

The following impact discussion is a summary of the conclusions in the August, 1996 Initial Environmental Study prepared on the project by the Lassen County Community Development Department with additional text resulting from this study. In each case, impacts were determined to be less than significant

1. **a. Increased noise related to site operations in the immediate vicinity.** The 1981 EIR discussed the potential impacts of site operations on surrounding properties (page 30 and page F10) and concluded that noise levels would be within the General Plan standards at the edge of the property. The 1981 EIR also noted that noise generated by the moving components of crushers and hot plants when in operation cannot exceed a 90 dB (decibel) level at the project property lines in accordance with federal regulations. The 1996 Initial Environmental Study also discussed this issue. Sound levels were taken during full operation of the ready mix plant which indicate that at full operation it generates noise levels of 50 dBa (measured at the nearest boundary of a property which could develop residentially) - within Lassen County standards. The nearest existing home is 1/4 mile away; it is expected that the noise level measured combined with the attenuating effects of the low ridge that separates the site of the hot plant and concrete plant from properties to the west will ensure that noise from the expansion will be less than significant.

   Noise impacts on the deer and antelope herds is discussed in the Vegetation/ Wildlife chapter of this EIR.

   Cumulative impacts: On-site noise is not expected to combine with other noise sources to result in significant impacts since surrounding land uses are agricultural and low density residential. The quarry on BLM land to the south is distant enough from noise sensitive uses such that combined noise is not a concern.

   b. Increased vehicular movement. Additional vehicles will be using the portion of County Road 308 (Ward Lake Road) from the access road to its junction with A-27 (Conservation

Center Road), an area of approximately one mile in length, as well as Conservation Center Road. This increased level of traffic is already being experienced since the concrete plant has been in operation. However, traffic levels are low overall as measured in July 1996: 6am peak hour on Ward Lake Road - 44 trips. 1 pm peak hour on Conservation Center Road west of Ward Lake Road -- 107 trips. (1996 Initial Environmental Study, memo from Steve Blankenship, Lassen County Department of Public Works.) Even with project truck traffic which is included in this count, traffic noise levels are not expected to exceed Lassen County Noise Element standards. Traffic noise impacts in very low-density residential areas with speeds of approximately 35 mph do not typically begin to become a concern warranting specific analysis until traffic levels reach approximately 125 trips/ hour (A-V Group, personal communication, March, 1997).

Cumulative Impacts: Land uses in the vicinity are low density and low traffic generating. As a result, cumulative traffic noise impacts including project impacts are not expected to be significant.

To summarize, based on noise measurements taken at the site before and during operations, it was concluded in the 1996 Initial Environmental Study that noise impacts would be less than significant.

Level of Significance: **Project Impacts-- Less than significant**
Cumulative Impacts--Less than significant

Mitigation Measures

1. At the operator's expense, project noise levels next to equipment and at property lines adjacent to residentially zoned parcels shall be monitored at the request of the lead agency by a qualified acoustical analyst with reports to the Community Development Department to ensure that County and federal noise standards are not exceeded. If noise standards are exceeded, the applicant shall take corrective action under the direction of the Lassen County Community Development Department.

Responsibility for Implementation:

Monitoring reports to be submitted by applicant. Mitigation monitoring by Lassen County Community Development Department.

Effectiveness of Measures:

Level of Significance after Mitigation: **Project impacts -- Less than Significant**
Cumulative impacts -- Less than Significant

Noise impacts from the project are not expected to be significant, however, these measures will ensure this conclusion by monitoring of noise levels.

12. Public Facilities

Setting

The site is currently served by electrical service, telephone service, on-site wells and portable chemical toilets.

Impacts

The following impact discussion is a summary of the conclusions in the August, 1996 Initial Environmental Study prepared on the project by the Lassen County Community Development Department with additional text resulting from this study. In each case, impacts were determined to be less than significant.

1. Demand for Public Facilities. The proposed project is an expansion of the existing operation and will not result in substantial use of energy, demand for new services, nor substantial alteration to the following utilities:

a. Power or natural gas
b. Communications systems
c. Water
d. Sewer or septic tanks
e. Storm water drainage
f. Solid waste and disposal

To summarize, because the required utilities exist at the site, and energy demand related to the expansion is not expected to substantially increase over existing demand, it was concluded in the 1996 Initial Environmental Study that impacts to public facilities would be less than significant.

Level of Significance: **Project Impacts--Less than significant**
Cumulative Impacts--Less than significant

Mitigation Measures

1. Demand for Public Services. None recommended for this less than significant impact.

13. Geology

Setting

The following Setting discussion is based on the text of the 1981 EIR.

The project site is located where the Modoc Plateau meets the Great Basin. This is an area of Cenozoic volcanic rock, the lower levels of which have been converted to gravels by shoreline action on ancient Lake Lahontan. The deposit to be mined is located just above the high water line of Lake Lahontan in a large deposit of Pleistocene volcanic basalt. The deposit appears as ledge rock, the exposed edges of a volcanic flow.

The fairly flat area being used for crusher, asphalt, and stockpile sites consists of 0 to 4 % slopes, while areas to be utilized for excavation of materials are between 16-20% and over 20% slopes.

The areas of 5 to 31% slopes have a surface texture which is cobbly and light to a depth of 20 to 36 inches with moderately rapid permeability of the subsoil; slight erosion; and low available water holding capacity. A "Land Capability Classification" of V1/e8 indicates severe soil limitations, generally unsuitable for cultivation due to erosion, and root zone limitation due to hard pan or bedrock. Areas of 0 to 4 % slopes show light surface texture soils to a depth of 60 inches with moderate available water holding capacity; wind erosion potential; moderately rapid to moderate permeability of the subsoil. Additional "Land Capability Classification" shows limitation in portions of Section 32 due to coarse surface texture and low water holding capacity which would require conservation practices in order to be utilized for cultivation.

Underlying materials in the general area are lake deposits and there are also some sections, not directly adjacent to the project site, which show slight alkalinity.

Faults in the area trend in a northwesterly direction with a few faults shown to trend northeasterly. The fault shown very near the project site (within 1/4 mile) to the northeast (Map #2C "1", 1981 EIR, page 26) is Pre-Quaternary (older than two million years) or without recognized Quaternary displacement. There has not been any activity ascertained; and, it is considered inactive. Another fault adjacent to this fault is a Quaternary fault displacement of less than two million years old without any historic (past two hundred years) record of activity. The "Litchfield Fault" which follows County Road A27 south of the proposed project, is also a Pre-Quaternary fault. Thermal wells and springs exist in the Wendel and Susanville areas; however, there are no known wells or springs on the project site or adjacent lands.

Impacts

The following impact discussion is a summary of the conclusions in the August, 1996 Initial Environmental Study prepared on the project by the Lassen County Community Development Department with additional text resulting from this study.

1. **Changes in Surface Geology and Topography.** The proposed project will involve stockpiling rock, sand, gravel and aggregates, the establishment of a concrete batch plant, and maintenance and storage of equipment which will result in the disruption of the native soil surface. The resulting disturbed area will have the potential for an increase in erosion and a decrease in water absorption and vegetation capabilities for the life of the project and to a lesser degree after reclamation takes place. The existing landform will be altered by an increase in proposed material recovery within the excavation areas (rock, sand, and gravel) from an estimated 500,000 c.y. over ten years to 1,700,000 c.y. over 40 years (from the date the operation was approved in 1980). Because the project is an isolated one, (with the exception of the nearby mine on BLM land), located within a valley-mountain transition area, these impacts in themselves are not significant. They do have the potential to be significant relative to their indirect impacts on wildlife habitat, water quality, and scenic views which have been addressed in previous sections of this EIR.

   Site seismicity is not considered to be a critical concern because sensitive uses such as homes are not being located on the site and because there are no historically active faults on or near the site as noted in the Geology Setting discussion. In addition, post reclamation slopes will not be so steep as to result in a hazardous condition in the event of a seismic event.

   Cumulative impacts: The project will combine with previous site activities to form cumulative impacts as discussed above.

   Summary: To summarize, based on the information contained in the project application, including topographic maps of existing and proposed final conditions, as well as the approved reclamation plan requirements, it was concluded in the 1996 Initial Environmental Study that impacts to geologic features in general would be significant, but mitigable via the reclamation practices required.

   Level of Significance: **Project impacts -- Significant, mitigable**
   Cumulative impacts -- Significant, mitigable

Mitigation Measures

1. **Changes in Surface Geology and Topography.** The mitigation measures related to reclamation practices in the Vegetation and Wildlife chapter are expected to mitigate these impacts (measure 1a).

Responsibility for Implementation:

See Vegetation and Wildlife chapter mitigation measure 1a.

Effectiveness of Measures:

Level of Significance after Mitigation: **Project impacts -- Less than Significant**
Cumulative impacts -- Less than Significant

While the topography of the site will change permanently, there is no direct geologic hazard associated with this change. These mitigation measures are expected to reduce the impacts to geologic features on the site by concurrently mitigating the indirect impacts of the mining operation on scenic views and wildlife.

14. Other CEQA Considerations

Significant Irreversible Commitment of Resources

The implementation of the project would result in the temporary conversion of up to 160 acres of wildlife habitat and marginal range land to unvegetated mining uses. In the long-term, this area will be revegetated and will again be available for grazing (except for the quarry face) and wildlife habitat through implementation of the approved reclamation plan. The rock and sand resource will be largely depleted on this site. Energy resources will be expended in mining and producing the asphaltic and concrete mixes but these will not be significant compared to countywide energy consumption in general.

Growth Inducing Impacts

Growth inducing impacts typically result from the following:

- Extending public facilities into areas where they had not previously existed
- Setting an institutional precedent for similar types of development
- Bringing new employees to the area

As noted in the 1996 Initial Environmental Study, the project will not affect population distribution, density or growth rates. Utilities are already available to the expansion area and no extensions of services will be required. New employees may be necessary to carry out the project over time, but the number of new employees would be few and would not result in indirect population growth impacts. Finally, an institutional precedent for similar types of mining in the area is not expected to be of concern, since the market for these materials is limited and local.

Cumulative Impacts

Cumulative impacts are discussed under each impact chapter of this EIR. Short-term cumulative visual impacts to nearby residents are expected to be significant and unmitigable (combined with visual impacts that have already occurred on the site). Other cumulative impacts which are expected to be significant, but mitigable include impacts to the deer and antelope herds, water quality impacts, air quality, and geology/landforms.

15. Alternatives

The California Environmental Quality Act Guidelines Section 15126(d) state that an EIR must describe a range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project. The Guidelines also list the following as items which should be included in the alternatives analysis:

- An explanation of why any other alternatives which were considered in developing the proposal were rejected in favor of the project;
- An evaluation of the "no project" alternative;
- An identification of the environmentally superior alternative

The Guidelines indicate that the alternatives analysis should focus on alternatives capable of eliminating or effectively reducing significant effects, and that the document need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative. If an alternative would cause a significant impact which is in addition to those caused by the project, the impact should be discussed but in less detail than the effects of the project.

Alternatives Rejected in Favor of the Proposed Project

The EIR preparers are not aware of any alternatives which were explored other than the project as proposed.

Alternatives Discussed in this EIR

The alternatives discussed in this EIR are:

- No Project, No Expansion (Alternative Scale)
- Alternative Site
- Mining as Proposed, No Concrete Plant

No Project, No Expansion Alternative

This alternative would involve continuing operations as approved in 1980 with no expansion. Thus, 110 acres could be disturbed rather than the proposed 160 acres, the asphalt plant would continue in operation, the closure period previously required (November through March) would apply, and the concrete plant would discontinue operation and be removed from the site. For the purposes of this EIR, the main impacts of concern are impacts to the deer and antelope herds, visual impacts, and land use compatibility impacts. The impacts of this alternative relative to the project as proposed are discussed below.

Wildlife and Vegetation Impacts: Impacts to the Deer and Antelope Herds. Under this alternative, impacts to the deer and antelope herds related to vegetation disturbance would be reduced overall, though mining would continue within the originally approved 110 acre area. Potential impacts to the deer and antelope herds related to fall activities might be slightly reduced because the November closure month would remain in place (as opposed to the December to March mitigation proposed for the project; note that the project as proposed by the applicant does not include a winter closure). However, it should be noted that project impacts in this area are expected to be significant, but mitigable.

Visual Impacts: Visual impacts from this point on would be reduced since the horizontal and vertical area to be mined would presumably be reduced under this alternative. The same mining area is involved in the previous project as that proposed, but it was assumed that only approximately 500,000 c.y. of material would be removed rather than 1.7 million c.y. (1996 Initial Study, Appendix B, item 1.) The grading that has already occurred on the site would still be visible from nearby residences and properties and additional mining would still be conducted which could involve a significant area. As a result, the short-term visual impacts of the project related to the quarry face prior to reclamation which are considered unmitigable under the expansion would still result, though not to the same degree.

Land Use Impacts: Implementing the mitigation measures recommended for individual physical impacts identified in other sections of this EIR will concurrently mitigate any land use impacts.

Summary: One unmitigable project impact would still result under this alternative.

Mining as Proposed, No Concrete Plant

Under this alternative, mining would progress as proposed, but the concrete plant would not operate.

Wildlife and Vegetation Impacts: Impacts to the Deer and Antelope Herds. Under this alternative, impacts to the deer and antelope herds related to vegetation disturbance would be the same as the proposed project, but impacts resulting from human activity might be reduced slightly, since some reduction in noise and activity levels would result. However, most of the noise on the site is a result of excavating, rock crushing, and truck hauling which would continue. In addition, it should be noted that impacts of the proposed project in this area are expected to be significant, but mitigable.

Visual Impacts: Visual impacts under this alternative would be almost identical to the proposed project with the exception of long and mid-range distance views of the top of the concrete plant. However, these views of the plant are not considered dominant in the landscape. The short-term visual impacts of the project related to the quarry face prior to reclamation which are considered

unmitigable under the expansion would still result.

Land Use Impacts: Implementing the mitigation measures recommended for individual physical impacts identified in other sections of this EIR will concurrently mitigate any land use impacts.

Other Impacts: The potential for ground water quality impacts related to additional washing of materials for the cement plant would be eliminated under this alternative. However, this potential impact is expected to be mitigable under the project as proposed.

Summary: One unmitigable project impact would still result under this alternative.

Alternative Site

Though no alternative site has been identified, there are numerous areas in the County where gravel or sand could be mined. The intent would be to locate an area not in the critical deer winter range and with little need for vertical grading disturbance.

However, this alternative would likely not meet the sponsor's objectives according to the 1981 EIR (page 11). This is because the site rock source is of a material not commonly found in the region which permits a lower amount of asphaltic oil in creating the asphalt mix. The asphalt plant was located at the site, rather than at another location, in order to reduce excess handling of aggregates before mixing, reduce fugitive dust on haul routes, and reduce haul costs. The rock mine (and the asphalt plant) provides a close asphaltic material supply to serve the local area and reduce road paving costs locally - the next closest facility is in the Doyle area, 33 miles south of Susanville. Presumably, the concrete plant has similar advantages at this location.

Wildlife and Vegetation Impacts: Impacts to the Deer and Antelope Herds. Under this alternative, impacts to the deer and antelope herds related to vegetation disturbance could theoretically be eliminated if a site outside the critical deer winter range were located. However, it should be noted that impacts of the proposed project in this area are expected to be significant, but mitigable.

Visual Impacts: Visual impacts could be reduced under this alternative if an appropriate site were located needing little vertical disturbance and in an isolated area.

Land Use Impacts: Implementing the mitigation measures recommended for individual physical impacts identified in other sections of this EIR will concurrently mitigate any land use impacts.

Summary: It is possible that the one unmitigable project impact could be eliminated under this alternative.

Sources - Persons / Agencies Contacted

California Department of Agriculture, Early Consultation Comments, July 10, 1996.

California Department of Fish and Game, Early Consultation Comments, June 1, 1996.

California Department of Fish and Game, Early Consultation Comments, June 30, 1996.

California Department of Fish and Game, Early Consultation Comments, July 22, 1996.

California Department of Fish and Game, Appeal of Planning Commission Decision on Negative Declaration, August 15, 1994.

California Department of Fish and Game, Notice of Preparation Comments, December 17, 1996.

California Department of Transportation, Early Consultation Comments, July 8, 1996.

California Regional Water Quality Control Board - Lahontan Region, Early Consultation Comments, June 12, 1996.

California Regional Water Quality Control Board - Lahontan Region, NOP Comments, December 20, 1996.

California State University, Chico, Early Consultation Comments - Historical Resources Inventory Results, July 22, 1996.

Elam, Russ, Bureau of Land Management, Susanville Office, Personal Communication, January, 1997.

Kucera, Thomas E., *Ward Lake Quarry Expansion Project Study,* December 10, 1996.

Lassen County, Department of Agriculture, Early Consultation Comments, July 10, 1996.

Lassen County Community Development Department, Notice of EIR Preparation, November 19, 1996.

Lassen County Community Development Department, Initial Environmental Study / Mitigated Negative Declaration, August, 9, 1996.

Lassen County Planning Commission, Final Environmental Impact Report for Operation of Aggregate Materials Source, Operation of Rock Crushing Plant, Operation of Asphalt Concrete Batch Plant, May, 1981.

Lassen County Department of Public Works, Early Consultation, Comments, July 9, 1996.

Lassen County Department of Public Works, Early Consultation Comments, August 6, 1996.

Morrish, Jeffery, *Spill Prevention Control & Countermeasure Plan*, April 21, 1995.

McCain, Everd, A., Early Consultation Comments, July 15, 1996.

NSI Engineering, *Concrete Batch Plant Sound Level Measurements*, May 28, 1996.

Smith, Ken, Lassen County Air Pollution Control District, Personal Communication, January 1997.

Report Preparers

Tom Kucera, Wildlife contributions. 2909 Regent St., #2, Berkeley, CA 94705. (510) 848-1567.

Laurie Oberholtzer, all other portions. Planning Concepts, 309 Commercial St., Nevada City, CA 95959. (916) 265-8068.

Appendix

A. Standish-Litchfield Area Plan Project Related Goals / Policies, (October, 1986).

B. Project Related Text in Standish-Litchfield Planning Area MEA, (April, 1983).

C. Relevant Sections of 1981 Original Mining Project EIR.

D. July, 1996 Early Consultation Comments.
   1. APCD
   2. California Regional Water Quality Control Board
   3. Spill Prevention Control and Countermeasure Plan
   4. California Department of Fish and Game (includes 1994 letters also)
   5. NST Engineering - Noise Measurements
   6. Lassen County Department of Public Works - Traffic Report
   7. Caltrans
   8. Northeast Center of the California Historical Resources Information System
   9. Everd McCain

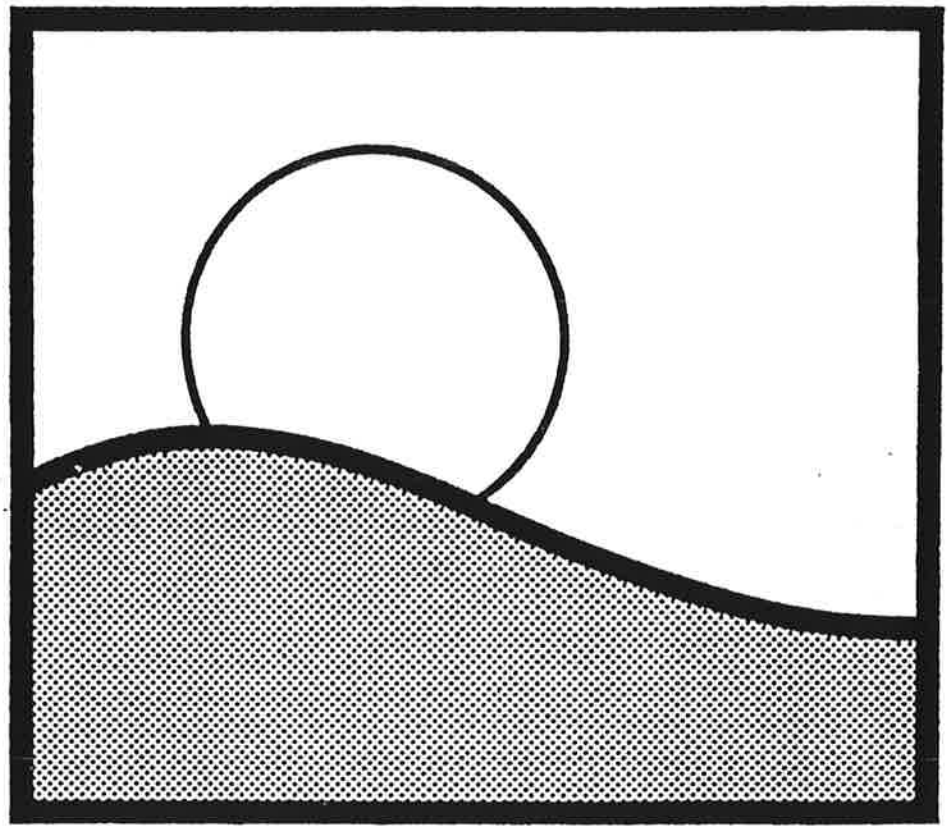
E. 1996 Initial Environmental Study

F. Notice of EIR Preparation Comments, November and December, 1996.
   1. NOP
   2. California Department of Fish and Game

G. Deer Herd Impact Analysis by Tom Kucera, PhD. December, 1996.

A. Standish-Litchfield Area Plan Project Related Goals / Policies

STANDISH-LITCHFIELD AREA PLAN



And Environmental Impact Report SCH #85042910

Lassen County
Planning Department

October, 1986

PLANNING ANSWERS

GOALS AND OBJECTIVES OF THE PLAN

The basis for this plan is the goals and objectives adopted for the planning area. The goals and objectives which guide this plan are as follows:

1. LAND USE GROWTH AND DEVELOPMENT

A. Issue: Land Use Compatibility

GOAL AND OBJECTIVE: Ensure compatibility between land use types by providing for efficient and complementary mixtures and patterns of land uses.

B. Issue: Neighborhood Quality

GOAL AND OBJECTIVE: Retain and protect the open, rural character of the Planning Area by encouraging clustered residential development and expansion of existing neighborhoods and by discouraging sprawl and scattered development.

C. Issue: Growth and Development

GOAL AND OBJECTIVE: Encourage and facilitate orderly, contiguous growth and appropriate land-conserving densities as an alternative to sprawl and "leap frog" development.

D. Issue: Commercial Uses

GOAL AND OBJECTIVE: Encourage the viability of existing comunities and discourage the scattering of commercial uses by confining general commercial uses but not home occupations or agriculturally-related sales, to existing commercial areas.

E. Issue: Industrial Uses

GOAL AND OBJECTIVE: Maintain the rural quality of the Planning Area by restricting industrial activity to primary-type operations, e.g., natural resource extraction, and assign secondary and tertiary activities, e.g., processing and sales, to areas so designated outside the Planning Area. This shall not include processing of agricultural products.

F. Issue: Public Lands

GOAL AND OBJECTIVE: Encourage public land management policies which protect and enhance the area's natural environmental and economic resources.

general plan amendments and considered for appropriateness of timing and land use consistency with applicable policies of the area plan. Timing for development of the urban reserve area bordering on Windrift Road shall be tied to the approval by Caltrans for, and construction of, a public connection at the intersection of Windrift Road and Highway 395. Future development shall also be contingent upon Plumas Street (or another Standish street) being improved and extended to intersect with Windrift Road.

INDUSTRIAL LAND USE

The only types of heavy industrial activities in the planning area are mineral extraction and asphalt batch operations. Mineral extraction is limited to sand and gravel. According to the MEA, the availability of sand and gravel in quantities suitable for commercial extraction is limited. However, the sand and gravel that is presently being mined is of superior quality.

In 1975, the California Legislature enacted the Surface Mining and Reclamation Act to ensure prevention or mitigation of the adverse environmental effects of mining, the reclamation of mined lands, and the production and conservation of mineral resources consistent with recreation and watershed, wildlife and range objectives. Under the Act, the State Geologist must classify mineral areas of the state threatened by incompatible land uses that would preclude mining.

The purpose of the classification process is to ensure that mineral deposits are available when needed. Counties and cities containing mineral areas of State or regional significance must amend their general plans to include information on the mineral deposits and policies for managing them.

The State Board's classification of mineral lands statewide will take several years, but it has established priorities to ensure that mineral lands most likely to be converted to uses incompatible with mining are classified first. No classification has been completed in Lassen County. Prior to State designation, Lassen County should begin developing its own general plan policies to protect important mineral resource areas.

Policy: Industrial

16-A Industrial land use activities shall be confined to mineral extraction, agricultural processing activities or to industrial activities incidental to the mixed use residential/commercial designation for the Town Centers of

Standish and Litchfield. Other forms of industrial uses should be located closer to the larger population centers of Susanville and Johnstonville at sites where there is existing infrastructure to serve them.

Implementation: Industrial

16.1 Development adjacent to mineral extraction or agricultural processing operations should be regulated so that proposed future land uses will not be incompatible.

16.2 All proposed mining or mineral extraction applications shall be accomplished by a reclamation plan directed towards the rehabilitation, reuse, erosion control, and water quality protection of mineral resource lands.

16.3 Upon classification by the State Geologist of any land area within the planning area as an MRZ-2 zone, pursuant to the Surface Mining and Reclamation Act, the County shall protect such areas from development incompatible with mining.

16.4 Land used for mineral extraction should be designated as "Extensive Agriculture" and zoned "U-C", Upland Conservation.

B. Project Related Text in Standish-Litchfield Planning Area MEA

STANDISH LITCHFIELD

MASTER ENVIRONMENTAL ASSESSMENT

PLANNING AREA

LASSEN COUNTY PLANNING DEPARTMENT

APRIL, 1983

H SCENIC RESOURCES

The Standish-Litchfield Planning Area, with its open expanses, offers a sweeping panorama of the landscape. A view from the valley bottom is somewhat limited by the gently sloping terrain of the Valley bottom itself. Views from Bald Mountain, Shaffer Mountain, or Antelope Mountain offer a highly scenic interest. There is a sharp contrast between the landform features of the rocky, volcanic hills and the rich, alluvial plain of the valley bottom. This visual impact is emphasized by the associated contrast brought about by divergent plant communities--the brush-covered hills, the meadowlands and riparian areas along the watercourses, and the verdant cultivated fields.

The presence of the broad, treeless shore of Honey Lake, as well as the lake itself, makes an important contribution to the viewshed. This is heightened by the Susan River, with its web of sloughs and offshoots in its delta, and Willow Creek.

Negative exceptions to the scenic quality of the area could be considered to include the following situations: residential, commercial, or industrial property which is abandoned or in disrepair; junkyards; borrow pits; areas devastated by fire; or blighted areas.

U.S. 395 and a broad area at least a mile wide on either side through the Planning Area have been recommended for scenic highway designation in Lassen County General Plan (1968).

Resource Assessment

Map IIH-1 provides a graphic assessment of the Planning Area's scenic resources. The class designations used in this assessment combine several elevation elements including: judgment of inherent scenic quality, character and diversification; sensitivity in regards to the amount and type of public exposure to the particular landscape; the distance at which a landscape is perceived (foreground, middleground, background); and the existing extent to which an area's scenic quality is impacted. The first three classifications, Classes I through III, are relative to each other and are employed here to highlight landscapes having the most significant scenic resource values. The fourth classification, Class IV, is used to indicate areas in which visual elements are related more to urban-type development than to essentially natural landscape oriented scenic elements.

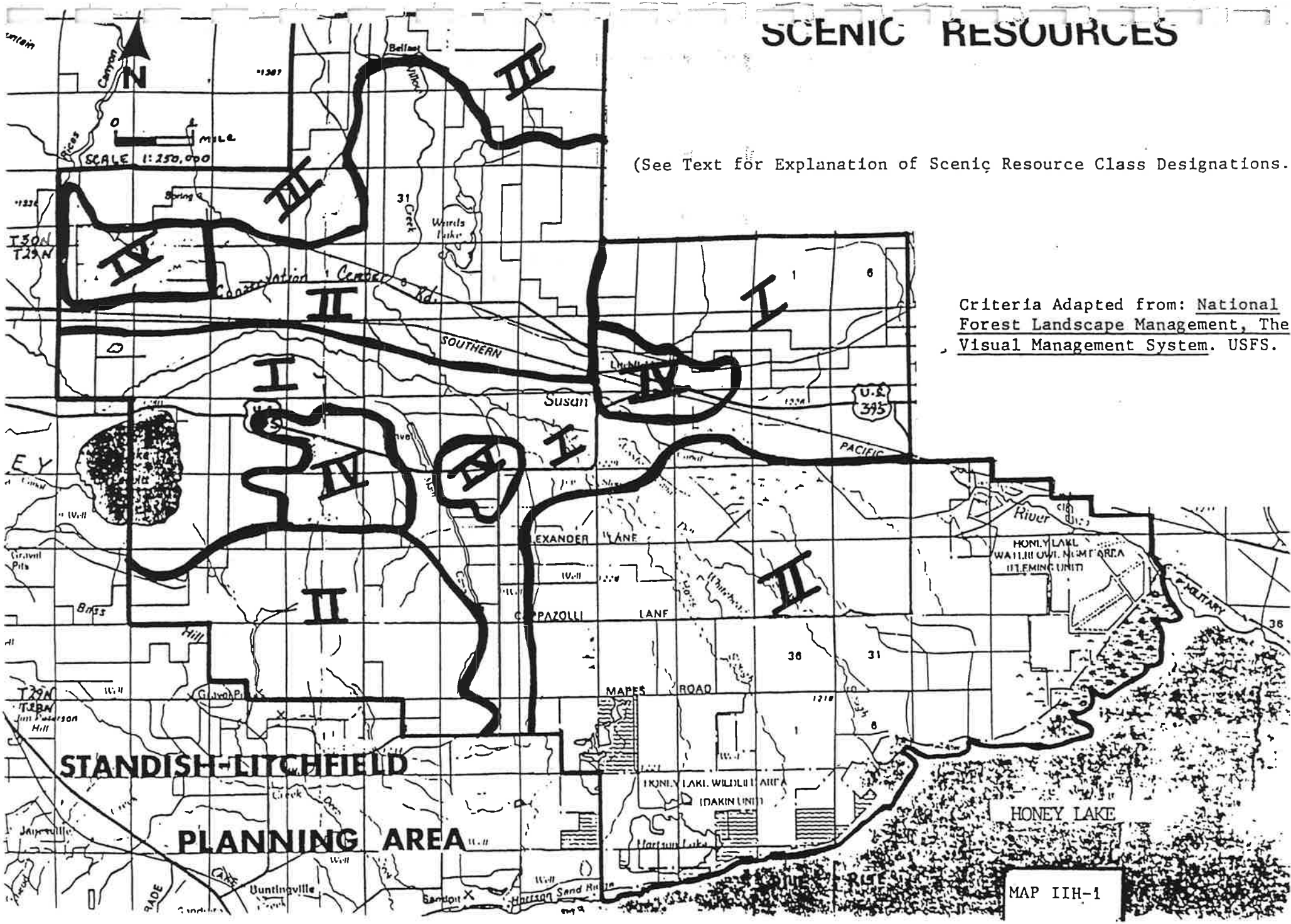
No attempt has been made to quantify beauty or one's perception of beauty, since these are qualitative variables.

The following discussion addresses the scenic elements within each classification as designated on Map IIH-1.

Class I. The classification of Class I is given to areas which have one or more of the following scenic resource features:

1. Contains distinctive landscape features;

SCENIC RESOURCES



2. Is subject to significant amounts of public exposure, especially in foreground and middleground zones (e.g., along state highways);

3. Large percentage of observers (e.g., tourists) have high expectations and sensitivity for scenic quality.

Public exposure to this area is high, especially along Highway 395 as evidenced by the range of traffic counts (see Section IIIF). Many travellers can be described as recreational. This may increase the relative sensitivity of the observer. Because of the inter-regional and recreation intention of much of the highway traffic, as well as its more localized commuter and commercialized uses, areas visible to travellers are classified as Class I.

Class II. These areas have one or both of the following scenic resource characteristics:

1. Scenic value relatively common to the region;

2. Average sensitivity due to location near local travel routes and residential areas.

The scenic values of Class II areas are more-or-less common or characteristic of the region. Public exposure is of a relatively local nature, or the areas fall into a far middleground or background distance zone with low prominence from significant amounts of public observation. It should be noted, however, that much of the Class II areas are visible from primary routes at a distance and that disruptive visual elements could impact the scenic quality in a manner similar to impacts in the more visually sensitive Class I areas. Potential impacts are relative to distance and scale. Subdivisions, mobile home parks, power line corridors, etc., having outlines and large scale forms not in character with surrounding landforms, or large buildings of discordant colors or reflective materials, can have significant visual impacts at considerable distances.

Class III. These areas have one or both of the following scenic resource considerations:

1. Landscapes have relatively minimal scenic distinction from scenery characteristic of the region;

2. Have low visual sensitivity because of very low levels of public exposure due to isolation of the area.

Because of topography and the lack of roads in these areas, the Class III areas have relatively minor amounts of public exposure. Landforms and vegetation are generally common to the immediate region and lack distinctive variation or contrast.

Class IV

Evaluation of the visual character of lands containing development of urban character is relatively more complex than an assessment of scenic resources in basically undeveloped landscapes. Areas of residential, commercial, and industrial character, or mixtures of these uses, have specific and unique concerns regarding visual quality and impacts. Visual elements are related largely to structural and layout scale and design, landscaping, and general upkeep of structures and grounds. On Map IIH-1, these areas have been designated as Class IV.

C. Relevant Sections of 1981 Original Mining Project EIR

DESCRIPTION OF PROJECT

(Section 15141)

Proposed project site is located in portions of Section 32 and 33, Township 30 N, Range 14E., M.D.B.M., (Project Area Maps #1,1A,1B,1C/pages 12-15), one-half mile east of Ward Lake Road (County 308), northwest of Litchfield, California, in the County of Lassen. The access road proposed is a sixty foot wide strip running easterly from County Road 308 between privately owned parcels in Sections 32 and 33; and, connecting with an old existing haul road into the project site. The materials source and plant sites are in Section 33 and limited to an area of approximately eighty acres total.

STATEMENT OF OBJECTIVES

The objective of locating a crushing and hot plant facility at this particular site is to utilize an exceptionally good materials source as stated in the "Summary" Section. Currently, the nearest producer of asphaltic materials is thirty-three miles south of Susanville in the Doyle area of Lassen County. Costs of diesel fuel consumed by trucks hauling into local job sites is escalating rapidly along with all crude oil products. These fuel increases are being absorbed in the form of higher "per ton" prices to the consumers of paving products; i.e., primarily the Federal, State, County, and City agencies responsible for road maintenance and improvements. The proposed plant site would be approximately fourteen miles East of Susanville which puts it in close proximity to the major areas of immediate growth and planned transportation projects (Appendix C/pages 77-82).

In addition to the shorter hauling distance, test results of the rock source indicate a reduction in the amount of asphaltic oil required to produce specification material (Appendix D/page 83-84) as compared to other known sources locally. At this time of energy conservation awareness, savings on the useage of crude oil and petroleum based products is of major significance.

Applicant proposes locating a hot plant at the rock source in order to reduce excess handling of aggregates before mixing with the asphaltic oil thereby reducing the pollution which occurs when unmixed aggregates are hauled over public roadways for introduction into an asphalt plant. A major source of air contaminates is unpaved roads; and, such paving is often delayed due to the undercapacity and lack of existing asphalt sources. Projected growth indicates a market for road base and concrete aggregates as would be produced by the rock crushing operation in addition to the asphaltic concrete aggregates. Compliance with air quality standards would be accomplished through the use of pollution control devices; noise abatement plans and controls for "fugitive emissions" such as dust.

ENVIRONMENTAL SETTING

(Section 15142)

Topography

The project site is located on the southwesterly reaches of Shaffer Mountain on a gentle to moderately sloped area. The proposed access road begins one-half mile east of Ward Lake off of County Road 308 (Ward Lake Road) and continues easterly to the project area. Adjacent properties are privately owned parcels to the west and north; and, Federally managed by the Bureau of Land Management to the east and south. The immediate surrounding properties are without current development. Lower areas to the west and south, have been, in part, utilized for ranching and farming operations. A low ridge separates the actual plant sites from surrounding lands eliminating a direct view of planned operations (Exhibit I - Photographs/ pages 41-43). The nearest known inhabitant to the site is at a distance of approximately one mile.

Four miles to the west is the California Correctional Center, California State Prison System Facility; and, three miles to the southeast lies the unincorporated farming community of Litchfield. To the south lies the Honey Lake Basin with the southernmost peak of the Cascade Range to the northwest and Sierra Nevada Range to the south. Fourteen miles west lies the City of Susanville, the County Seat, with population unofficially stated at 6,516 people.

Lassen County is located in the northeastern section of California and encompasses 4,561 square miles. It shares a common boundary to the east with the State of Nevada; bounded on the north by Modoc County; west by Shasta and Plumas Counties; and, on the south by Sierra and Plumas Counties. Major industries are agriculture and timber with recreational land useage showing increased yearly growth.

Geology

The project site is located where the Modoc Plateau meets the Great Basin. This is an area of cenozoic volcanic rock, the lower levels of which have been converted to gravels by shoreline action on ancient Lake Lahontan. The deposit to be mined is located just above the high water line of Lake Lahontan in a large deposit of Pleistocene volcanic basalt. The deposit appears as ledge rock, the exposed edges of a volcanic flow. (Map #2-A, "Areal Geology"/Page 23).

Soils

Mr. Wayne Henderson of the Soil Conservation Service Survey Office, Susanville, provided a map for the adjacent land up to and including a portion of Section 32. (Map 2B/page 25 and Appendix E/Pages 85-90) Although Section 33 had not been surveyed to date, the adjoining sections appear (from observation) to be very similar in nature with the exceptions of ledge rock formations (described under "Geology") and the greater slope percentages encountered. The fairly flat area to be used for crusher, asphalt, and stockpile sites consists of 0 to 4% slopes; areas to be utilized for excavation of materials would be divided between 16-20% and over 20% slopes.

Areas of 5 to 31% slopes have a surface texture which is cobbly and light for a depth of 20 to 36 inches with moderately rapid permability of the subsoil; slight erosion; and, low available waterholding capacity. A "Land Capability Classification" of Vl/e8 indicates severe soil limitations, generally unsuitable for cultivation due to erosion; and, root zone limitation due to hardpan or bedrock.

Areas of 0 to 4% slopes show light surface texture soils with a depth of 60 inches plus with moderate available waterholding capacity; wind erosion; moderately rapid to moderate permability of the subsoil. Additional "Land Capability Classification" shows limitation in portions of Section 32 due to coarse surface texture and low water holding capacity which would require conservation practices in order to utilize for cultivation.

Underlying materials in the general area are lake deposits; and, there are also some sections, not directly adjacent to the project site, which show slight alkalinity. (Refer to Appendix E/pages 85-90, for complete information)

Earthquake Activity
Thermal Properties

Faults in the area trend in a northwesterly direction with a few faults shown to trend northeasterly. The fault shown near the project site as a solid dark line (Map #2C "1"/page 26) is PreQuaternary (older than two million years) or without recognized Quaternary displacement. There has not been any activity ascertained; and, it is considered inactive. The fault shown by the broken line (Map #2C "2"/page 26) is a Quaternary fault displacement of less than two million years old without any historic (past two hundred years) record of activity. The "Litchfield Fault" which follows County Road A27, south of the

proposed project, is also a Pre-Quaternary Fault. For clarification on locations and references to #1 and #2 faults, refer to the "Fault Map of California", California Geologic Data Map Series Map 1 (Map#2C/page 26); and, "Areal Geology of the Honey Lake Valley Groundwater Basin"(Map#2A/ page 23-24). Thermal wells and springs exist in the Wendel and Susanville areas; however, there are no known wells or springs in the project site or adjacent lands.

Climate

Climatological Observation Records were obtained from the California Department of Water Resources Office in Red Bluff, California, for the two recording stations in close proximity to the proposed project; i.e., the California Correctional Center and the Fleming Unit of the California Department of Fish and Game, Honey Lake. (Appendix F/page 91) These records indicate July as having the warmest monthly tem perature averages (High, 89.1^{O}F; Low, 48.6^{0}); and, January with the lowest monthly temperature averages (High, 42.5^{O}F; Low, 23.6^{O}F). The Soil Conservation Service Records (Appendix G/page 92) state the annual precipitation to be between ten to twelve inches. Primary precipitation occurs from October thru March in the form of rain and light snow. From notations in the Climatological Observations and communication with the Susanville Airport, prevailing winds are from the West and Southwest (260° to 290°).

Hydrologic Conditions

There are no existing streams or bodies of water within the project boundaries. Examination of Map # 2D/page 27, "Potential for Development of Groundwater - Honey Lake Valley Ground Water Basin", shows the area falling into "Class C"; i.e., a fair area for development of ground water. Map #2E, page 28, "Generalized Lines of Equal Elevation..." puts the site out of the upland recharge areas and only partially within the groundwater basin boundaries. As covered under "Soils", the waterholding capacity is low to moderate. Some small drainage basins (water collection areas) exist in Sections 28 and 29 at the base of Balls Canyon. Approximately 20% of the planned project area is of a level configuration; and, proposed sites would drain northerly toward Balls Canyon.

Wildlife

Pronghorn Antelope, Mule Deer, Valley Quail, Chuckar, Cottontail and Dove are the game animals and birds found in the project type habitat. The Great Basin Life Zone also supports numerous non-game mammals, birds and reptiles. A complete list of those likely to occur may be found in Appendix "I", pages 94-95, which was furnished by the Bureau of Land Management Wildlife Biologists' office, Eagle Lake District, Susanville.

The California Department of Fish and Game has expressed concern over the importance of the proposed project as it will effect the Antelope winter range, various game birds, and mammals known to exist in the area (Appendix J, Page 96). Discussion of the effects and mitigation relative to wildlife may be found in the Environmental Impact Section of this report (#15143, pages 30-35).

Archaeology

Due to earlier concern expressed over the possibility of Petroglyphs and the proximity to known historical sites, the applicant contacted Dr. Mark Kowta, Regional Officer of the California Archaeological Site Survey, in Chico. Following discussion with Dr. Kowta, it was deemed adviseable to hire an independent recognized archaeologist to conduct a complete archaeological reconnaissance and evaluation of the proposed project area. Trygve Sletteland of ECO, Redding, conducted the study and his complete report is included as Exhibit II (pages 44-73) of the Environmental Impact Report. No new historical sites were discovered during the survey; however, reference is made to two known sites which are approximately one mile from the project (CA-Las-36 and CA-Las-184). In conclusion to this report, the Archaeologist recommended that the applicants "proposed land use be given archaeological clearance since no cultural resources were identified during an archaeological survey of their project area".

Historical

A review of the "National Register of Historic Places" revealed no known historic places within the project area. The State Parks and Recreation Booklet, "California Historical Landmarks", was also reviewed and showed no landmarks within the proposed site. In response to an inquiry addressed to the Lassen County Historical Society, a letter was received indicating no known sources of cultural importance present (Appendix K, page 99). A letter was also addressed to the Susanville Indian Rancheria (carbon to the Bureau of Indian Affairs) requesting any information regarding possible cultural resources located in the proposed project area (Appendix L, page 100) to which no reply was received. If anything of importance, historically or archaeologically ,

should be discovered in the course of set-up, operation, excavation or processing of materials (should the project be approved), the proper authorities would be notified.

Transportation

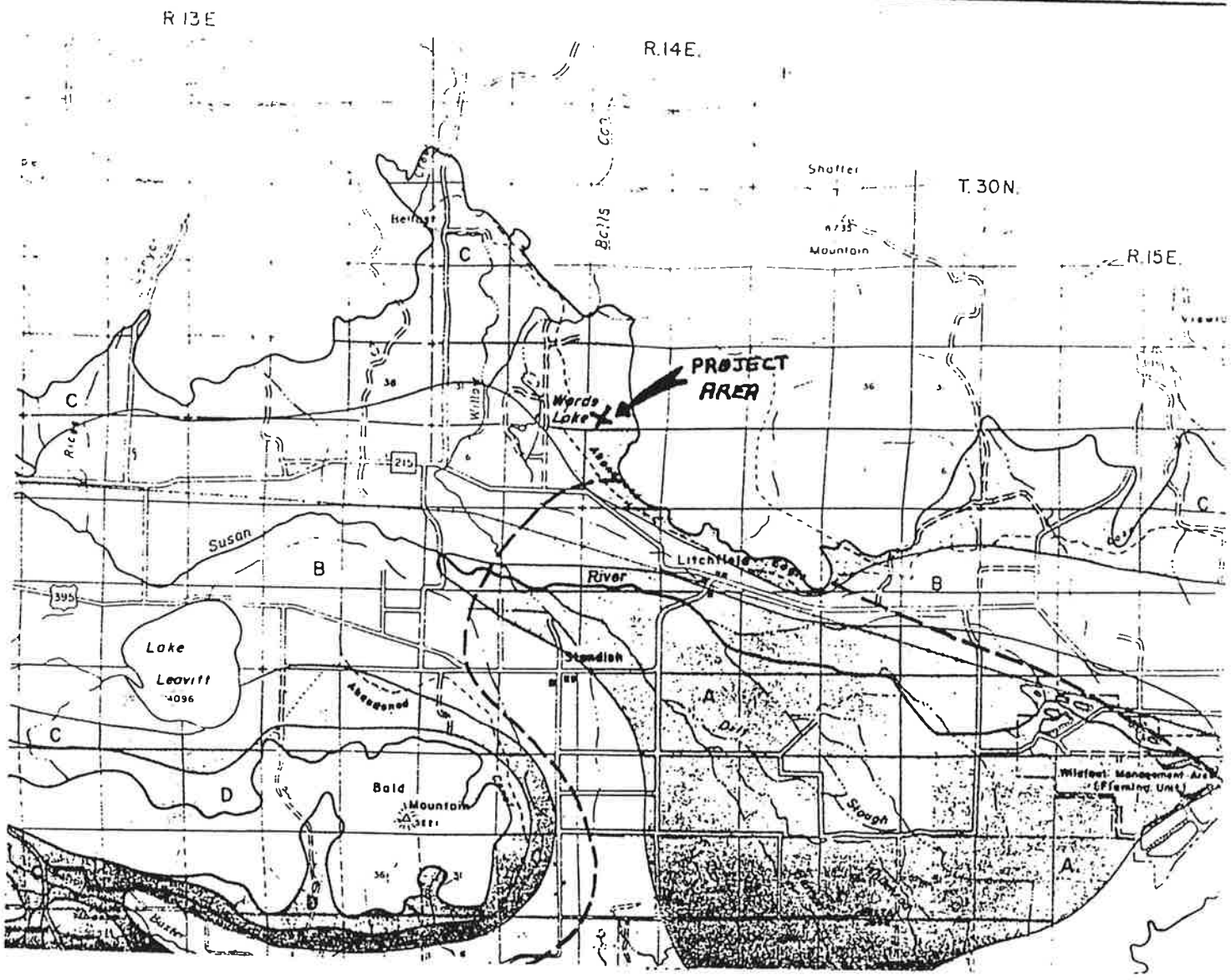
Road Systems - Traffic Volume

County Road A27, Conservation Center Road, extends from the urban limits of Susanville to State Route 395 near Litchfield. Conservation Center Road is functionally classified as a "major collector" type route according to the "Regional Transportation Plan for Lassen County (1980)", Appendix M, page 101, with an estimated traffic volume of 100 vehicles per day. This road has no special weight restrictions other than a legal load limit of 80,000 lbs. County Road 308, Ward Lake Road, runs northerly off of A27 serving the few residents of the area and providing access to Ward Lake and surrounding properties. It is of a gravel surface for approximately one-half mile directly off of A27; and, then becomes a dirt roadbed. Legal load (80,000 lbs) is the only weight restriction. Presently, the County of Lassen maintains the road by blading and adding surface gravels as required. The proposed access road to the project area is one-quarter mile beyond the last resident's approach and is currently a bladed dirt road joining with an old existing haul road (Project Area Map #1-C, page 15).

Utilities

There are no existing sources of power or water on or to the project site. Power would be extended beyond existing lines for approximately one-quarter mile along Ward Lake Road to the proposed access road;and, thence easterly to the plant site. Expense of obtaining electrical services would be the responsibility of the applicant; and, would ultimately provide closer access for properties beyond the present system.

A well or wells would be necessary to fulfill water requirements. The proposed use of settling and recirculating ponds for the washing operation would significantly reduce water volume requirements. Total daily useage would be estimated at 10,000gallons. Proposed management of waste water from any gravel washing operations will be addressed in Section 15143, Environmental Impact. There are no sewage facilities in the project area; and, it is not anticipated any waste disposal system other than portable units will be warranted. These would consist of chemical toilet systems, pumped and removed by a commercial sanitation firm. Surrounding properties which are occupied obtain water thru individual wells; and, waste is handled in private septic systems.



LEGEND

A — BEST AREAS FOR DEVELOPMENT OF GROUND WATER
Properly constructed wells located in "A" Zone areas should yield sufficient quantities of ground water for irrigation purposes.

B — GOOD AREAS FOR DEVELOPMENT OF GROUND WATER
Properly constructed wells located in "B" Zone areas should yield sufficient quantities of ground water for most irrigation purposes. Yields generally will be somewhat less than in "A" Zone areas.

C — FAIR AREAS FOR DEVELOPMENT OF GROUND WATER
Properly constructed wells located in "C" Zone areas may yield sufficient quantities of ground water for limited irrigation purposes. Yields should be sufficient for domestic and stock-watering purposes, but generally will be substantially less than "A" or "B" Zone areas.

D — POOR AREAS FOR DEVELOPMENT OF GROUND WATER
Properly constructed wells located in "D" Zone areas may yield sufficient quantities of ground water for domestic or stock-watering purposes. The possibility of dry holes is much greater in "D" Zone areas than other zones.

WATER QUALITY HAZARD AREA.

VALLEY FLOOR AREA BOUNDARY.

STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
NORTHERN BRANCH

NORTHEASTERN COUNTIES
GROUND WATER INVESTIGATION

POTENTIAL FOR DEVELOPMENT OF GROUND WATER HONEY LAKE VALLEY GROUND WATER BASIN 1962

SCALE OF MILES
0

A. SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT CONTINUED...

There will be a cumulative environmental impact on wildlife related to the following factors:

1) removal of vegetation along access roads and within project site limits

2) increased levels of noise, disturbance and activity within the project area and upon access roads with subsequent indirect effects (long-term) upon the native wildlife species.

B. SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED IF PROPOSAL IS IMPLEMENTED.

Due to the characteristics of rock quarry/crusher operations, changes in existing topography cannot be alleviated. Reclamation plans as discussed under "Mitigation Measures" (C.) will be implemented to reduce these changes to an acceptable level. Although mitigation measures will be applied to reduce noise and air contaminant levels within the project area and must be within OSHA regulations for the protection of employees, noise and emission sources not previously existent will be present if operations are commenced.

Traffic volume on a previously "little-used" road and noise created by same cannot be eliminated or effectively reduced if the project is approved. Exposure to the increased traffic would require new awareness on the part of occasional users of County Road 308; and, safety measures, including speed limitations, established to minimize the adverse effects of heavier useage.

Approval of the project would necessitate removal of sparse vegetation on access roads and within project site limits eliminating an existing marginal source of food for wildlife. Increased noise and activity will effect the wildlife species known to be found in the project and surrounding areas. The seasonal operation anticipated on the project (refer to "Mitigation Measures") will reduce, but not eliminate, this impact.

Increased traffic and the proposed plant activities (even though not directly adjacent to occupied lands) would have an indirect long term effect on the existent environmental setting (aesthetics) which cannot be circumvented. Crusher and Hot Plant operations are functional rather than decorative.

C. MITIGATION MEASURES PROPOSED TO MINIMIZE SIGNIFICANT EFFECTS

Topographical changes within the designated "source" areas which will result from excavation of rock would be reshaped and steep slopes reduced to a maximum of 2:1. Reshaping and reseeding of excavated areas would be implemented on a continuing basis as removal of materials proceeds and is based upon an average

area to be disturbed of one acre annually. Co-operation and assistance from both the California Department of Fish and Game and the Soil Conservation Service would be sought in order to determine the most suitable range grasses to be used in the reseeding process to allow for return of the land to suitable grazing and for efficient erosion control. Any blasting required would be done by individuals who are State Licensed.

The crushing operation will have no contaminants to dispose of; however, waste materials in the form of reject aggregates and fines would be spread evenly over the excavated areas before reseeding takes place. Settling ponds would be utilized for reclamation and drainage controls for wastewater discharged from gravel/aggregate washing operations. The fairly level location selected for the plant would have a northerly sloped area adjacent to be used for drainage to water reclamation ponds. Dependent upon the material source, aggregate base and the majority of asphalt aggregates would not require a washing operation; however, washing of high specification asphalt aggregates and concrete aggregates would be anticipated. Through the use of settling and recirculating ponds, water useage when required for aggregates can be estimated at 10,000 gallons per day. As a comparison, the United States Census Bureau (1978) Census of Agriculture shows that out of 185 farms reporting for Lassen County, the average farm has 230 acres of harvested cropland. Based on 158 days per year requiring irrigation, the season total was 150,000,000 gallons of water per 230 acre farm; or, 950,000 gallons per day (4,130 gallons per acre daily). These are generalized figures from the Soil Conservation Office and were based upon a mixed crop of grains and alfalfa since the irrigation requirements differ greatly between these crops.

Ambient dust particulates related to crusher and hot plant operations would be minimized by utilization of corrective measures including, but not limited to, the following: treating stockpile surfaces with water; providing wind breaks of dirt; placement of fine aggregates between coarse aggregate piles to screen from prevailing winds; planning of plant layouts to take advantage of natural or existing windbreaks; careful operation of loading and hauling equipment to prevent generation of fugitive dust.

Normal contained moisture is usually sufficient to avoid airborne particles when aggregates are introduced into a hot plant. Should this not be sufficient, however, covering of conveyors or enclosure of the cold feed elevator would eliminate the problem. In asphalt plants, the "hot elevator" conveys the dried, dusty material to the screening unit. Elevators can be housed-in and dust collection systems utilized to prevent emission into the atmosphere. Environmental control systems are available for incorporation into older model asphalt plants and built-in into newer models in order to meet the stricter air pollution control standards enforced in metropolitan areas. Primary collectors and secondary pollution control devices (baghouse, dry dust and wet washer systems) are used to control stack emissions. Fumes, vapors and odors are not normally sufficient to be of environmental concern; however, even these can be kept to a minimum by regulating the distance of fall between discharge points (pugmill and storage hoppers) into trucks.

Present Federal Air Pollution Control Regulations generally prohibit the use of high sulphur content in fuels which in turn removes the source of former hot plant "stack odor" problems. Asphalt and fuel storage tanks would be kept closed at all times, maintained in clean condition, and care taken to avoid spillage or leakage. Any contaminants from hot plant and/or fuel tanks would be contained, removed from the site or buried. Compliance with all Federal and State Agencies including the filing of reclamation, wastewater, and discharge plans would be required prior to commencement of operations. Plant installations require "source tests" to measure emission levels prior to issuance of a "permit to operate" by the Air Resources Quality Control Officer. Application for "Surface Mining Permit and Reclamation Plan" was filed with Lassen County in April of 1980.

Noise generated by the many moving components of crushers and hot plants when in operation cannot exceed a 90 db (decibel) level at the property lines in accordance with Federal Regulations. General plant noise can be further reduced through application of various corrective measures. Keeping components in good repair and proper adjustment, application of noise absorption materials, enclosure of known sources with noise barrier covers, use of exhaust mufflers, vibration isolation mounts, and proper lubrication are among many possible methods of reducing noise within the plants.

Access and haul roads as well as the plant site would be paved as soon as feasible to eliminate the primary complaint of dust which results when equipment and trucks operate on unpaved areas. Actual timing of paving these areas

would be governed by the volume of production and hauling warranting this improvement and subject to review and recommendations of the Planning Commission. Use of water trucks on any unpaved portions of the project area is anticipated; and, vehicle speed within the site controlled at 10 MPH to avoid creation of unnecessary dust.

Water or dust oils would be applied to County Road 308 (Ward Lake Road) by the applicant as required to alleviate dust from truck traffic and would continue until such time as paving is required. "Stop" sign would be installed at the junction of the access road with Road 308 by the applicant and if warranted, "Truck Crossing" warning signs placed along the County Road. Speed on County Road 308 from the plant access point to A-27 would necessarily be limited to approximately 25 MPH due to the road conditions and the short length(approximately one mile) encompassed. Trucks hauling materials would not exceed the legal load limit allowed of 80,000 lbs. gross weight.

It is impossible to accurately predict the amount of aggregates or asphaltic concrete which would be produced and hauled during an anticipated working season of April through October. Local demands could average five loads per day whereas a major road construction project may require twenty loads or more per day. Although the number of "working days" allowed on a large scale project can range from 45 to 150 plus, the actual days required for the hauling of base aggregates or asphaltic concrete for paving may be very limited. As an example, the paving contract for Eagle Lake Road, County 201, in the Summer and Fall of 1980 allowed ninety working days. Sixty-eight were used by the Contractor for full completion of the job; however, the paving operation phase (hauling and placing of asphaltic concrete) required only five days to complete the 3.8 miles of road on the project.

Mitigation of the projects impact upon existing species habitat is a complex issue and requires establishment of background information for a perceptive assessment.

Mr. Thomas Stone, Associate Wildlife Biologist in the Redding Office of the California Department of Fish and Game, supplied information and documentation relative to the game wildlife species generally known to exist in the type of habitat found in the project and surrounding land areas. Antelope, mule deer, valley quail, chuckar, cottontail rabbits and dove are the game animals and birds of concern. Antelope, deer and chuckar useage is basically limited to winter range; whereas, quail and rabbit occur throughout the year. A complete copy of "A Deer Migration Study in Lassen County, California" was furnished by Mr. Stone. The study, prepared by Ken Conrad, Assistant Wildlife Manager Biologist, covered a project conducted in 1971-72. Included in the report is a Migration

Continuation of response to Air Resources Board....

Mitigation measures proposed to reduce fugitive and particulate emissions are found in the Draft E.I.R., pages 31, 32 and 33.

April 6, 1981
State of California Office of Planning and Research
(Appendix F-0, Page F43-44)

California Department of Fish and Game (Page F45)

COMMENTS: "The DEIR adequately assesses the wildlife impacts of the project."

California Department of Conservation, Mines and Geology (Page F46)

COMMENTS: "Draft E.I.R. adequately described the geology and seismology"... and the "reclamation plan was found to conform adequately to the model reclamation plan in Special Publication 51,..."

Department of Health, Office of Noise Control (Page F 47-48)

COMMENTS:

1) "What Federal Regulation is being referred to? regarding statement on Pg. 32 of Draft E.I.R. that equipment noise cannot exceed 90 dBA at the property line

2) Specific noise levels anticipated at the site's property line; and, are they compatible with the Lassen County Noise Element?

3) Estimate of range of noise levels at project site and on adjacent roads created by trucks and impact of such noise levels on the residents of Litchfield and Susanville; and, compatability with noise elements, if applicable, in their General Plans.

4) Description of mitigation on noise levels, sources and sensitive receptors.

RESPONSE:

1) Regulation referenced was Section 1910.95 of the Federal OSHA Act of 1970, concerned with noise exposure to the worker rather than ambient noise. The Environmental Protection Agency (EPA) initially wrote noise legislation essentially limited to noise at and beyond the property line rather than on-site noise. Currently, the EPA is encouraging State and local governments to take over writing of this legislation.

2) Maximum noise levels at plants normally occur at the burner and blower locations. At a distance of three feet, maximum levels range from 90-120 dB on the "C" scale. Most burners today are automatic or remotely controlled with the operator located some distance away in a control house where exposure level is reduced. The proposed plant lay-out locates these greatest sources of noise approximately 1500 feet from the property line. Although the applicant has no exact model for plant installation in mind at this time, it can be assumed a typical 300 ton per hour model provides noise level information as accurately as is feasible. Technical details and a chart relating how the decibal (A weighted) level was determined are found in Appendix F=S, pages F54-56. At 1500 feet, this particular model had a dBA of 70 without allowances for sound absorption from topographical/terrain sources. The terrain can be expected to lower this level by a minimum of 5 decibals bringing it into conformance with the Noise Element Portion of the Lassen County General Plan which sets a standard of 65 dbA at the property line for this land use classification.

D. July, 1996 Early Consultation Comments

1. APCD
2. California Regional Water Quality Control Board
3. Spill Prevention Control and Countermeasure Plan
4. California Department of Fish and Game (includes 1994 letters also)
5. NST Engineering - Noise Measurements
6. Lassen County Department of Public Works - Traffic Report
7. Caltrans
8. Northeast Center of the California Historical Resources Information System
9. Everd McCain

Department of Agriculture

County of Lassen

• AGRICULTURE • WEIGHTS & MEASURES • UNDERGROUND STORAGE TANKS • PREDATORY ANIMAL • AIR POLLUTION

KENNETH R. SMITH, Commissioner
175 Russell Avenue
Susanville, CA 96130

☎ (916) 251-8110

RECEIVED

JUL 11 1996

Lassen County
Department of Community Development

July 10, 1996

TO: Bob Sorvaag

FROM: Ken Smith

RE: Miller's Custom Work, Inc.

As far as I can tell, the district has this facility fully permitted. They have been subject to AB2588 (Air Toxics Assessment) and been evaluated for Title V (Federal Operating Permit) requirements.

Lassen County

AIR POLLUTION CONTROL DISTRICT

PERMIT TO OPERATE

Date 1-1-9[illegible] Permit _____

Name MILLERS CUSTOM INKS
WARD LAKE / GRAVEL PIT /
CONCRETE PLANT

Issued by [signature]

THIS PERMIT EXPIRES 1 YEAR FROM ABOVE DATE YEAR

MILLER'S CUSTOM WORKS
CONCRETE PLANT
WARD LAKE
PERMIT CONDITIONS
1996

1. Not more than 7,000 cubic yards of concrete shall be processed annually.

2. Aggregate charged and/or processed shall be kept sufficiently moist to prevent visible dust emissions.

3. Dust collected by the baghouse filter shall be discharged into closed containers only.

4. Cloth bags in the baghouse shall be cleaned and/or replaced periodically.

5. Annual operation shall be limited to from March 1-December 31, as stated in the County Use Permit.

January .1, ~~1991~~ 96

PERMIT CONDITIONS FOR MILLERS CUSTOM WORKS

WARD LAKE PLANT

1. Millers Custom Work shall apply water to all roads on the plant site which are being used during plant operation. All roads being used shall be wet at all time without exception. Additionally, stockpiles of sand, gravel, etc. should also be watered when feasible.

2. Millers Custom Work shall install or replace any and all metal flashing around hoppers, conveyors or fans in order that fugitive dust resulting from operation of the plant is reduced to a level which is in compliance with District Rule 4:18. Installation or replacement of such metal flashing shall occur prior to startup of the plant in 1991. Additionally, Miller Custom Work shall notify the Lassen County Air Pollution Control District at the start of the first days of operation in 1991, so that an inspection can be made of the plant sites to determine compliance with this condition.

3. Millers Custom Work shall contract with a California Air Resources Board certified private contractor for a compliance test at the Ward Lake facility to determine compliance with Lassen County Air Pollution Control District Rule 4:3 (Grain Loading Rule-0.3 grain per cubic foot gas). This test shall be performed prior to expiration of this Temporary Permit to Operate on June 30, 1991.

Kenneth R. Smith
Air Pollution Control Officer1

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD - LAHONTAN REGION
2092 LAKE TAHOE BOULEVARD
SOUTH LAKE TAHOE, CALIFORNIA 96150
(916) 542-5400 FAX (916) 544-2271

RECEIVED
JUL 16 1996
Lassen County
Department of Community Development

July 12, 1996

Mr. Richard Simon
Lassen County Planning Department
707 Nevada Street
Susanville, CA 96130

Dear Mr. Simon:

COMMENTS ON NOTICE OF EARLY CONSULTATION FOR MILLER'S CUSTOM WORK, INC., LASSEN COUNTY APN 109-100-40

Thank you for the opportunity to comment on the above-referenced project. Based on the Notice of Early Consultation (NEC), we understand that the proposed project consists of re-permitting an existing surface mining operation to reflect current and future operations. The project includes quarrying, excavating, crushing, screening, washing, stockpiling, and the on-site production of asphalt concrete and ready mix concrete. Based on the NEC, we have generated the following list of potentially significant impacts and possible mitigation measures. Please keep in mind that these comments are provided based on the relatively brief project description provided in the NEC:

1. Potential Impact: If not contained on-site, storm and process water runoff may carry pollutants from the project site to surface waters. For purposes of these comments, process water refers to any water used as part of the industrial process and includes rinse water from concrete trucks. Potential pollutants include sediment, cement, and hydrocarbons.

   Potential Mitigation: Provide on-site containment of storm and process water runoff, thereby precluding the discharge to surface waters. Process water runoff should be segregated from storm water runoff (see No. 2, below).

2. Potential Impact: Degradation of ground water quality resulting from the percolation of storm and process water runoff containing pollutants.

   Potential Mitigation: Provide pretreatment (sedimentation, oil/grease removal) of storm water runoff containing pollutants prior to discharging to containment/percolation basins. Precast sand/oil interceptors may be an acceptable means for providing pretreatment of storm water runoff. Pretreat storm water runoff from areas subject to hydrocarbon deposition (fueling areas, parking areas, heavy equipment storage areas). Precast drop inlets with inverted outlet and hydrocarbon absorbent pillows may be an acceptable means for hydrocarbon removal. Provide non-percolating containment (such as lined evaporation ponds) for process water runoff.

3. Potential Impact: Degradation of storm water runoff from industrial activities.

Potential Mitigation: Divert non-impacted runoff (runoff from upland areas) around areas of industrial activities. Provide diversionary structures (earthen berms, culverts) as necessary to minimize contact with industrial activities. Limit areal extent of industrial activities.

4. Potential Impact: Discharge of hazardous materials (including fuels, hydraulic fluids, etc.) to surface and ground water.

   Potential Mitigation: a) Identify all hazardous materials to be stored on-site; b) Prevent or reduce the potential discharge of pollutants from material delivery and storage by minimizing the storage of hazardous materials on-site, storing materials in a designated area, installing secondary containment, conducting regular inspections, and training employees and subcontractors; c) Develop and implement a Spill Contingency Plan for hazardous materials stored on-site; d) Maintain a Spill Cleanup Kit on-site.

5. Potential Impact: Degradation of surface waters resulting from the deposition of fugitive dust (wind erosion).

   Potential Mitigation: Provide dust control where feasible.

6. If the proposed project has the potential to discharge runoff to surface waters, then the project proponent must obtain an National Pollutant Discharge Elimination System (NPDES) Permit for stormwater discharges from the proposed activities. The project proponent may obtain coverage under the State Water Resources Control Board's (SWRCB) General NPDES Permit for the regulation of industrial activities (enclosed). To obtain coverage under the General NPDES Permit, the project proponent must submit specific information to the State Water Resources Control Board. The required information is listed in the enclosed packet. Failure to obtain the necessary storm water permit, or failure to comply with the provisions of the applicable permit may result in enforcement actions, including Regional Board assessment of civil monetary remedies. (If the project proponent believes that runoff from the project area will never enter surface waters, including wetlands and ephemeral drainages, then they shall notify the Regional Board of these findings in writing.)

Thank you for the opportunity to provide comments on this project. If you have any questions or comments regarding this letter, please contact me at (916) 542-5429 or John Short at (916) 542-5436.

Sincerely,

Chris Stetler, P.E.
Associate Water Resources Control Engineer

Enclosures: General Industrial Activities Storm Water Permit

cc: Darrell Miller

CCS/sh25-miller.com
[Lassen County General]

SPILL PREVENTION CONTROL & COUNTERMEASURE PLAN

PART 1
GENERAL INFORMATION

1. Name of facility MILLER'S CUSTOM WORK

2. Type of facility ASPHALT/CONCRETE PLANT

3. Location of facility LASSEN COUNTY CA

4. Name and address of owner or operator:
   Name MILLER'S CUSTOM WORK
   Address 471-825 DIANE DRIVE
   SUSANVILLE, CA 96130

5. Designated person accountable for oil spill prevention at facility:

   Name and title JOE MARTINEZ - OPERATOR

6. Facility experienced a reportable oil spill event during the twelve months prior to Jan. 10, 1974. (effective date of 40 CFR. Part 112). (If YES, complete Attachment #1.) NO

MANAGEMENT APPROVAL

This SPCC Plan will be implemented as herein described.

Signature Jim Miller

Name JIM MILLER

Title OWNER

CERTIFICATION

I hereby certify that I have examined the facility, and being familiar with the provisions of 40 CFR. Part 112, attest that this SPCC Plan has been prepared in accordance with good engineering practices.

(Seal) REGISTERED PROFESSIONAL ENGINEER JEFFERY MORRISH No 36929 Expires 6/30/95 CIVIL STATE OF CALIFORNIA

JEFFERY MORRISH
Printed Name of Registered Professional Engineer

Jeffery Morrish
Signature of Registered Professional Engineer

Date 4/21/95

Registration No. RCE 36929 State CA

PART 1
GENERAL INFORMATION

7. Potential Spills - Prediction & Control:

SOURCE	MAJOR TYPE OF FAILURE	TOTAL QUANTITY (GALLONS)	RATE (BBLS/HR)	DIRECTION OF FLOW*	SECONDARY CONTAINMENT
FUEL TANK	TANK LEAK	10,000			INTO BASIN
FUEL TANK	TANK LEAK	10,000			INTO BASIN
FUEL TANK	TANK LEAK	10,000			INTO BASIN
FUEL TANK	TANK LEAK	15,000			INTO BASIN

Discussion:

SEE ATTACHED CONTAINMENT BASIN PLANS

*Attach map if appropriate

Name of facility MILLER'S CUSTOM WORK

Operator JOE MARTINEZ

PART 1
GENERAL INFORMATION

[Response to statements should be: YES, NO or NA (Not Applicable).]

8. Containment or diversionary structures or equipment to prevent oil from reaching navigable waters are practicable. (If NO, complete Attachment #2.) _____

9. Inspections and Records

   A. The required inspections follow written procedures. _____
   B. The written procedures and a record of inspections, signed by the appropriate supervisor or inspector, are attached. _____

   Discussion:

10. **Personnel Training and Spill Prevention Procedures**

    A. Personnel are properly instructed in the following:
       (1) operation and maintenance of equipment to prevent oil discharges, & _____
       (2) applicable pollution control laws, rules, and regulations. _____
       Describe procedures employed for instruction:

       EMPLOYEES HAVE BEEN INSTRUCTED TO PREVENT ALL SPILLS AND DISCHARGES. IF ONE DOES OCCUR (NO MATTER HOW SMALL). IT IS TO BE IMMEDIATELY REPORTED TO JOE MARTINEZ.

    B. Scheduled prevention briefings for the operating personnel are conducted frequently enough to assure adequate understanding of the SPCC plan. _____
       Describe briefing program:

       INSPECT WORK AREAS AND REVIEW PLAN. REVIEW LAW CHANGES EVERY 6 MONTHS OR AS REQUIRED BY LAW.

Name of facility MILLER'S CUSTOM-WORK
Operator JOE MARTINEZ

PART II, ALTERNATE A
DESIGN AND OPERATING INFORMATION
ONSHORE FACILITY (EXCLUDING PRODUCTION)

A. Facility Drainage

1. Drainage from diked storage areas is controlled as follows (include operating description of valves, pumps, ejectors, etc. (Note: Flapper-type valves should not be used):

RAINFALL COLLECTED IN THE CONTAINMENT BASIN WILL BE INSPECTED AND PUMPED OUT OF BASIN. IN THE EVENT OF A SPILL, THE FUEL WILL BE CONTAINED WITHIN THE CONTAINMENT BASIN AND A PORTABLE PUMP WILL BE USED TO REMOVE IT.

2. Drainage from undiked areas is controlled as follows (include description of ponds, lagoons, or catchment basins and methods of retaining and returning oil to facility):

N/A

3. The procedure for supervising the drainage of rain water from secondary containment into a storm drain or an open watercourse is as follows (include description of (a) inspection for pollutants, and (b) method of valving security). (A record of inspection and drainage events is to be maintained on a form similar to Attachment #3):

WHEN RAINFALL HAS ACCUMULATED IN THE CONTAINMNENT BASIN TO A DEPTH OF ABOUT 4". IT WILL BE INSPECTED FOR POLLUTANTS PRIOR TO PUMPING OF BASIN IF POLLUTANTS ARE PRESENT. THEY WILL BE SKIMMED OFF AND DISPOSED OF PRIOR TO REMOVING THE RAINFALL.

Name of facility MILLER'S CUSTOM WORK

Operator JOE MARTINEZ

PART II, ALTERNATE A
DESIGN AND OPERATING INFORMATION
ONSHORE FACILITY (EXCLUDING PRODUCTION)

B. Bulk Storage Tanks

1. Describe tank design, materials of construction, fail-safe engineering features, and if needed, corrosion protection:
ABOVE GROUND HORIZONTAL TANKS - U.L. APPROVED.

2. Describe secondary containment design, construction materials, and volume:
REINFORCED CONCRETE WITH CONCRETE SLAB. SIZED TO CONTAIN 100% OF ALL FUEL TANKS PLUS 4" RAINFALL ACCUMULATION.

3. Describe tank inspection methods, procedures, and record keeping:
TANK WILL BE INSPECTED DAILY FOR ANY SIGN OF LEAKS. A LOG WILL BE KEPT WITH DATE. INSPECTOR. AND RESULTS OF EACH INSPECTION.

4. Internal heating coil leakage is controlled by one or more of the following control factors:

(a) Monitoring the steam return or exhaust lines for oil. N/A
Describe monitoring procedure:

b) Passing the steam return or exhaust lines through a settling tank, skimmer, or other separation systems. N/A

(c) Installing external heating systems. N/A

5. Disposal facilities for plant effluents discharged into navigable waters are observed frequently for indication of possible upsets which may cause an oil spill event. N/A

Describe method and frequency of observations:

Name of facility MILLER'S CUSTOM WORK

Operator JOE MARTINEZ

PART II, ALTERNATE A
DESIGN AND OPERATING INFORMATION
ONSHORE FACILITY (EXCLUDING PRODUCTION)

C. Facility Transfer Operations, Pumping, and In-plant Process

1. Corrosion protection for buried pipelines:
   (a) Pipelines are wrapped and coated to reduce corrosion. YES
   (b) Cathodic protection is provided for pipelines if determined necessary by electrolytic testing. N/A
   (c) When a pipeline section is exposed, it is examined and corrective action taken as necessary. YES

2. Pipeline terminal connections are capped or blanked-flanged and marked if the pipeline is not in service or on standby service for extended periods. N/A
   Describe criteria for determining when to cap or blank-flange:

3. Pipe supports are designed to minimize abrasion and corrosion and allow for expansion and contraction. N/A
   Descripe pipe support design:

4. Describe procedures for regularly examining all above-ground values and pipelines (including flange joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces):
   VISUAL INSPECTION DAILY

5. Describe procedures for warning vehicles entering the facility to avoid damaging above-ground piping:
   ALL EXPOSED PIPING WILL BE PROTECTED

Name of facility MILLER' S CUSTOM WORK

Operator JOE MARTINEZ

PART II, ALTERNATE A
DESIGN AND OPERATING INFORMATION
ONSHORE FACILITY (EXCLUDING PRODUCTION)

D. Facility Tank Car and Tank Truck Loading/Unloading Rack
Tank car and tank truck loading/unloading occurs at the facility.
(If YES, complete 1 through 5 below.) NO

1. Loading/unloading procedures meet the minimum requirements and regulations of the Department of Transportation. N/A

2. The unloading area has a quick drainage system. N/A

3. The containment system will hold the maximum capacity of any single compartment of a tank truck loaded/unloaded in the plant. N/A

Describe containment system design, construction materials, and volume:

4. An interlocked warning light, a physical barrier system, or warning signs are provided in loading/unloading areas to prevent vehicular departure before disconnect of transfer lines. N/A

Describe methods, procedures, and/or equipment used to prevent premature vehicular departure:

5. Drains and outlets on tank trucks and tank cars are checked for leakage before loading/unloading or departure. N/A

Name of facility MILLER'S CUSTOM WORK

Operator JOE MARTINEZ

PART II, ALTERNATE A
DESIGN AND OPERATING INFORMATION
ONSHORE FACILITY (EXCLUDING PRODUCTION)

E. Security

1. Plants handling, processing, or storing oil are fenced. YES

2. Entrance gates are locked and/or guarded when the plant is unattended or not in production. YES

3. Any valves which permit direct outward flow of a tank's contents are locked closed when in non-operating or standby status. YES

4. Starter controls on all oil pumps in non-operating or standby status are:
   (a) locked in the off position; YES
   (b) located at site accessible only to authorized personnel. YES

5. Discussion of items 1 through 4 as appropriate:

6. Discussion of the lighting around the facility:
   NO LIGHTING AT FACILITY. NO NIGHT TIME OPERATIONS.

Name of facility MILLER'S CUSTOM WORK

Operator JOE MARTINEZ

SPPC PLAN, ATTACHMENT #3
ONSHORE FACILITY BULK STORAGE TANKS
DRAINAGE SYSTEM

Inspection Procedure:

INSPECT TANK AND DIKE SYSTEM AND PIPING SUMP EVERY MONTH (OR MORE FREQUENTLY IF NEEDED) TO DETERMINE IF OIL HAS ACCUMULATED.

Record of drainage, bypassing, inspection, and oil removal from secondary containment:

DATE OF DRAINAGE	DATE OF BYPASSING OPEN CLOSED	DATE OF INSPECTION	OIL REMOVAL	SUPERVISOR'S OR INSPECTOR'S SIGNATURE

Name of facility MILLER'S CUSTOM WORK

Operator JOE MARTINEZ

(Attachment #3, SPCC Plan)

STATE OF CALIFORNIA—THE RESOURCES AGENCY PETE WILSON, Governor

DEPARTMENT OF FISH AND GAME
601 LOCUST STREET
REDDING, CA 96001
(916) 225-2300

RECEIVED
JUL 24 1996
Lassen County
Department of Community Development

July 22, 1996

Mr. Robert K. Sorvaag, Director
Lassen County Department of Community Development
707 Nevada Street
Susanville, California 96130

Dear Mr. Sorvaag:

This is in response to your June 25, 1996, notice of early consultation for Miller's Custom Work, Inc., (Project No. 96056). The proposal will repermit the existing surface mining operation to reflect current and future operations. Please refer to our previous correspondence regarding this project when the environmental documentation for this project is prepared. Specifically, you should review our letters of June 1, 1994, June 30, 1994 and August 15, 1994, (attached) for a detailed list of concerns regarding environmental impacts of this project.

The potential significant impacts of this project, as outlined in the existing environmental impact report (EIR), should be discussed in the initial study. We would regard season of use, reclamation of vegetation and establishment of vegetation as significant issues in the repermitting of this project. These issues are detailed in items 3, 4, and 6 of our June 30, 1994, letter to you and remain our primary concerns.

If we can provide further information, please contact Environmental Services Supervisor Mr. Mark Stopher at (916) 225-2275.

Sincerely,

Richard L. Elliott

Richard L. Elliott
Regional Manager

Attachments

cc: Mr. Mark Stopher
Department of Fish and Game
Redding, California

ES

June 1, 1994

Mr. Robert K. Sorvaag, Director
Lassen County Community Development Department
707 Nevada Street
Susanville, California 96130

Dear Mr. Sorvaag:

SCH #94051008, Miller's Custom Work Amendment to Use Permits #79-80-44 and #11-02-85, Ward Lake Road, Litchfield, Lassen County

The California Department of Fish and Game (Department) has reviewed the above referenced documentation and project including the initial study (IS), draft negative declaration (DND) and the final environmental impact report (FEIR) for the original project. This amendment to the existing use permit proposes to allow the following actions:

1. the expansion of the original project area from 80 acres to 160 acres;
2. the manufacture of concrete in addition to the permitted production of asphalt;
3. importation and stockpiling of aggregate materials necessary for material production;
4. expand targeted minerals to include basaltic rock, sand and gravel;
5. establish a termination date of 2020;
6. increase excavation amounts from 500,000 cubic yards (cy) to 1,700,000 cy;
7. change season of operation from April through October to year-round as weather permits;
8. increase maximum depth of excavation from 50 to 150 feet;
9. construct containment basins around all fuel/hazardous fluids pursuant to Lassen County Code.

The project area consists mainly of shrub communities represented by species such as sagebrush, bitter brush, and rabbit brush. The area is important deer winter range for the Horse Lake deer herd, as well as small numbers of resident and wintering antelope. This area also supports numerous bird species including sage grouse, chukar, Swainson's hawk, golden eagle and a variety of other nongame birds and small mammals.

Mailed 6-1-94
SURNAME
FG-465 (REV. 1/92)

We have the following specific comments:

Initial Study:

1. Appendix B, item 4.a. The answer to this question should be changed from "no" to "maybe". Surveys have located Ornate Dalea (Dalea ornata) near the project site. This plant has been categorized as a list 2 species in the California Native Plant Societies Inventory of Rare and Endangered Vascular Plants of California. Further surveys are necessary to document if this species will in fact be impacted by the proposed project.

2. Appendix B, item 5.b. The answer to this question should be changed from "no" to "maybe". The area in question is potential Swainson's hawk (State threatened species) and golden eagle (California species of special concern and fully protected species) habitat. Further surveys are necessary to document the extent of use on and in the vicinity of the project area to determine the impact on these species by this project.

3. Appendix B, item 5.d. There is a notation under this answer that there will be only temporary deterioration to existing wildlife habitat. This notation should be stricken for the following reasons:

   a. The project life extends until the year 2020.
   b. The level of deterioration depends upon the type and time frame of reclamation.

Draft Negative Declaration:

Preliminary findings:

1. Item 3. There is no doubt that the original purpose for limiting the season of use to the period April through October was for wildlife mitigation, primarily to allow relatively undisturbed use of the project (and surrounding) area by wintering antelope and mule deer. Increased levels of noise, disturbance and activity within the project area were identified as significant environmental effects of the proposed project in the FEIR (page 30, A.2.). The FEIR presents a restricted season of use as a wildlife mitigation measure in at least two separate sections:

   1) Section B, page 30, paragraph 3- "Increased noise and activity will effect the wildlife species known to be found in the project and surrounding areas. The seasonal operation anticipated on the project (refer to "Mitigation Measures") will reduce, but not eliminate, this impact."

   2) Section C, page 34, paragraph 3- "As expressed in Mr. Morris's letter, the impact of the project on pronghorn antelope and mule deer will be minimized by the projects seasonal operations; however, if approved, the project will result in removal of quail and chukar habitats."

This area was previously identified by the Department (comments on DEIR) as both antelope and mule deer winter range.

Since the project, as currently proposed, will ultimately result in increased activity and disturbance over a significantly larger area for a longer time period, the Department believes that it is crucial to maintain and enforce the existing season of use. We believe that this important measure should be incorporated into any use permit for this project (current or future). Preliminary finding 3 (page 2 of DND) accurately presents this measure as mitigation for wildlife concerns.

2. Item 4. The removal of native vegetation resulting from this project was identified as a significant environmental effect in the FEIR (page 30, A.1.). The current proposal requests an increase in size of an additional 80 acres. The increase doubles the size of the current operation and we fail to see how these impacts can be judged significant in 1981 and not significant in 1994. Indeed, impacts to vegetation are likely to be more significant now because of drought related factors.

Mitigation Measures:

1. Items 1, 4, 5. Mitigation for impacts from vegetation removal are identified in the FEIR as; "Reshaping and reseeding of excavated areas would be implemented on a continuing basis as removal of materials proceeds and is based upon an average area to be disturbed of one acre annually" (pages 30 and 31, Section C). The reclamation plan states "Disturbed lands and the actual pit areas will be reseeded with range grasses and species native to the surrounding area" (20.j.) and "Reclamation will be accomplished when segments of the site resources are depleted, ie when the sand pit area or the quarry areas are depleted" (20.l.). However, the DND does not contain any time table for reclamation activity and does not specify wildlife habitat as the desired end result. Further, the IS does not contain any information regarding past reclamation activity completed by the project proponent as presented above.

2. Based on wording contained in recommended mitigation measures #1 and 4, the Department suggests that #5 be modified to read "...as recommended by the Department of Fish and Game and approved by the County."

3. Item 8. See comment 1 under preliminary findings.

Recommended Mitigation Measures:

1. A rare plant survey to document the absence or presence of Ornate Dalea on the project site should be performed during the proper season by qualified personnel. If the plant is determined to be present on site, appropriate mitigation measures need to be developed to account for any impact.

2. Impacts to Swainson's hawk and golden eagle need to be evaluated and mitigated for. This can be done by surveys during the appropriate season to determine actual use of the site for nesting and/or foraging areas.

3. Season of use should be restricted to the time frame originally granted (April-October).

4. Information regarding the timing, amount, technique and species used in any past reclamation efforts (based on the information presented in the FEIR) should be presented to the Department for evaluation. A schedule of activity regarding future reclamation (timing, species used, protective measures for planted vegetation, etc.) should also be developed and incorporated into the current DND and/or any use permits issued for this project. The Department is willing to assist in the preparation of this schedule.

Information contained in the FEIR is over 13 years old and may not accurately reflect the current conditions associated with the project site. Because of this, the Department is recommending that (a) a new EIR, analyzing current conditions, be developed or (b) the mitigation measures as presented in this letter be incorporated into the negative declaration.

Even with these mitigation measures, this project will contribute to continuing reductions in wildlife populations and habitat from a cumulative standpoint and, as such, is subject to the provisions of AB 3158. Because of these losses, the Department believes the project is subject to a filing fee pursuant to Fish and Game Code Section 711.4. If a negative declaration is filed by the lead agency pursuant to Public Resource Code, Section 21080 (c), a fee of $1,250 ($850 for an EIR), payable to the county clerk, should accompany the filing of a notice of determination.

Thank you for your consideration of these comments. If you have any questions or comments regarding our review of this project, please contact staff biologist Mr. Frank Hall at (916) 254-6678.

Sincerely,

Richard L. Elliott
Regional Manager

cc: See attached list.

cc: Mr. Frank Hall
Department of Fish and Game
728-600 Fish and Game Road
Wendel, California 96136

Mr. James Miller
Miller's Custom Work, Inc.
Post Office Box 1300
Susanville, California 96130

Mr. Bob Roe, Chairman
Lassen County Fish and Game Commission
707 Nevada Street
Susanville, California 96130

Organized Sportsmen of Lassen County
Post Office Box 467
Susanville, California 96130

Ms. Mary Ann Showers
Department of Conservation
Division of Mining and Geology
801 K Street, M.S. 09-06
Sacramento, California 95814-3531

bc: Messrs. Don Koch, John Siperek and Paul Chappell
Region 1

Mr. Jim White
Environmental Services Division

Hall:bd.Belinda.Clerical 22/MILLPIT.94

ES 5/13/94 B

June 30, 1994

Mr. Robert K. Sorvaag, Director Plng
Lassen County Community Development Department
707 Nevada Street
Susanville, California 96130

Dear Mr. Sorvaag:

SCH - 94051008, Miller's Custom Work Amendment
to Use Permits #79-80-44 and #11-02-85,
Ward Lake Road, Litchfield, Lassen County

The California Department of Fish and Game (Department) has reviewed the above referenced documentation and project including the initial study (IS), draft negative declaration (DND), and the final environmental impact report (FEIR) for the original project. We originally provided you with comments on this project by letter dated June 1, 1994. This letter provides additional project recommendations and mitigations based on a site visit on June 16, 1994, accompanied by Ms. Mary Ann Showers, Division of Mines and Geology, and Mr. Richard Simon of your staff.

The project area consists mainly of shrub communities represented by species such as sagebrush, bitterbrush and rabbit brush. The area is important deer winter range for the Horse Lake deer herd, as well as small numbers of resident and wintering antelope. This area also supports numerous bird species including sage grouse, chukar, Swainson's hawk, golden eagle and a variety of other nongame birds and small mammals.

We have the following recommendations:

1. The 160-acre project area should be fully surveyed for the presence of the plant Ornate Dalea (Dalea ornata) which has been previously located near the project site. This plant has been categorized as a list 2 species in the California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California. The survey should be completed at the appropriate time of year to determine presence or absence of this plant by a botanist who is qualified to identify it. If the plant is found on the project site, appropriate mitigation can be recommended to be included in the use permit.

2. An active Swainson's hawk (State threatened species) nest is located approximately one mile from the project site. This nest is located in a tree at an occupied ranch house. Based on the current levels of project activity and degree of disturbance to this nest it is very unlikely that the proposed project, as described, will compromise further activity at this nest.

SURNAME JS 6/30/94 Koch for Elliott

FG-455 (REV. 1/92)

92 63619

3. The current permitted season of use for this project is April through October for wildlife mitigation, primarily to allow relatively undisturbed use of the project and surrounding area by wintering antelope and mule deer. Increased levels of noise, disturbance, and activity within the project area were identified as significant environmental effects of the proposed project in the FEIR (page 30, A.2.). The FEIR presents a shortened season of use as a wildlife mitigation measure in at least two separate sections.

   There is no information presented in the environmental documentation for the current (expanded) project that identifies this issue as no longer a significant environmental effect. We strongly recommend that this season of use be continued unless this issue is fully discussed in an environmental impact report (EIR) for this project which provides clear rationale for deleting this "significant" effect.

4. A detailed reclamation plan with species as recommended and agreed to during the June 16 site visit needs to be presented and approved prior to project approval. The reclamation plan should emphasize native perennial grasses and bitterbrush with specific success criteria, time lines, and be fully consistent with the Surface Mining and Reclamation Act (SMARA). Soil would have to stockpiled in a usable manner for subsequent reclamation. As suggested by the operator, process water on site could be used for periodic irrigation of replanted shrubs.

   The existing environmental documentation and use permit specified concurrent reclamation for this project. None of this was completed over the past 10 years. What will be the methodology for reclamation compliance as part of the current project permitting?

5. Existing fuels storage and other toxic materials stored on site should be contained in approved spill catchment basins. Details on these procedures may be obtained from the Lahontan Regional Water Quality Control Board.

6. Measures for protecting replanted vegetation from livestock and deer need to be incorporated into the project. Protection could be ensured by perimeter fencing the project site to exclude livestock and more site specific deerproof

fencing to prevent deer use until vegetation is established. Perimeter livestock fencing should be four wires maximum, bottom wire smooth and no closer than 18 inches to the ground with total fence height not to exceed 42 inches.

If the project is fully conditioned as above, the appropriate environmental document for the project could be a negative declaration. If the individual significant environmental impacts identified in the previous EIR are not reduced to insignificance by additional mitigations, the appropriate environmental document would be an EIR. This EIR could disclose and explain how impacts previously considered significant are not currently significant. At minimum, this rationale should be presented in the current environmental documentation for the project. The appropriate environmental document for the currently proposed project would be an EIR without adoption of all of the recommended mitigations.

Thank you for your consideration of these comments. If you have any questions or comments regarding our review of this project, please contact staff biologist Mr. Frank Hall at (916) 254-6678.

Sincerely,

Richard L. Elliott
Regional Manager

cc: See attached list.

cc: Mr. Frank Hall
Department of Fish and Game
728-600 Fish and Game Road
Wendel, California 96136

Mr. James Miller
Miller's Custom Work Inc.
Post Office Box 1300
Susanville, California 96130

Mr. Bob Roe, Chairman
Lassen County Fish and Game Commission
707 Nevada Street
Susanville, California 96130

Organized Sportsmen of Lassen County
Post Office Box 467
Susanville, California 96130

FAH/mrw:Clerical 22.MILPIT2.94

bc: Messrs. John Siperek, Mark Stopher, Gary Stacey,
Paul Chappell-R1, and Jim White-ESD

STATE OF CALIFORNIA—THE RESOURCES AGENCY PETE WILSON, Governor

DEPARTMENT OF FISH AND GAME
601 LOCUST STREET
REDDING, CA 96001
(916) 225-2300

August 15, 1994

Ms. Theresa Nagel, Clerk of Lassen County
220 South Lassen Street
Susanville, California 96130

The Honorable Claude Neely, Chairman
Lassen County Board of Supervisors
Lassen County Administration Building
707 Nevada Street
Susanville, California 96130

Dear Ms. Nagel and Mr. Neely:

Appeal of Planning Commission Decision on Negative Declaration (ND) #94032, Amended Use Permits #79-80-44 and #11-02-85, (SCH #94051008), Miller's Custom Work, Inc., Litchfield Area, Lassen County

The Lassen County Planning Commission (Commission) adopted an ND for the above referenced project on August 3, 1994. The California Department of Fish and Game (Department) is requesting an appeal of this decision under the California Environmental Quality Act (CEQA), including, but not limited to, the sections cited below.

The project is located near Ward Lake, approximately four miles northwest of Litchfield and includes approximately 160 acres. The current project includes amended use permits based on an environmental impact report ([EIR], SCH #80062304) completed in 1981. The current proposal includes a substantial expansion of the project but relies on an ND for current CEQA compliance. A reclamation plan is in preparation to bring the project into Surface Mining and Reclamation Act (SMARA) compliance. This appeal is limited to CEQA compliance issues.

The value of the project site for deer, antelope, sage grouse, chukar and other wildlife was documented and acknowledged in the existing EIR. You are referred to our June 1, 1994, and June 30, 1994, written communications to the Lassen County Department of Community Development regarding this project.

No basis is presented in the findings or ND for rejecting all of the impacts previously considered "Significant" (in the original EIR) to now consider the same impacts not "Significant".

For example, the original EIR included an operating season of April through October each year to reduce displacement of deer, antelope and other wildlife due to impacts from blasting and other project operation. The season of use adopted by the Commission on August 3, 1994, is February through November which is inadequate to substantially reduce project impacts. No rationale for this change has been presented in the ND and findings.

We request that the Lassen County Board of Supervisors review and determine the validity of the Commission decision based on the recommended mitigations adopted and/or not adopted in reference to each section of the CEQA guidelines cited below:

Section 15063(c)(5):

Initial study (IS) failed to "Provide documentation of the factual basis for the finding in a Negative Declaration that a project will not have a significant effect on the environment." IS may have assumed that all proposed mitigations would be adopted.

Section 15064 (a) (1):

Lead agency did not prepare an EIR after determining "..that there is (was) substantial evidence that a project may have a significant effect on the environment..." as stated in the original EIR.

Section 15064 (e)

Impacts identified as significant in the original EIR were not adequately mitigated in the ND (see appendix G [d] of CEQA Guidelines; "Interfere substantially with the movement of any resident fish or wildlife species.").

Section 15070 (b) (1)

This condition for an ND not met. The original EIR for the project already identified significant impacts in need of mitigation.

The IS identified potentially significant effects but did not make all needed revisions to the project that were agreed to by the applicant before the ND was released for public review. Mitigations in the current ND did not "...mitigate the effects to a point where clearly no significant effects would occur.".

Section 15074 (b)

Substantial evidence (including the original EIR) was provided which indicated that the project could have a significant effect on the environment. "The decision-making body shall approve the Negative Declaration <u>if</u> it finds <u>on the basis of the Initial Study and any comments received</u> that there is no substantial evidence that the project will have a significant effect on the environment." (emphasis added)

To bring the project into compliance with CEQA, we recommend that either a focused EIR be prepared or the ND be modified. If the ND is modified it should include a season of use (April through October) that is consistent with the original EIR and is consistent with the intent of effectively reducing displacement of deer, antelope and other wildlife from critical winter range.

We believe that an EIR or revised ND, with the mitigations described in our June 30, 1994, letter, would bring the project into compliance with CEQA and would also successfully terminate this appeal. We would welcome an opportunity to work with the applicant and Lassen County to develop sufficient mitigations to terminate this appeal.

Thank you for the opportunity to consider this request for appeal of the ND. An appeal fee check in the amount of $159 has been sent under separate cover. If we can provide additional information and assistance in the development of the EIR and/or mitigation features, please do not hesitate to contact Environmental Services Supervisor Mr. Mark Stopher. His telephone number is (916) 225-2275.

Sincerely,

for Richard L. Elliott
Regional Manager

cc: Mr. James Miller
Miller's Custom Work, Inc.
Post office Box 1300
Susanville, California 96130

Mr. Bob Roe, Chairman
Lassen County Fish and Game Commission
707 Nevada Street
Susanville, California 96130

Organized Sportsmen of Lassen County
Post Office Box 467
Susanville, California 96130

Mr. Mark Stopher
Department of Fish and Game
601 Locust Street
Redding, California 96001

Ms. Mary Ann Showers
Department of Conservation
Division of Mines and Geology
Mined Lands Reclamation Program
801 K Street, MS 09-06
Sacramento, California 95814-3531

NST ENGINEERING, INC.
PLANNING SURVEYING ENGINEERING
1495 Riverside Drive • Susanville, CA 96130
(916) 257-5173 • FAX (916) 257-6272

Vernon H. Templeton, R.L.S.
Stephen H. Schmidt, R.L.S.
Fredric R. Nagel, R.C.E., R.L.S.
Jeffery A. Morrish, R.C.E.

May 28, 1996

Superior Ready Mix, Inc.
P. O. Box 1300
Susanville, CA 96130

Re: Concrete Batch Plant
Sound Level Measurements

On May 17, 1996, while under full batch plant operation, sound level - dba readings of 50 were measured from a point on your west property line. Said point being the closest point of where a future residence could be constructed. Said point bears ± S 50°W 800 feet from the batch plant site. Sound level -dba readings of 42 were measured during non operation.

Measurements were taken over a one hour period in early morning (7:00 a.m. - 8:00 a.m.) skies - overcast, wind - calm, and ambient temperature 48°F.

Instrumentation - Scott Manufacture, Type 451, ANSI Type S3A meter.

Thank you for the opportunity to be of service.

Very truly yours,

Stephen H. Schmidt
Vice President

5/28/96 – TCW/ : 50 = sound of a bird chirping. Had to concentrate to even hear it. Diesel trucks ugitiw @ 90 ± Noise level from operation was barely noticeable.

Noise measurement during Batch Plant operation at nearest residential property line

TOTAL P.01

IV. IMPLEMENTATION PROGRAM

The following specific policies are adopted for implementation by Lassen County to accomplish the goals and objectives of the Noise Element:

1. Noise created by locally-regulated noise sources associated with new projects or developments shall be controlled so as not to exceed the noise level standards as set forth below as measured at any affected residentially designated lands or land use situated in either the incorporated or unincorporated areas. New residential development shall not be allowed where the ambient noise level due to locally-regulated noise sources will exceed the noise level standards as set forth below. These standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

TABLE III

NOISE LEVEL PERFORMANCE STANDARDS
FOR NEW PROJECTS AND DEVELOPMENTS

		Exterior Noise Level Standards, dBA	
Category	Cumulative Number of minutes in any one-hour time period	Daytime 7 a.m. to 10 p.m.	Nighttime 10 p.m. to 7 a.m.
1	30	50	40
2	15	55	45
3	5	60	50
4	1	65	55
5	0	70	60

Each of the noise level standards specified above shall be reduced by five dBA for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

2. The compatibility of proposed projects with existing and future noise levels due to traffic on public roadways, railroad line operations and

DEPARTMENT of PUBLIC WORKS

County of Lassen

JOHN D. MITCHELL *Director*
Road Commissioner
County Engineer
County Surveyor

Lassen County Administration Building
707 Nevada Stree
Susanville, CA 9613

(916) 251-828
FAX: (916) 257-467

D-2 #9
96-488

RECEIVED
JUL 10 1996
Lassen County
Department of Community Development

July 9, 1996

TO: Robert K. Sorvaag, Planning

FROM: John D. Mitchell, Director

SUBJECT: Miller's Custom Work, Inc. - File #96056

This Department is concerned about the traffic impact on Center Road and Ward Lake Road. The above project may or may not increase the traffic pattern. It is recommended that a traffic study be submitted by the applicant detailing the existing conditions and with a projected increase in traffic that the above project will generate.

JDM:WCH:kd
c:

interoffice
MEMORANDUM

to: Rick Simon, Community Development
cc: Bill Harvey
from: Steven C. Blankenship, Engineering Services Manager
re: Miller's Custom Work Use Permit and Impacts on Ward Lake Road, CR318
date: August 6, 1996

The proponent gathered traffic information at the Center Road/ Ward Lake Road intersection during the periods of July 1-3 and July 8-12 of this year. After compiling this information, I conclude that a left-turn pocket or a "fly-by" is unwarranted at this time. Given the warrants for left turn lanes contained in the 1990 edition of "A Policy on the Geometric Design of Highways and Streets", AASHTO, Table IX-15, page 791, the counted volumes do not approach a need. Opposing hourly volumes are approximately 42 at peak hour with turning volume at about 25% and advancing volumes of about 40. Even at a design speed of 60 m.p.h., this condition does not approach a need. We are currently verifying Miller's traffic counts and, should our data indicate a different situation, iI will so advise.

Steve

From the desk of...

Steven C. Blankenship
Engineering Services Manager
Lassen County Public Works Department
707 Nevada Street
Susanville, CA 96130

tel: (916)251-8259 office (916)251-8288 message
fax: (916)257-4671

plicable, the degree of channelization needed to expedite the movement of traffic. The differing arrangement of islands and the shape and length of auxiliary pavements depend on whether signal control is necessary.

Opposing Volume	Advancing Volume 5% Left Turns	10% Left Turns	20% Left Turns	30% Left Turns
	40-mph Operating Speed			
800	330	240	180	160
600	410	305	225	200
400	510	305	275	245
200	640	470	350	305
100	720	515	390	340
	50-mph Operating Speed			
800	280	210	165	135
600	350	260	195	170
400	430	320	240	210
200	550	400	300	270
100	615	445	335	295
	60-mph Operating Speed			
800	230	170	125	115
600	290	210	160	140
400	365	270	200	175
200	450	330	250	215
100	505	370	275	240

Table IX-15. Guide for left turn lanes on two lane highways (6).

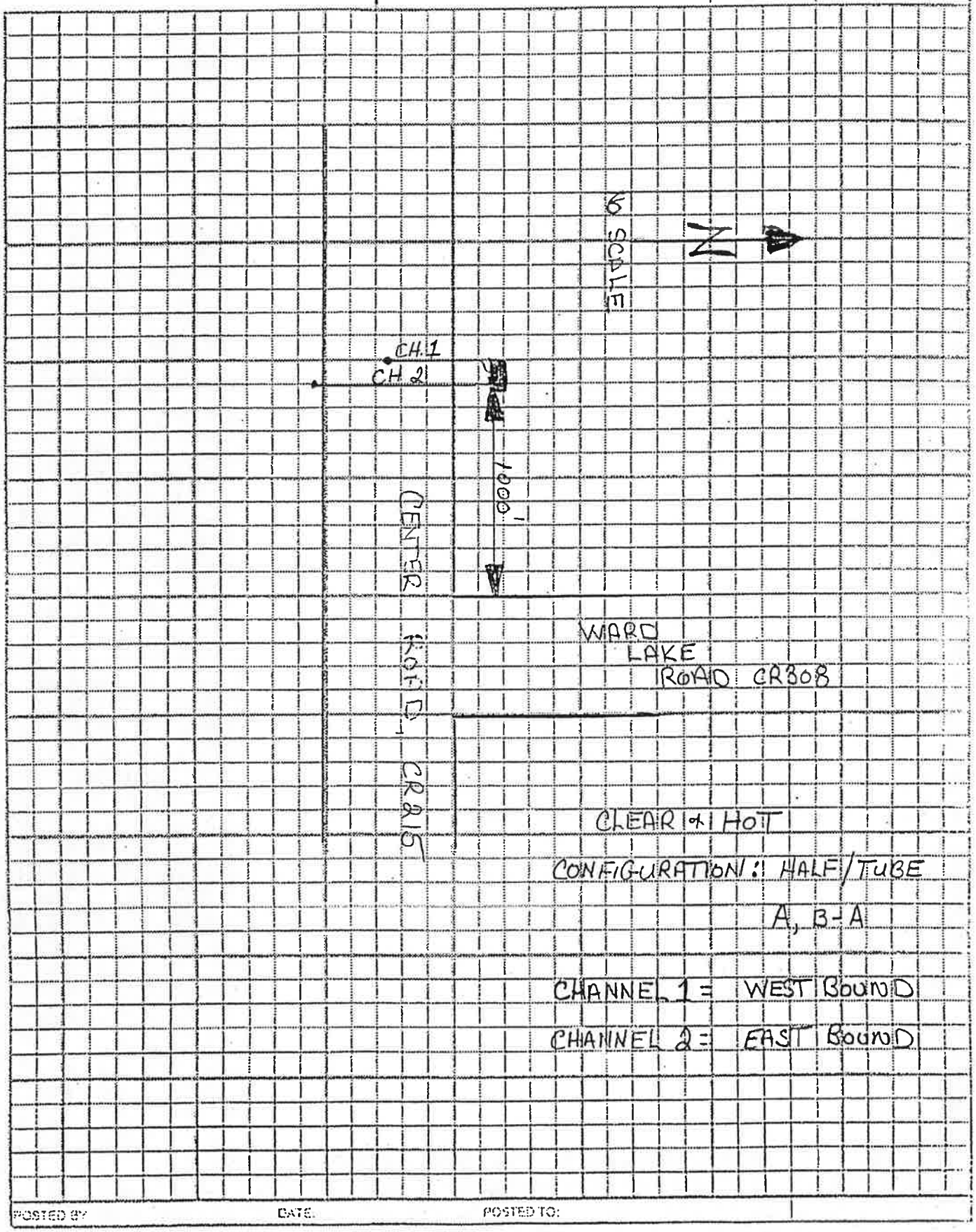
The composition and character of traffic are a design control. Movements involving large trucks necessitate larger intersection areas and flatter approach grades than those required at intersections where traffic consists predominantly of passenger cars. Bus stops located near an intersection may further modify the arrangement. Approach speeds of traffic also have a bearing on the geometric design as well as on control devices and markings.

COUNTY of LASSEN ROAD DEPARTMENT
QUANTITY CALCULATIONS
JOB STAMP

SHEET OF

TRAFFIC COUNTER 2
SITE NO. 3215967 1
COUNTER #

ITEM TRAFFIC COUNTS		FILE NO.
LOCATION CENTER ROAD CR.215		SEGREGATION YES - NO
CALC. BY D.C.E	DATE 7-23-96	
CHK. BY	DATE	



CLEAR & HOT

CONFIGURATION: HALF/TUBE
A, B-A

CHANNEL 1 = WEST BOUND

CHANNEL 2 = EAST BOUND

POSTED BY DATE POSTED TO:

SITE CODE : 32159671 LASSEN COUNTY ROAD DEPARTMENT PAGE: 1

Location : CR215 0.2 MI. W OF CR308 FILE: 32159671

Weather : CLEAR, HOT

--ator : DCE DATE: 7/22/96

TIME	MONDAY 22		TUESDAY 23		WEDNESDAY 24		THURSDAY 25		FRIDAY 26		SATURDAY 27		SUNDAY 28		WEEK AVERAGE	
BEGIN	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 AM	1	2	0	2	2	2	3	3	2	5	3	6	1	9	1	4
1:00	0	0	0	0	2	1	2	0	0	1	0	2	5	6	1	1
2:00	0	0	2	6	5	0	6	0	4	0	3	2	1	1	3	1
3:00	6	0	0	5	1	3	3	0	7	1	1	1	0	0	2	1
4:00	5	1	0	4	4	4	3	4	5	2	5	1	2	0	3	2
5:00	14	23	3	32	9	16	19	19	21	18	7	3	5	3	11	16
6:00	49	21	9	53	56	23	39	27	45	18	10	3	10	3	31	21
7:00	28	30	12	62	44	23	36	19	38	30	14	7	15	5	26	25
8:00	48	25	14	74	44	23	57	41	45	29	22	10	20	9	35	30
9:00	43	19	20	64	39	31	45	31	32	31	23	18	15	15	31	29
10:00	60	30	3	74	31	22	36	32	65	44	19	15	18	8	33	32
11:00	48	40	3	80	31	34	35	18	27	37	24	16	21	10	27	33
12:00 PM	61	63	2	68	38	22	26	29	50	37	17	16	21	17	30	36
1:00	41	42	4	83	29	22	35	27	39	35	17	15	17	21	26	35
2:00	84	51	23	15	41	30	38	22	47	41	22	21	18	17	39	28
3:00	33	36	39	31	30	36	49	45	29	16	22	20	16	20	31	29
4:00	26	28	20	33	35	25	26	32	30	31	17	18	10	20	23	26
5:00	29	36	31	29	15	38	24	29	20	29	16	10	20	7	22	25
6:00	26	18	21	17	19	19	23	12	19	7	15	10	12	16	19	14
7:00	15	31	18	17	12	8	23	15	11	19	14	15	13	10	15	16
8:00	5	24	23	12	9	11	5	13	13	12	18	8	12	26	12	15
9:00	0	17	8	17	10	13	7	4	10	10	11	9	6	11	7	11
?:??	0	13	11	12	7	12	5	16	5	15	6	9	6	8	5	12
.	0	2	2	4	7	2	7	7	7	11	4	18	2	5	4	7
TOTALS	622	552	268	794	520	420	552	445	571	479	310	253	266	247	437	449

COMBINED TOTALS

12:00 AM	3	2	4	6	7	9	10	5
1:00	0	0	3	2	1	2	11	2
2:00	0	8	5	6	4	5	2	4
3:00	6	5	4	3	8	2	0	3
4:00	6	4	8	7	7	6	2	5
5:00	37	35	25	38	39	10	8	27
6:00	70	62	79	66	63	13	13	52
7:00	58	74	67	55	68	21	20	51
8:00	73	88	67	98	74	32	29	65
9:00	62	84	70	76	63	41	30	60
10:00	90	77	53	68	109	34	26	65
11:00	88	83	65	53	64	40	31	60
12:00 PM	124	70	60	55	87	33	38	66
1:00	83	87	51	62	74	32	38	61
2:00	135	38	71	60	88	43	35	67
3:00	69	70	66	94	45	42	36	60
4:00	54	53	60	58	61	35	30	49
5:00	65	60	53	53	49	26	27	47
6:00	44	38	38	35	26	25	28	33
7:00	46	35	20	38	30	29	23	31
	29	35	20	18	25	26	38	27
?:??	17	25	23	11	20	20	17	18
10:00	13	23	19	21	20	15	14	17
11:00	2	6	9	14	18	22	7	11
TOTALS	1174	1062	940	997	1050	563	513	886

SITE CODE : 32159671
Location : CR215 0.2 MI. W OF CR308
Weather : CLEAR, HOT
Operator : DCE

LASSEN COUNTY ROAD DEPARTMENT

FILE: 32159671

DATE: 7/29/96

TIME BEGIN	MONDAY 29		TUESDAY 30		WEDNESDAY 31		THURSDAY 1		FRIDAY 2		SATURDAY 3		SUNDAY 4		WEEK AVERAGE	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 AM	1	2	0	2	0	2	*	*	*	*	*	*	*	*	0	2
1:00	0	0	0	0	0	0	*	*	*	*	*	*	*	*	0	0
2:00	0	0	2	6	0	5	*	*	*	*	*	*	*	*	0	3
3:00	6	0	0	5	0	2	*	*	*	*	*	*	*	*	2	2
4:00	5	1	0	4	0	10	*	*	*	*	*	*	*	*	1	5
5:00	14	23	3	32	0	27	*	*	*	*	*	*	*	*	5	27
6:00	49	21	9	53	0	63	*	*	*	*	*	*	*	*	19	45
7:00	28	30	12	62	2	108	*	*	*	*	*	*	*	*	14	66
8:00	48	25	14	74	0	76	*	*	*	*	*	*	*	*	20	58
9:00	43	19	20	64	0	90	*	*	*	*	*	*	*	*	21	57
10:00	60	30	3	74	0	73	*	*	*	*	*	*	*	*	21	59
11:00	48	40	3	80	0	67	*	*	*	*	*	*	*	*	17	62
12:00 PM	61	63	2	68	*	*	*	*	*	*	*	*	*	*	31	65
1:00	41	42	4	83	*	*	*	*	*	*	*	*	*	*	22	62
2:00	84	51	0	80	*	*	*	*	*	*	*	*	*	*	42	65
3:00	33	36	0	66	*	*	*	*	*	*	*	*	*	*	16	51
4:00	26	28	3	67	*	*	*	*	*	*	*	*	*	*	14	47
5:00	29	36	4	57	*	*	*	*	*	*	*	*	*	*	16	46
6:00	26	18	0	52	*	*	*	*	*	*	*	*	*	*	13	35
7:00	15	31	0	38	*	*	*	*	*	*	*	*	*	*	7	34
8:00	5	24	0	16	*	*	*	*	*	*	*	*	*	*	2	20
9:00	0	17	0	16	*	*	*	*	*	*	*	*	*	*	0	16
10:00	0	13	0	13	*	*	*	*	*	*	*	*	*	*	0	13
	0	2	0	5	*	*	*	*	*	*	*	*	*	*	0	3
TOTALS	622	552	79	1017	2	523	*	*	*	*	*	*	*	*	283	843

COMBINED TOTALS

12:00 AM	3	2	2	*	*	*	*	2
1:00	0	0	0	*	*	*	*	0
2:00	0	8	5	*	*	*	*	3
3:00	6	5	2	*	*	*	*	4
4:00	6	4	10	*	*	*	*	6
5:00	37	35	27	*	*	*	*	32
6:00	70	62	63	*	*	*	*	64
7:00	58	74	110	*	*	*	*	80
8:00	73	88	76	*	*	*	*	78
9:00	62	84	90	*	*	*	*	78
10:00	90	77	73	*	*	*	*	80
11:00	88	83	67	*	*	*	*	79
12:00 PM	124	70	*	*	*	*	*	96
1:00	83	87	*	*	*	*	*	84
2:00	135	80	*	*	*	*	*	107
3:00	69	66	*	*	*	*	*	67
4:00	54	70	*	*	*	*	*	61
5:00	65	61	*	*	*	*	*	62
6:00	44	52	*	*	*	*	*	48
7:00	46	38	*	*	*	*	*	41
[illegible]	29	16	*	*	*	*	*	22
	17	16	*	*	*	*	*	16
10:00	13	13	*	*	*	*	*	13
11:00	2	5	*	*	*	*	*	3
TOTALS	1174	1096	525	*	*	*	*	1126

COUNTY of LASSEN ROAD DEPARTMENT
QUANTITY CALCULATIONS
JOB STAMP

SHEET OF

ITEM TRAFFIC COUNTS | FILE NO.
LOCATION WARD LAKE RD. CR308 | SEGREGATION YES - NO
CALC. BY D.C.E. | DATE 7-23-96
CHK. BY | DATE

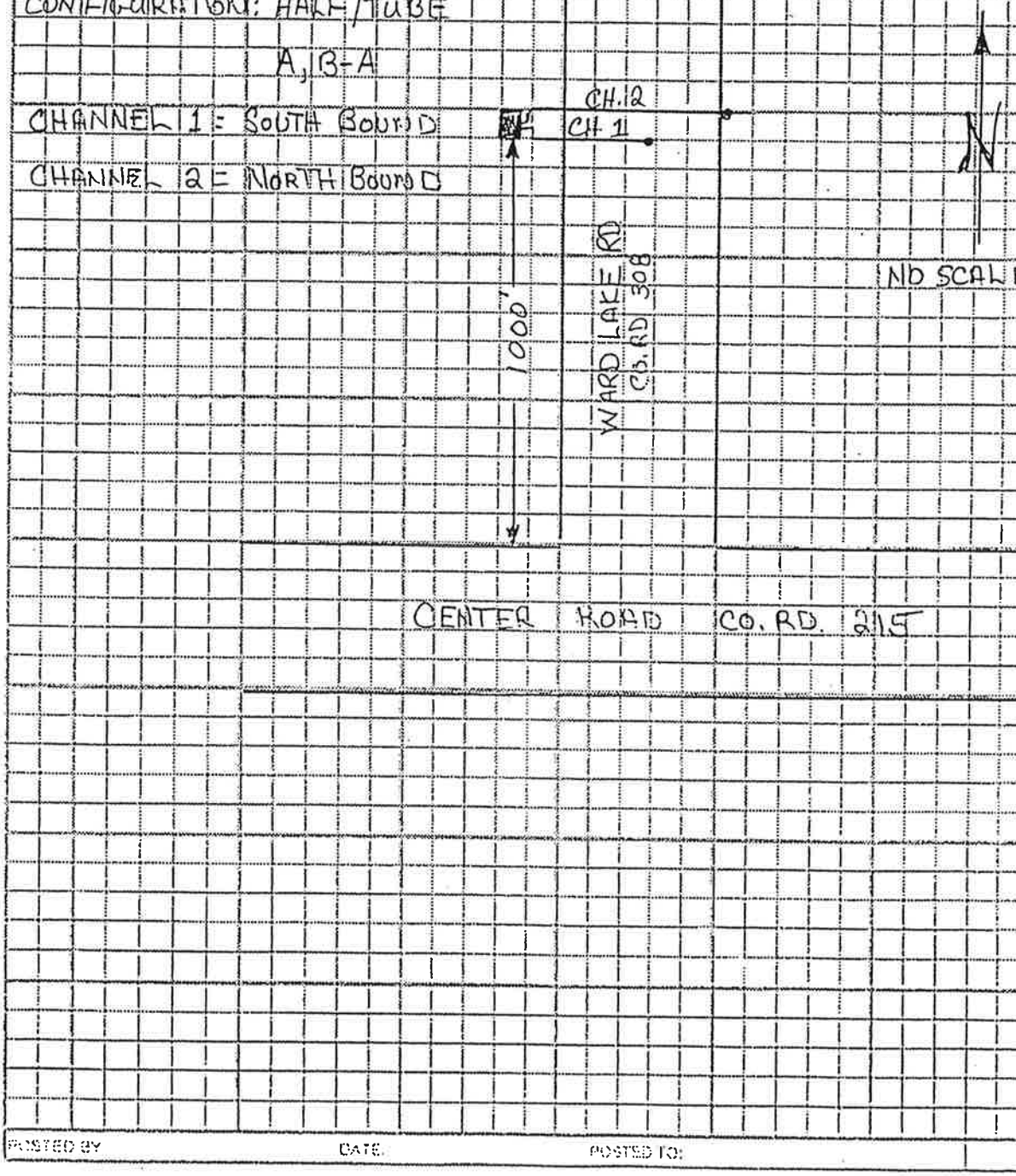
TRAFFIC COUNTERS
SITE NO. 33089671
COUNTER NO. 1834

CLEAR & HOT

CONFIGURATION: HALF/TUBE
A, B-A

CHANNEL 1 = SOUTH BOUND

CHANNEL 2 = NORTH BOUND



POSTED BY | DATE | POSTED TO:

SITE CODE : 33089671
Location : CR308 0.2 MI. N OF CR215
Weather : CLEAR, HOT
Operator : DCE

LASSEN COUNTY ROAD DEPARTMENT

FILE: 33089671

DATE: 7/22/96

TIME	MONDAY 22		TUESDAY 23		WEDNESDAY 24		THURSDAY 25		FRIDAY 26		SATURDAY 27		SUNDAY 28		WEEK AVERAGE	
BEGIN	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0
5:00	6	12	1	7	6	12	9	19	5	13	0	0	0	0	3	9
6:00	30	19	25	20	25	20	28	17	24	17	1	0	0	1	19	13
7:00	8	10	20	22	9	6	8	5	12	7	1	1	2	2	8	7
8:00	32	18	31	18	16	10	29	14	23	18	1	1	2	2	19	11
9:00	12	9	16	15	29	19	11	21	9	12	2	2	1	0	11	11
10:00	29	8	22	20	11	8	17	13	28	22	3	0	2	0	16	10
11:00	8	17	15	22	17	20	11	8	9	10	2	3	3	0	9	11
12:00 PM	38	13	18	15	15	6	3	3	28	16	0	1	0	2	14	8
1:00	5	16	0	0	4	8	14	7	9	13	3	0	1	1	5	6
2:00	27	10	12	13	26	16	9	5	27	19	3	1	1	0	15	9
3:00	12	0	16	5	21	7	29	18	15	2	0	1	1	1	13	4
4:00	2	2	2	2	7	4	7	0	4	3	3	0	6	1	4	1
5:00	4	1	4	4	3	0	3	0	2	3	1	2	1	2	2	1
6:00	3	0	5	3	2	2	1	0	0	0	1	0	0	3	1	1
7:00	2	1	1	0	4	1	0	0	0	1	4	4	1	1	1	1
8:00	2	3	2	3	2	2	1	2	2	2	1	0	0	1	1	1
9:00	0	1	2	5	0	2	0	0	0	1	0	1	1	0	0	1
10:00	0	0	0	0	0	1	0	2	1	0	1	2	0	1	0	0
	0	0	0	0	0	0	1	2	0	1	0	1	0	0	0	0
TOTALS	220	140	192	174	197	144	183	139	198	160	27	20	22	19	141	105

COMBINED TOTALS

12:00 AM	0	0	0	0	0	0	1	0
1:00	0	0	0	0	0	0	0	0
2:00	0	0	0	1	0	0	0	0
3:00	0	0	0	1	0	0	0	0
4:00	0	0	0	3	0	0	0	0
5:00	18	8	18	28	18	0	0	12
6:00	49	45	45	45	41	1	1	32
7:00	18	42	15	13	19	2	4	15
8:00	50	49	26	43	41	2	4	30
9:00	21	31	48	32	21	4	1	22
10:00	37	42	19	30	50	3	2	26
11:00	25	37	37	19	19	5	3	20
12:00 PM	51	33	21	6	44	1	2	22
1:00	21	0	12	21	22	3	2	11
2:00	37	25	42	14	46	4	1	24
3:00	12	21	28	47	17	1	2	17
4:00	4	4	11	7	7	3	7	5
5:00	5	8	3	3	5	3	3	3
6:00	3	8	4	1	0	1	3	2
7:00	3	1	5	0	1	8	2	2
[illegible]	5	5	4	3	4	1	1	2
	1	7	2	0	1	1	1	1
10:00	0	0	1	2	1	3	1	0
11:00	0	0	0	3	1	1	0	0
TOTALS	360	366	341	322	358	47	41	246

SITE CODE : 33089671
Location : CR308 0.2 MI. N OF CR215
Weather : CLEAR, HOT
Operator : DCE

LASSEN COUNTY ROAD DEPARTMENT

FILE: 3308967

DATE: 7/29/9

TIME BEGIN	MONDAY 29 SB	MONDAY 29 NB	TUESDAY 30 SB	TUESDAY 30 NB	WEDNESDAY 31 SB	WEDNESDAY 31 NB	THURSDAY 1 SB	THURSDAY 1 NB	FRIDAY 2 SB	FRIDAY 2 NB	SATURDAY 3 SB	SATURDAY 3 NB	SUNDAY 4 SB	SUNDAY 4 NB	WEEK AVE SB	WEEK AVE NB
12:00 AM	0	0	0	0	0	0	*	*	*	*	*	*	*	*	0	
1:00	0	0	0	0	0	0	*	*	*	*	*	*	*	*	0	
2:00	0	0	0	0	0	0	*	*	*	*	*	*	*	*	0	
3:00	0	0	0	0	0	0	*	*	*	*	*	*	*	*	0	
4:00	0	0	0	0	0	0	*	*	*	*	*	*	*	*	0	
5:00	6	12	1	7	0	12	*	*	*	*	*	*	*	*	2	
6:00	30	19	25	20	23	16	*	*	*	*	*	*	*	*	26	
7:00	8	10	20	22	36	30	*	*	*	*	*	*	*	*	21	
8:00	32	18	31	18	15	14	*	*	*	*	*	*	*	*	26	
9:00	12	9	16	15	23	31	*	*	*	*	*	*	*	*	17	
10:00	29	8	22	20	22	17	*	*	*	*	*	*	*	*	24	
11:00	8	17	15	22	24	23	*	*	*	*	*	*	*	*	15	
12:00 PM	38	13	18	15	*	*	*	*	*	*	*	*	*	*	28	
1:00	5	16	18	19	*	*	*	*	*	*	*	*	*	*	11	
2:00	27	10	18	13	*	*	*	*	*	*	*	*	*	*	22	
3:00	12	0	16	4	*	*	*	*	*	*	*	*	*	*	14	
4:00	2	2	6	9	*	*	*	*	*	*	*	*	*	*	4	
5:00	4	1	7	1	*	*	*	*	*	*	*	*	*	*	5	
6:00	3	0	2	1	*	*	*	*	*	*	*	*	*	*	2	
7:00	2	1	2	4	*	*	*	*	*	*	*	*	*	*	2	
8:00	2	3	1	1	*	*	*	*	*	*	*	*	*	*	1	
9:00	0	1	0	1	*	*	*	*	*	*	*	*	*	*	0	
10:00	0	0	0	0	*	*	*	*	*	*	*	*	*	*	0	
	0	0	0	0	*	*	*	*	*	*	*	*	*	*	0	
TOTALS	220	140	218	192	143	143	*	*	*	*	*	*	*	*	220	

COMBINED TOTALS

12:00 AM	0	0	0	*	*	*	*		
1:00	0	0	0	*	*	*	*		
2:00	0	0	0	*	*	*	*		
3:00	0	0	0	*	*	*	*		
4:00	0	0	0	*	*	*	*		
5:00	18	8	12	*	*	*	*		1
6:00	49	45	39	*	*	*	*		4
7:00	18	42	66	*	*	*	*		4
8:00	50	49	29	*	*	*	*		4
9:00	21	31	54	*	*	*	*		3
10:00	37	42	39	*	*	*	*		3
11:00	25	37	47	*	*	*	*		3
12:00 PM	51	33	*	*	*	*	*		4
1:00	21	37	*	*	*	*	*		
2:00	37	31	*	*	*	*	*		
3:00	12	20	*	*	*	*	*		
4:00	4	15	*	*	*	*	*		
5:00	5	8	*	*	*	*	*		
6:00	3	3	*	*	*	*	*		
7:00	3	6	*	*	*	*	*		
	5	2	*	*	*	*	*		
	1	1	*	*	*	*	*		
10:00	0	0	*	*	*	*	*		
11:00	0	0	*	*	*	*	*		
TOTALS	360	410	286	*	*	*	*		3

COUNTY of LASSEN ROAD DEPARTMENT
QUANTITY CALCULATIONS
JOB STAMP

TRAFFIC COUNTS
CENTER ROAD, CR215
EAST/WEST BOUND

ITEM	TRAFFIC COUNTS (MILES)		SHEET	OF
LOCATION	CENTER RD. #215 @ WARD LAKE RD		FILE NO	
CALC. BY	D.C.S	DATE 7-24-96	SEGREGATION	YES - NO
CHK. BY		DATE		

TIME BEGIN	7-1-96 EAST	7-1-96 WEST	7-2-96 EAST	7-2-96 WEST	7-3-96 EAST	7-3-96 WEST	7-8-96 EAST	7-8-96 WEST	7-9-96 EAST	7-9-96 WEST	7-10-96 EAST	7-10-96 WEST	7-11-96 EAST	7-11-96 WEST	7-12-96 EAST	7-12-96 WEST	AVERAGE	
6:00 Am	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:00	24	23	11	42	14	27	13	38	11	40	18	34	14	37	13	36		
8:00	21	26	11	19	21	16	6	23	9	30	15	28	18	33	10	26		
9:00	22	27	15	27	17	29	12	28	6	21	22	34	9	24	10	33		
10:00	26	23	13	30	15	16	9	26	10	17	4	24	21	35	13	27		
11:00	14	31	11	21	18	22	8	23	11	25	22	19	20	19	19	21		
12:00 Pm	22	17	23	23	14	18	13	22	11	21	20	23	18	20	16	23		
1:00	12	29	20	24	23	22	18	19	28	27	17	18	11	17	18	28		
2:00	23	18	18	15	21	17	30	19	22	26	26	18	11	13	23	27		
3:00	35	23	17	26	18	26	25	30	21	16	27	32	41	35	33	36		
4:00	26	16	22	22	17	16	16	16	14	8	15	8	22	16	22	10		
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTALS	225	233	161	249	178	209	150	314	143	229	186	238	185	249	177	262	176	299
COMBINED TOTALS	458		410		387		394		372		424		434		439		8318 / 415	

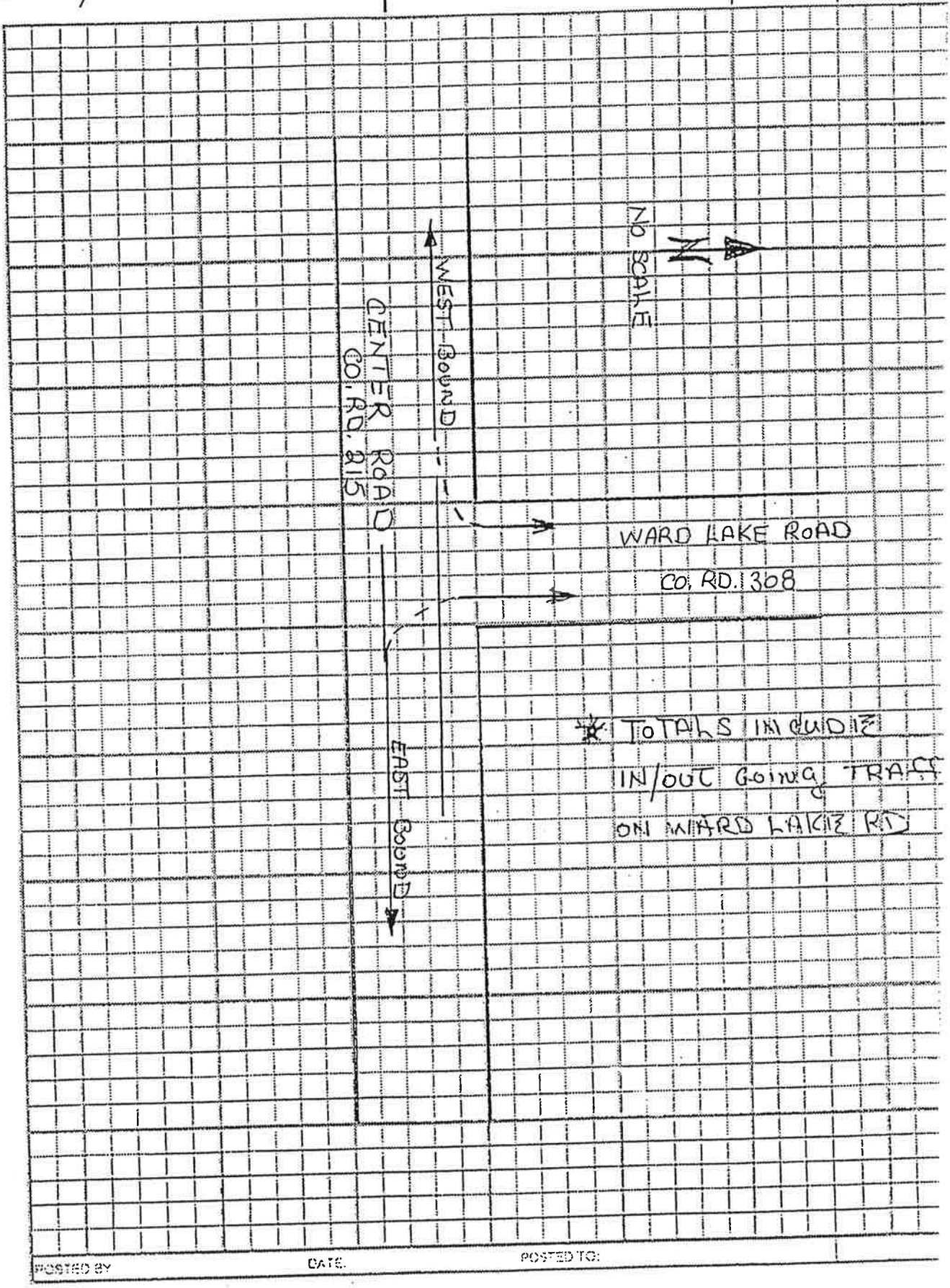
POSTED BY: DATE: CHECKED BY:

COUNTY of LASSEN ROAD DEPARTMENT
QUANTITY CALCULATIONS
JOB STAMP

SHEET OF

TRAFFIC COUNTS (DETAILS)
CENTER ROAD, CR215
EAST/WEST BOUND

ITEM: MILLER'S TRAFFIC COUNTS
LOCATION: CENTER RD. CR215
CALC. BY: D.C.E. DATE: 7-24-96
CHK. BY: DATE:
FILE NO.:
SEGREGATION: YI



POSTED BY DATE POSTED TO:

COUNTY of LASSEN ROAD DEPARTMENT
QUANTITY CALCULATIONS
JOB STAMP

TRAFFIC COUNTS
WARD LAKE RD. CR 308
NORTH BOUND

ITEM TRAFFIC COUNTS FROM MILLER'S
LOCATION WARD LAKE RD # 308
CALC. BY J.C.E. DATE 7-13-96
CHK. BY DATE
SEGREGATION YES - NO
FILE NO
SHEET OF

TURING MOVEMENTS 'FROM' CENTER RD. (CR215)

TIME BEGIN	7-1-96		7-2-96		7-3-96		7-8-96		7-9-96		7-10-96		7-11-96		7-12-96		AVERAGE	
	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST		
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:00	4	0	7	2	2	4	4	5	7	0	9	1	9	2	8	1		
8:00	3	2	4	2	3	4	4	1	3	1	4	1	6	0	12	1		
9:00	0	2	2	1	6	5	2	0	4	0	5	0	6	0	5	0		
10:00	2	2	7	1	2	5	3	2	5	0	3	1	7	0	10	0		
11:00	3	1	4	1	3	0	3	1	4	1	6	3	7	1	7	1		
12:00 PM	3	2	3	1	2	1	3	0	3	0	10	0	5	1	6	0		
1:00	4	2	2	0	3	0	2	4	3	0	8	0	4	1	5	1		
2:00	1	1	5	0	5	0	5	5	4	0	3	0	0	2	6	1		
3:00	1	0	1	0	2	0	0	0	2	0	1	0	1	0	1	1		
4:00	4	1	0	0	0	3	6	0	2	0	3	1	0	0	1	0		
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTALS	25	13	35	8	28	22	32	18	37	2	47	7	45	7	61	6	39	10
COMBINED TOTALS	38		43		50		50		39		54		52		67		49	
TRUCK TOTALS	19	9	20	3	15	16	18	11	24	1	35	5	38	1	39	4	32	
	28		23		31		29		25		40		39		42			

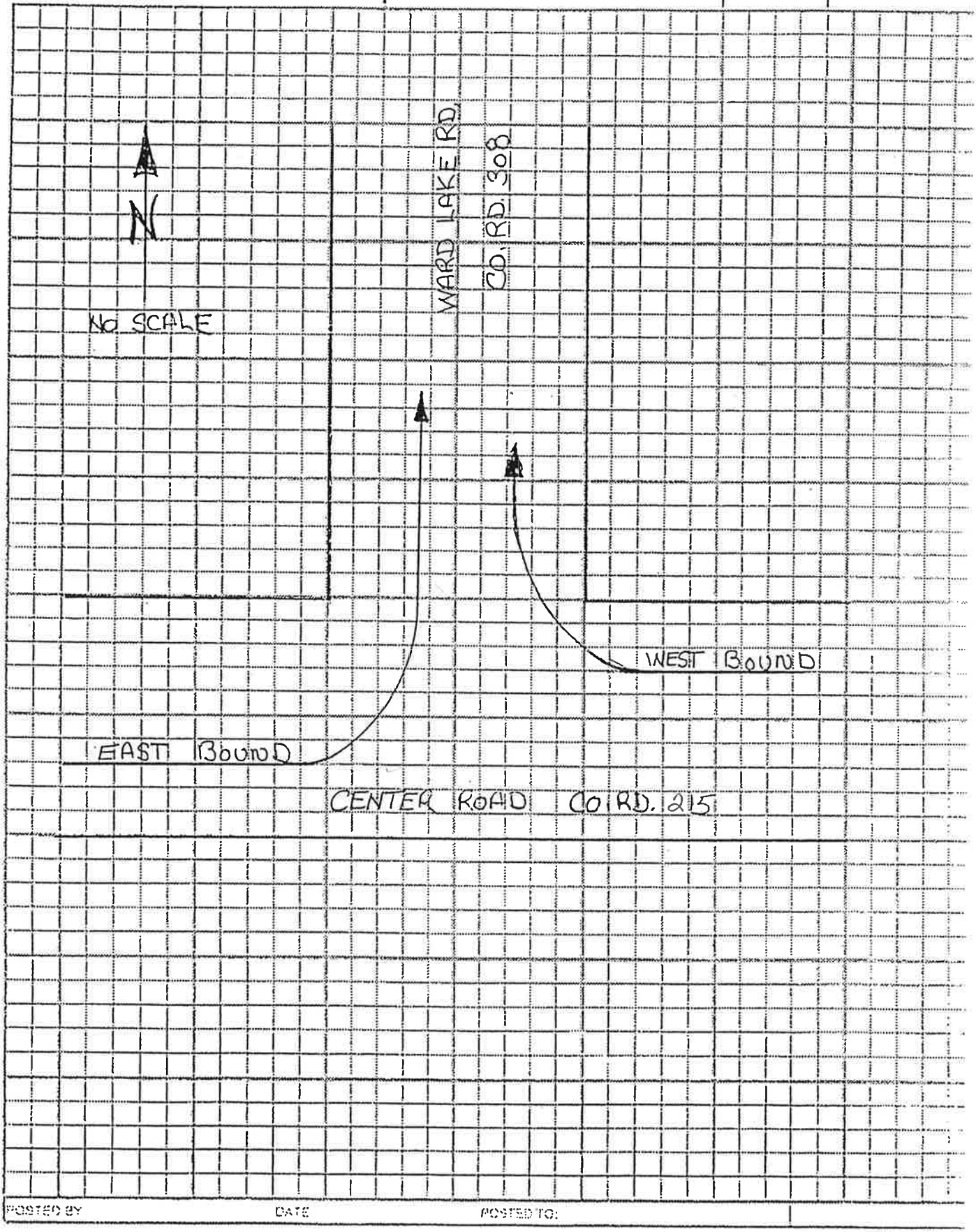
POSTED BY: DATE: REVIEWED BY:

QUANTITY CALCULATIONS
JOB STAMP

SHEET OF

TRAFFIC COUNTS (DETAIL)
WARD LAKE ROAD, CR308
NORTH BOUND

ITEM MILLER'S TRAFFIC COUNTS		FILE NO.
LOCATION WARD LAKE # 308		SEGREGATION YES - NO
CALC. BY D.C.E.	DATE 7-23-96	
CHK. BY	DATE	



POSTED BY DATE POSTED TO:

TURNING MOVEMENTS 'ONTO' CENTER RD. (CR215)

QUANTITY CALCULATIONS
JOB STAMP

ITEM: TRAFFIC COUNTS FROM MILEPOST
LOCATION: WARD LAKE RD. CR308
COMP. BY: D.C.E. DATE: 7-23-96
CHK. BY: DATE:
SEGREGATION: YES - NO
SHEET: OF
FILE NO.

TRAFFIC COUNTS
WARD LAKE RD. CR308
SOUTH BOUND

POSTED BY: DATE: REVISED TO:

TIME BEGIN	7-1-96 EAST	7-1-96 WEST	7-2-96 EAST	7-2-96 WEST	7-3-96 EAST	7-3-96 WEST	7-8-96 EAST	7-8-96 WEST	7-9-96 EAST	7-9-96 WEST	7-10-96 EAST	7-10-96 WEST	7-11-96 EAST	7-11-96 WEST	7-12-96 EAST	7-12-96 WEST	AVERAGE	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:00	2	3	2	7	5	2	3	5	0	5	1	9	3	3	1	9		
8:00	0	4	0	5	5	2	2	7	0	10	2	4	0	9	1	9		
9:00	3	3	3	3	6	7	1	6	0	5	2	7	1	7	0	6		
10:00	5	2	3	5	1	4	1	7	0	3	1	4	2	9	1	8		
11:00	2	3	1	1	1	4	1	3	1	5	3	2	1	7	0	7		
12:00 P.M.	2	3	0	4	0	1	0	2	0	4	4	7	2	4	0	6		
1:00	0	6	2	2	2	2	3	4	0	9	1	1	0	3	1	6		
2:00	2	1	0	3	1	4	0	4	0	5	3	5	1	2	3	3		
3:00	2	6	2	5	3	7	3	6	2	6	2	7	1	6	2	10		
4:00	1	1	1	4	0	1	0	0	0	0	1	0	0	0	1	1		
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TOTALS	19	32	14	39	24	31	14	44	3	52	20	46	11	50	10	65	14	46
COMBINED TOTALS	51		53		55		58		55		66		61		75		59	25
TRUCK TOTALS	18	14	7	20	18	16	6	26	2	32	8	37	2	41	5	44		
	32		27		34		32		34		35		43		49		36	

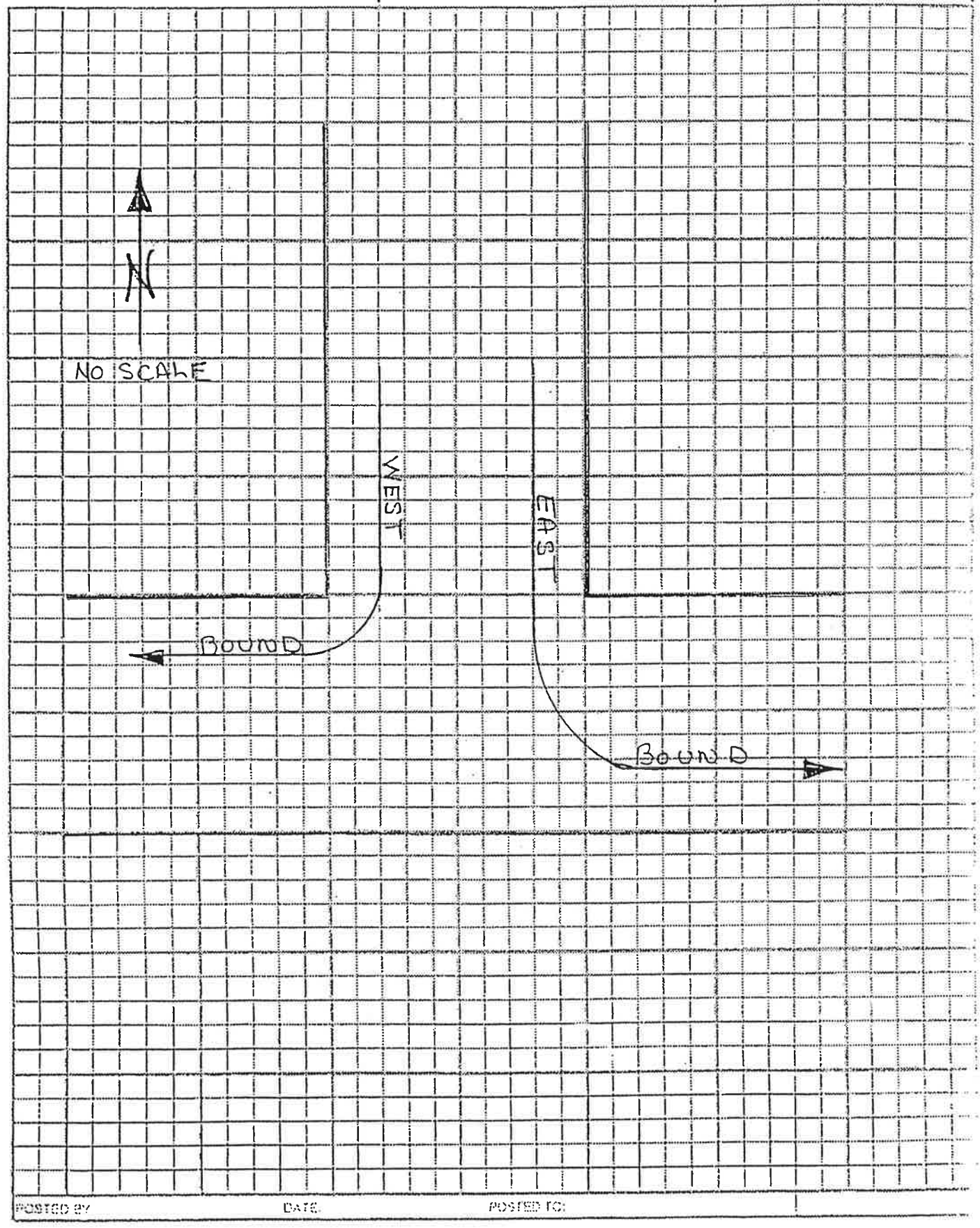
QUANTITY CALCULATIONS

JOB STAMP

SHEET OF

TRAFFIC COUNTS (DETAIL)
WARD LAKE RD. CR308
SOUTH BOUND

ITEM: MILLER'S TRAFFIC COUNTS		FILE NO.
LOCATION: WARD LAKE RD. CR308		SEGREGATION YES - NO
CALC. BY: D.C.E.	DATE: 7-23-96	
CHK. BY	DATE	



POSTED BY DATE POSTED TO

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY PETE WILSON, *Governor*

DEPARTMENT OF TRANSPORTATION
P.O. BOX 496073
REDDING, CA 96049-6073
TDD (916) 225-3464
TELEPHONE: (916) 225-3426

RECEIVED
JUL 11 1996
Lassen County
Department of Community Development

IGR/CEQA Review
02-Las-395-72.93
Miller's Custom Work RP/UP
Early Consultation Request

July 8, 1996

Mr. Richard Simon
Lassen County Planning Department
707 Nevada Street
Susanville, CA 96130

Dear Rick:

Caltrans District 2 has completed our Early Consultation review of the Miller's Custom Work surface mining and processing operation, asphalt-concrete and ready-mix concrete batch plants. The project is located north of Route 395 in the Litchfield/Standish area. This is the re-permitting of an existing operation, and involves extraction and production quantities which exceed the previously approved amounts.

It is our understanding that the applicant is already in the process of supplying updated traffic generation information. This information is essential to our determination of the significance of potential impacts to State highway facilities at the Ward Lake Road and Conservation Camp Road connections to Route 395. We appreciate that our research needs were anticipated, and this information will be forwarded upon receipt from the applicant.

Thank you for providing this early consultation information for our review.

Sincerely,

VICKI ROE
Local Development Review Unit
District 2

The Northeast Center of the California
Historical Resources Information System

BUTTE SIERRA
GLENN SISKIYOU
LASSEN SUTTER
MODOC TEHAMA
PLUMAS TRINITY
SHASTA

Department of Anthropology
California State University, Chico
Chico, CA 95929-0400

(916) 898-6256

July 22, 1996

RECEIVED
JUL 3 1 1996
Lassen County
Department of Community Development

Robert K. Sorvaag
County of Lassen
Department of Community Development
707 Nevada Street
Susanville, CA 96130

RE: I.S. 96056/Miller's Custom Work; I. C. File # I96-12
T30N, R14E, Sections 32 and 33;
USGS Litchfield 7.5' and Litchfield 15' quads
160 acres (Lassen County)

Dear Mr. Sorvaag,

In response to your request and subsequent project location map received July 8, 1996, a project review for the above cited project was conducted by examining the official maps and records for archaeological sites in Lassen County.

RESULTS:

PREHISTORIC RESOURCES: According to our records, there are no recorded sites of this type known to be located within the project boundaries. However, five prehistoric sites have been recorded within a one mile radius of the project area. Site types include an occupation area, temporary campsites, a scatter of lithic flakes and tools, and a petroglyph.

HISTORIC RESOURCES: According to our records, there are no recorded sites of this type known to be located within the project boundaries. However, a portion of the historic Eagle Lake Ditch has been recorded in the project vicinity.

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS: According to our records, no portion of the project area has been previously surveyed for cultural resources by a professional archaeologist. The survey report prepared in 1980 and provided to us with your request was never submitted to the Information Center by the project archaeologist. This report will be incorporated into our files, and we appreciate the inclusion of this report in the

project review request. This will allow us to maintain a more complete data base.

LITERATURE SEARCH: Reviewed were the official records and maps for archaeological sites and surveys in Lassen County. Also reviewed were the **National Register of Historic Places - Listed Properties and Determined Eligible Properties** (1988, Computer Listings 1966 through 6-95 by National Park Service), the **California Inventory of Historic Resources** (1976), **California Points of Historical Interest** (1992), **California Historical Landmarks** (1990), and **Directory of Properties in the Historic Property Data File for Lassen County** (1996).

RECOMMENDATIONS: Based upon the above information obtained as a result of this review and the local topography, the project is located in an area considered to be sensitive for cultural resources. However, due to the fact that a major portion of this project area was examined for cultural resources in 1980 with negative results and due to the previous ground disturbance which the area has already been subjected to which would be likely to obliterate lithic scatter and/or temporary camp sites which may have been present in the project area prior to project operations, we recommend that no cultural resources survey be conducted for this project at this time. We recommend that if any potential cultural resources are encountered during any phase of ground disturbing activities, work should cease in the area of the find until a professional archaeologist can examine the site and materials. This person will be able to identify, record, and assess any cultural resources encountered as well as prepare appropriate preservation/mitigation measures for those resources. At that time, the project archaeologist should contact the appropriate local Native American group(s) in order to determine if there are unrecorded ethnographic sites located within project boundaries for which we have no records.

Please feel free to contact us if you have any questions or need any further information. Thank you for your concern in preserving California's cultural heritage.

Sincerely,

Makoto Kowta

Makoto Kowta, Coordinator
Northeast Information Center

RECEIVED

JUL 16 1996

Lassen County
Department of Community Development

July 15, 1996

County of Lassen
Department of Community Development
707 Nevada Street
Susanville, CA 96130

RE: Notice of Early Consultation - Miller's Custom Work - File #96056

Gentlemen:

The project proposed is essentially the same project that was considered by Superior Court Case No. 26365. That case determined that an Environmental Impact Report was required. It would seem that your notice of Early Consultation is therefore merely procedural. Evidence developed in that trial alone requires that an E. I. R. must be the environmental document for this project.

However, in response to your request for comments and supporting documentation concerning all potentially significant impacts that may result from implementing the Miller's Custom Work Project No. 96056, we, as merely citizens concerned with the environment, respectfully submit the following:

1. Impact: Archeological Resources

Evidence of Impact:

Testimony of Maidu Nation before Planning commission and Board of Supervisors.

Available testimony of Ron Morales, previous employees and commercial haulers from the Miller Mine regarding artifacts found or discovered.

Map of village and burial sites.

Standish-Litchfield General Plan.

Recommended additional studies needed:

Site should be inspected by representatives of the Maidu Nation and by a Archeologist acceptable to the Maidu Nation to determine the relative potential that the impact may be significant.

Suggested Mitigation Measure:

Items 2, 3 and 4 contained in the Offer to Compromise submitted by Miller's Custom Work in Case No. 26365, dated 8/29/95.

2. Impact: Esthetics

Evidence of Impact:

Testimony before the Planning Commission and Board of Supervisors.

Evidence submitted to Court in Superior Court Case No. 26365.

Video tapes and photographs.

Recommended additional studies needed:

None with regard to determining the level of significance, however, the E.I.R. should determine the details of reclamation.

Suggested Mitigation Measure:

The reclamation plan for the entire site should be revised to include appropriate resoiling and revegetation of all disturbed areas including the rock face with the specific methods, techniques, densities, species, success ratios, and monitoring to be determined by the appropriate section in the E.I.R. The financial assurances should be revised to meet current standards.

3. Impact: Structural adequacy of County Roads that will receive the heavy truck traffic that is and will be generated by the project.

Evidence of Impact:

County has had to expend considerable maintenance funds on Ward Lake Road and Center Road since the mine was approved in 1981 due to the impact of truck traffic.

County Pavement Survey results.

County Traffic Counts for Ward Lake and Center Road.

Recommended additional studies needed:

Review of Road Department expenditures on Ward Lake Road and Center road since 1981, including the reasons said expenditures were necessary.

An updated County Pavement Condition Survey of the affected roads and the relationship of needed repairs and improvements to the truck traffic to be generated by this entire project.

Suggested mitigation measure:

Once the total financial impact upon the County Road System attributed to this project, both past and future, has been quantified by an independent traffic engineer in the E.I.R. , the applicant should be required to compensate the County for the expenses of said impacts.

4. Impact: Traffic Safety.

Evidence of Impact:

Intersection of Ward Lake Road and Center Road do not meet the County standards based upon the Dept. of Public Works turning volumes at peak hours.

The County Road Department felt that it was necessary to install warning signs on Center Road to warn traffic approaching the intersect of truck turning movements that would not be expected by the average motorist.

Traffic accidents at the intersection.

County traffic counts for Ward Lake Road and Center Road.

Recommended additional studies needed:

A traffic study should be included in the E.I.R. to determine the level of improvements needed at the Ward Lake Road and Center Road intersection. The study should determine the maximum volume of turning movements that will result when the mine is shipping material, the asphalt plant is in full production and the Concrete Batch Plant is in full production. New traffic counts should be taken during periods of maximum production and operations.

Suggested Mitigation Measure:

Once the type of improvements needed at the intersection have been determined by the appropriate section in the E. I. R., Miller Custom Works should be required to complete or fund those improvement before they are allowed to operate under the new permit.

5. Impact: Conflict with adopted plans.

Evidence of Impact:

Policies and Goals included in the Standish-Litchfield Area Plan.

Recommended additional studies needed:

The area residents and owners should be consulted as to whether the Goals and Policies expressed in the Area Plan still represent their desires. Alternate expressions of the present goals and polices should be proposed for consideration and possible General Plan amendment.

Suggested Mitigation Measure:

The applicant should propose and obtain, after conducting the studies described above, an appropriate General Plan amendment prior to this project being approved, since State Law requires that all projects must be in conformance with the General Plan before they can be approved.

6. Impact: Sound levels.

Evidence of Impact:

Reports of neighbors regarding the sound levels that occur when the rock crusher is operating or when blasting occurs.

Recommended additional studies:

A qualified and independent firm should be retained by the County to establish the actual level of sounds to be generated when all of the various equipment is in full operation and to evaluate possible sound attenuation devices and structures.

Suggested Mitigation Measure:

All stationary equipment that creates sounds that impact the surrounding properties should be enclosed within sound absorption structures such that the sound levels at the boundary of the project will meet the requirements of the Noise Element of the County General Plan and the goals and policies of the Standish-Litchfield Area Plan. All mobil equipment shall be properly equipped with sound reduction devices. Before blasting occurs, the neighbors should be notified of the times and duration of blasting. Blasting should be allowed only during certain periods of time as determined by a survey of the needs of the neighbors.

7. Impact: Wildlife

Evidence of Impact:

Evidence submitted to Court in Superior Court Case No. 26365

Standish-Litchfield Area Plan.

Recommended additional studies needed:

An independent Wildlife specialist, acceptable to the Dept. of Fish and Game, should be retained to evaluate the specific impacts and possible mitigation measures to reduce those impacts upon wildlife in the area including reduction of habitat and nesting areas of deer, antelope, cliff swallows, bank swallows, chukkers and other species.

Suggested Mitigation Measures:

To be developed by appropriate section in the E. I. R.

Various items of inconsistency in the application make it very hard to determine exactly what is being proposed. The applicant proposed absolutely no mitigation measures, not even the ones contained in the previously submitted project! Is the initial study going to ignore all mitigation measures? As another example of the incompleteness of the project as proposed, the project maps submitted attempting to delineate the pre and post mining conditions use a 40 foot contour interval and a scale of approximately 1" = 1000' which can not possibly accurately describe the actual ground surface. We might note that such large intervals and scales are unprecedented for a project of this magnitude. It seems that the Millers are again being allowed special privileges. One such inconsistency is the proposed height of the exposed rock face. A calculation on NST letterhead is supposed to show that the rock face is presently 84 feet in height with the highest point at 4427 elevation. The

maps sort of indicate that the highest elevation of the quarry area is somewhat similar. The application is to increase the height of the exposed rock face from 84' to 150'. Does that mean that the highest point is then going to become 4427 plus 66' (150' minus 84') or elevation 4493 ? Or does it mean that the lower elevation is going to be lowered 66'? Have both these areas already been mined ? How much area has already been mined in violation of their existing permit? It seems that the Court injunction with regard to mining above the elevation limit imposed by the original 1981 permit been violated.

In our opinion, the Initial Study check list completed by the applicant should have checked "yes" for items 1,4,7,9, and 14. When these are added to the items that he did check "yes" (4 total), a combined total number of 9 potentially significant impacts out of 15 are identified. With that large number of impacts already identified and with the results of the Superior Court Case, it seems inconceivable that the Planning staff would even consider offering that a negative declaration could possibly be appropriate for this project. But then perhaps, Miller Custom Works, are going to receive continued special consideration?

The County of Lassen should be concerned that they are accepting the responsibly of reclamation of this eyesore if Miller Custom Works defaults on their commitment. As such a collapse is a definite possibility, due to the present financial condition of the Miller organization, the County should be particularly prudent in approving the cost estimates and method and amount of financial assurances. If Miller doesn't properly reclaim this site, the County will have to complete the reclamation. Please be sure that we the people will not have to pay with our taxes for that work. As a neighbor, who would have to view the eyesore of pink rock and broken down equipment forever if it is not properly reclaimed, the site must be reclaimed!

Everd A. McCain

miller14

E. 1996 Initial Environmental Study

INITIAL STUDY #96056, MILLER'S CUSTOM WORK, INC.
INTRODUCTION, PROJECT DESCRIPTION AND SUMMARY OF ENVIRONMENTAL ISSUES

INTRODUCTION:

Pursuant to an order from the Lassen County Superior Court, Lassen County, as Lead Agency, is undertaking additional assessment of potentially significant environmental impacts in the areas of visual effects and effects on deer and antelope associated with the project described below.

PROJECT DESCRIPTION:

The project under consideration is the expansion of an aggregate excavation and processing operation currently allowed under use permits #79-80-44, #11-02-85, and #94032, and reclamation plan #94032. The project is located on a +/- 160-acre portion of a 240-acre parcel of private land (Assessor's Parcel Number 109-100-40). The proposal includes the rezoning of the subject parcel from "U-C" (Upland Conservation) to "U-C-2" (Upland Conservation/Resource Management) to allow operation of a ready-mix concrete plant (already on site and operating within the limits imposed by the Court. The components of the expansion that are relevant to the Superior Court order, and for which additional environmental assessment is therein required, consist of the following:

1. Increase the height of the exposed rock quarry face from the existing +/-84 feet to a maximum of 150 feet.

2. Add on site production of ready mix concrete to the allowed uses on site, which now include production of asphalt concrete.

3. Rezone the parcel from "U-C" to "U-C-2."

4. Expand the season of operations from seven months (April through October) to year around as weather permits.

SUMMARY OF ENVIRONMENTAL ISSUES:

Lassen County has prepared an Initial Study for this project which addresses the potentially significant environmental effects of the proposed expansion. The environmental issues that are the subject of the Superior Court order, for which mitigation has not been fully determined, are summarized below.

Aesthetics

The majority of the processing and stockpile areas of the site are shielded from public view by a rock ridge between the site and Ward Lake Road. The project site is located approximately three miles north of Highway 395, and approximately one mile north of Conservation Center Road (County Road A-27). The site is beyond the locally designated Scenic Highway Corridor of Highway 395, which extends 500 feet on both sides of the Highway. The expansion of the quarry face, however, from the current 84 feet to a maximum of 150 feet in height will make the quarry face visible to east bound travelers on both Conservation Center Road and Highway 395, and from other valley locations west of the project site. While the quarry face would not obstruct any scenic vistas, it could be considered offensive.

Long term mitigation would include construction of benches at regular intervals which would be resoiled and revegetated as part of site reclamation. Established vegetation would provide a blending effect by covering the cut slopes and by speeding up the natural weathering process of the rock. Additional study is required to determine the significance of potential visual impacts, the effectiveness of proposed long term mitigation as described above, and to identify any options for short term mitigation prior to reclamation.

Deer, Antelope and Associated Habitat

The site has been identified by the Department of Fish and Game as mule deer and antelope winter range. The proposed expansion of the project will require removal of existing habitat within the approximately 35 to 40 acres comprising the expanded excavation area. Mining activity will result in a barrier to normal replenishment of plant species, and a disruption of potential habitat values until reclamation of the site is complete (estimated at 24 years from now).

The original project, approved in 1981, assumed an operating season of April through October with seasonal closure due to unsuitable weather conditions for mining and manufacture of asphalt generally from November through March. The closure period was recognized as helping to reduce the project's impacts on deer and antelope using the area for winter foraging, but was never incorporated as a formal condition of operation. Consequently, the operator has operated the facility during the assumed closure period over the last 15 years as weather allowed.

Nonetheless, the proposed expansion of the operating season from seven months to year around could result in reductions to deer and antelope use of the site and surrounding lands during the winter season due to human activity at the site. Further study is required to determine the significance of potential impacts to deer and antelope as a result of the proposed year around season of operations, and to identify possible mitigation options.

Land Use and Zoning

The project site is currently zoned "U-C" (Upland Conservation), which the Court has determined does allow for mining and processing, but does not explicitly allow ready mix concrete plants, as proposed in this application. The applicant has requested a rezoning of the parcel to "U-C-2" (Upland Conservation/Resource Management), which does allow ready mix plants upon approval of a use permit. Both the "U-C" and "U-C-2" districts are intended to promote natural resource oriented land uses such as agriculture, logging and surface mining, while protecting such lands from development which is incompatible with such resource-based activities. The "U-C-2" district allows for a greater range of resource-based land uses than does the "U-C" zone, which, as a more recently developed zone, reflects more contemporary land use policies and language.

The uses allowed within "U-C-2" that are not allowed in "U-C" are the following:

By Right

1. A second dwelling when associated with an agricultural operation;
2. Hunting clubs;
3. Firewood processing (under 100 cords per year);
4. Temporary agricultural produce stands;
5. Similar uses to those listed.

By Use Permit

1. Retail nurseries;
2. Asphalt hot plants (explicitly stated as opposed to "processing of natural mineral materials" as stated in the "U-C" zone);
3. Commercial recreation facilities such as guest ranches, RV parks, campgrounds;
4. Similar uses to those listed.

The additional uses allowed by right in the "U-C-2" zone are consistent with the intent and anticipated classes of land use for both the subject districts and would not result in substantial additional environmental impacts beyond those resulting from current land use at the site or with the land uses anticipated within the "U-C" zone. The additional land uses allowed within "U-C-2" upon approval of a use permit, are also consistent with the intent of both districts, and are consistent with the Recreational Land Use Policies of the Standish-Litchfield Area Plan, which call for private cooperation in the development of resource-based recreational opportunities within the Planning Area. However, a few of the additional uses by use permit may represent additional and/or different classes of potential environmental impacts such as noise, traffic, dust and emissions, light and glare. Such projects would be subject to the standards in place regarding air pollution (through the APCD) noise (County Noise Element to the General plan), traffic (County and AASHTO design standards). Further, these additional uses are, by definition, subject to individual scrutiny in terms of both environmental review and compatibility with the particular site and surrounding lands, within the use permit process.

Finally, it should be noted that the proposed rezone has been requested to facilitate existing operations which are expected to continue at the site for approximately 24 years; not to promote a change in land use. Therefore, it is not likely that the rezoning of the parcel will result in significant additional environmental impacts now or in the foreseeable future.

FILE NO. 96056

LASSEN COUNTY

USE PERMIT

APPLICATION

The following application form shall be used to apply for a Use Permit as per Chapter 18.112 of the Lassen County Code.

1. Proposed Use See attached Project Description and Explanatory Supplement

2. Name of Applicant MILLER'S CUSTOM WORK, INC.

   Mailing Address P.O. Box 1300, Susanville, CA 96130

   Phone No. 257-4207 Date April 12, 1996

   Day Phone same

3. If applicant is not the Property Owner of Record of the project site, please complete the following:

   Name of Property Owner DARREL E. MILLER, Successor Trustee of the Miller Family Trust UTA dated 6/21/79 as to an undivided 2/3 interest and DARREL E. MILLER as to an undivided 1/3 interest.

   Mailing Address P.O. Box 1300, Susanville, CA. 96130

   Phone No. 257-4207

   I hereby give the above applicant(s) permission to apply for and conduct upon my property the use applied for in this application.

   April 12, 1996
   Date

   Darrel E. Miller
   Signature of Property Owner

4. Assessor's Parcel No. 109-100-40

5. Present Zoning U-C

6. Complete the use permit application supplement sheet and attach.

7. Attach a plot plan of the proposed project with a landscaping plan (if applicable).

8. Feel free to attach any photographs or attachments in relation to this application.

   I hereby understand that the use permit applied for is the same as described in this application and/or as modified in my revisions approved by the Planning Department prior to approval.

   April 12, 1996
   Date

   James C. Miller
   Signature of Applicant
   JAMES C. MILLER, President

(7/86)

E PERMIT APPLICATION SUPPLEMENT

File #_____

Complete the following application supplement. Answer all questions that relate to the proposed use. A thorough description of the proposed use will aid in the timely processing of the application.

PROPOSED USE See attached Project Description and Explanatory Supplement

SITE LOCATION Western slope of Shaffer Mountain, East of Ward Lake (APN 109-100-40)

TIME FRAMES

Proposed timeframe for the project and each major phase (i.e. when structures and improvements will be completed): The project already substantially exists; project life per reclamation plan extends to 2020.

PROJECT SITE

Existing use of property: See attached project description

Uses of surrounding properties to the: north open range south surface mining east open range west farming

PROJECT INFORMATION (See Supplemental Project Description attached for further info)

Product or service to be provided: Asphalt and Redimix Concrete; Crushed Aggregates; sand

Hours of operation: 6:00a. m. to 6:00 p. m. Days of operation 5to6

Number of shifts: (currently) 1 Employees at largest shift: 10

Number of shifts: (proposed) 1 Employees at largest shift: 10

Number of deliveries or pick-ups: ~~parking concrete trucks~~

and Number of visitors/customers anticipated: per day appx 10 per week appx 55

Will the project result in a change in the ambient noise levels for adjacent properties? yes ____ no X If yes, please specify _____

Noise level in DbA at: 50 feet ____, 100 feet ____, property line - dba = 50

~~"Measurements are currently being taken and will be provided"~~ Attached

BUILDING INFORMATION

Existing Building and Improvements

Describe existing structures and improvements to be used in conjunction with this application: Access roads, utilities, batch plants, crushers, scales, etc., and related portable and removable equipment, fuel tanks, containment basins around hazardous fluids, per SPCC Plan (copy attached), operations trailer.

Floor Area: existing structures (sq. ft.) N/A

Seating capacity: (if applicable) N/A

Existing structures or improvements to be removed: N/A

Max. Height (ft.): Existing structures N/A

Proposed New Construction

Desribe proposed structures and improvements (e.g. parking, roads, water and sewer systems, etc.) None

Floor Area : new structures (sq. ft.) N/A

Seating capacity: (if applicable) N/A

(revised 1/87) (over)

Max. Height (ft.): proposed structures N/A

Description of exterior night lighting: N/A

Will grading or filling be required? ____ yes ____ cubic yards, X no

LANDSCAPING AND PARKING

Site Coverage: Total area to be covered by driveways, structures, etc. (%) N/A

Landscaping plan submitted: yes _____ no X N/A

Parking spaces: Existing spaces _____ employee _____ customer _____
Proposed spaces _____ employee _____ customer _____ N/A

Proposed parking plan submitted: yes _____ no X N/A

Describe proposed surface of parking area: N/A

SERVICES AVAILABLE

Indicate how the following services will be provided for your project and availability of service.

a. Electricity: Existing onsite by LMUD

b. Natural Gas: None

c. Water Supply: Existing wells

d. Sewage Disposal: Portable toilets

e. Solid Waste Disposal: Minimal - to Landfill as needed

If an extension of service lines is necessary, indicate which service(s) and the distance of the extension(s) N/A

SERVICE DISTRICTS

Please name if applicable

High School District: Lassen

Elementary School District: Shaffer

Fire Protection District: Standish/Litchfield

Water District: None

Community Services District: None known

Sanitation District: None

Other: None known

LICENSES OR APPROVALS REQUIRED

District: LCAPCD (ATO attached) Regional: LRWQCD

State: None known Federal: None known

Office Use Only *

Planning Area: _____
Zoning District: _____
Combining District: _____
Date Accepted: _____
Deed Reference: Book____ Page_____
Planning Area Standards: _____ Page: _____

Fees: Application _____
Environmental _____

Notes:

(revised 1/87)

NST ENGINEERIN INC.
Engineering - Planning - Surveying
1495 Riverside Drive
SUSANVILLE, CA 96130
(916) 257-5173

SHEET NO. _____ OF _____
CALCULATED BY _____ DATE 3/29/96
CHECKED BY _____ DATE _____
SCALE _____

WARD LAKE PIT

HIGHEST POINT 4427'

WEST BENCH - 4343'

84'

SURVEY BY SHS & VHT 3/29/96

CURRENT FACE AS OF 8/29/96

Calculation of existing rock face height (quarry)

REF 94-04-18
(BENCH MARK @ SCALES)

PROJECT DESCRIPTION

The Re-permiting of existing surface mining operation to reflect current and future operations. The project includes quarrying of rock, excavation of sand and gravel, crushing, screening, washing, and stockpiling; transportation of a portion of the foregoing mineral materials offsite for commercial purposes. Utilization of a portion of the foregoing mineral materials for the onsite production of asphalt concrete and ready mix concrete; the occasional import of supplemental aggregates and materials for such concrete production; rezoning of project from U-C to U-C-2; implementation of existing reclamation plan (#94032) during the life of project, and at project life end which is currently projected to be in year 2020. (Also see Description Supplement 2, next page)

/klb/1324

SUPPLEMENT TO PROJECT DESCRIPTION

(THREE PAGES ARE AFFIXED HERETO)

The project is presently in existence at the project site substantially as proposed in the Project Description pursuant to an existing use permit, and other entitlements or authorizations. The project's restated permit sought hereby is subject to an existing and approved reclaimation plan which itself is subject to minor amendment for project mitigation purposes, if any are necessary.

This application, and its related applications, are submitted to bring the project under one use permit. The highlights of the changes sought via these applications vis-a-vis existing uses and/or authorizations, include but are not limited to, the following:

(a) increase height of exposed rock face from the existing 84 feet to 150 feet (See attached calculations and maps);

(b) onsite production of the ready mix concrete in addition to the existing approved production of asphalt concrete;

(c) recognition of year-round use of project site;

(d) recognition of 160 acre project site. All mining will be contained within the original authorized ~~80~~ 110 acres of which presently approximately 27 acres has been utilized. The balance will be used for topsoil, overburden or equipment storage (See attached maps).

/klb/1324

INITIAL STUDY

Completed by the
Environmental Review Officer

BACKGROUND INFORMATION

1. Name of Proponent Miller's Custom Work, Inc.

   Address & Phone P.O. Box 1300
   Susanville, CA 96130
   (916) 257-4207

2. Location of Project E. of Ward Lake Rd. ± 3mi. northwest of Litchfield

3. Lead Agency Lassen County

4. Common Name of Proposal Ward Lake Pit

ENVIRONMENTAL IMPACTS
(Explanations of all "yes" and "maybe" answers are required on attached sheets)

	YES	MAYBE	NO
1. Earth - Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic substructures?	—	—	X
b. Disruptions, displacements, compaction or overcovering of the soil?	X	—	—
c. Change in topography or ground surface relief features?	X	—	—
d. The destruction, covering or modification of any unique geologic or physical features?	—	—	X
e. Any increase in wind or water erosion of soils, either on or off the site?	—	—	X
f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of any bay, inlet or lake?	—	—	X
g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?	—	—	X
2. Air - Will the proposal result in:			
a. Substantial air emissions or deterioration of ambient air quality? (See letter from APCO dated 7/10/96)	—	—	X

Continued

	YES	MAYBE	NO
Air (Continued)			
b. The creation of objectionable odors?	—	—	X
c. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?	—	—	X
3. Water - Will the proposal result in:			
a. Changes in currents, or the course or direction of water movements?	—	—	X
b. Changes in absorption rates, drainage patterns or the rate and amount of surface water runoff?	—	—	X
c. Alterations to the course or flow of flood waters?	—	—	X
d. Change in the amount of surface water in any water body?	—	—	X
e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?	—	—	X
f. Alteration of the direction or rate of flow of ground waters?	—	—	X
g. Change in the quantity or quality of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?	—	—	X
h. Substantial reduction in the amount of water otherwise available for public water supplies?	—	—	X
i. Exposure of people or property to water related hazards such as flooding?	—	—	X
4. Plant Life - Will the proposal result in:			
a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, and aquatic plants)?	X	—	—
b. Reduction of the numbers of any unique, rare or endangered species of plants? (See Ornate Dalea survey in Application)	—	—	X
c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?	—	X	—
d. Reduction in acreage of any agricultural crop?	—	—	X
5. Animal Life - Will the proposal result in:			
a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish, benthic organisms or insects)?	—	X	—

Continued

	YES	MAYBE	NO
Animal Life (Continued)			
b. Reduction of the numbers of any unique, rare or endangered species of animals? (See F&G letter dated June 30, 1994)	—	—	X
c. Introduction of new species of animals into an area, or result in a barrier to the migration of movement of animals?	—	—	X
d. Deterioration to existing fish or wildlife habitat?	—	X	—
6. Noise - Will the proposal result in:			
a. Increases in existing noise levels? See measurement results attached	—	—	X
b. Exposure of people to severe noise levels?	—	—	X
7. Light and Glare - Will the proposal produce new light/glare?	—	—	X
8. Land Use - Will the proposal result in a substantial alteration of the present or planned land use in the area?	—	—	X
9. Natural Resources - Will the proposal result in:			
a. Increase in the rate of use of any natural resources?	—	—	X
b. Substantial depletion of any nonrenewable natural resource?	—	—	X
10. Risk of Upset - Does the proposal involve a risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?	—	X	—
11. Population - Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?	—	—	X
12. Housing - Will the proposal affect existing housing, or create a demand for additional housing?	—	—	X
13. Transportation/Circulation - Will the proposal result in:			
a. Generation of substantial additional vehicular movement?	—	—	X
b. Effects on existing parking facilities, or demand for new parking?	—	—	X
c. Substantial impact upon existing transportation systems?	—	—	X
d. Alterations to present patterns of circulation or movement of people and/or goods?	—	—	X

Continued

	YES	MAYBE	NO
Transportation (Continued)			
e. Alterations to waterborne, rail or air traffic?	___	___	X
f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?	___	___	X
14. Public Services - Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:			
a. Fire protection?	___	___	X
b. Police protection?	___	___	X
c. Schools?	___	___	X
d. Parks or other recreational facilities?	___	___	X
e. Maintenance of public facilities, including roads?	___	___	X
f. Other governmental services?	___	___	X
15. Energy - Will the proposal result in:			
a. Use of substantial amounts of fuel or energy?	___	___	X
b. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?	___	___	X
16. Utilities - Will the proposal result in a need for new systems or substantial alterations to the following utilities:			
a. Power or natural gas?	___	___	X
b. Communications systems?	___	___	X
c. Water?	___	___	X
d. Sewer or septic tanks?	___	___	X
e. Storm water drainage?	___	___	X
f. Solid waste and disposal?	___	___	X
17. Human Health - Will the proposal result in:			
a. Creation of any health hazard or potential health hazard (excluding mental health)?	___	___	X
b. Exposure of people to potential health hazards?	___	___	X
18. Aesthetics - Will the proposal result in the obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view?	___	X	___

	YES	MAYBE	NO
19. Recreation - Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities?	___	___	X
20. Archaeological/Historical - Will the proposal result in an alteration of a significant archaeological or historical site, structure, object or building? (See letter from NE center dated 7/22/96)	___	___	X
21. Mandatory findings of significance:			
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 pre-history?	___	X	___
b. Does the project have the potential to achieve short-term, to the disadvantage of long-term environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future)	___	___	X
c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but the effect of the total of those impacts on the environment is significant)	___	___	X
d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	___	___	X

RECOMMENDED MITIGATION MEASURES & ANSWERS TO ALL "YES" AND "MAYBE" ANSWERS BELOW:

DECISION OF THE ENVIRONMENTAL REVIEW OFFICER

On the basis of this initial evaluation:

[ ] I find that the project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

[ ] I find that, although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on this sheet (or attachment) have been added to the project. A NEGATIVE DECLARATION will be prepared.

[X] I find that the proposed project MAY have a significant effect on the environment and that an ENVIRONMENTAL IMPACT REPORT is required.

Signature: _____ Date: 8/9/96

Environmental Review Officer

for

* *

RECOMMENDATION OF THE ENVIRONMENTAL REVIEW OFFICER

On the basis of this initial evaluation:

[ ] I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION is recommended to be prepared.

[ ] I find that, although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on this sheet (or attachment) have been added to the project. A NEGATIVE DECLARATION is recommended to be prepared.

[ ] I find that the proposed project MAY have a significant effect on the environment and that an ENVIRONMENTAL IMPACT REPORT is recommended to be prepared.

Signature _____ Date: _____

Environmental Review Officer

(Rev. 5/87)

INITIAL STUDY #96056, MILLER'S CUSTOM WORK, INC.
APPENDIX B

INTRODUCTION:

The intent of this initial study is to provide additional assessment of potential environmental impacts associated with the expansion of an existing aggregate excavation and processing operation pursuant an order of the Lassen County Superior Court.

The project under consideration is the rezoning of approximately 240 acres (Assessor's Parcel Number 109-100-40) from U-C (Upland Conservation) to U-C-2 (Upland Conservation/Resources Management) and the re-permitting of the expanded aggregate excavation and processing operation currently allowed under use permits #79-80-44, #11-02-85, and #94032 and reclamation plan #94032. The project site is located on a +/- 160 acre portion of said parcel, on the west slope of Shaffer Mountain on the east side of Ward Lake Road, approximately two miles northwest of the town of Litchfield, Lassen County, California.

PROJECT DESCRIPTION:

The expansions relevant to the Court order, and for which additional environmental assessment was required, include the following:

1. Increase the height of the exposed rock quarry face from the existing 84 feet to a maximum of 150 feet.

2. Add on site production of ready mix concrete, using primarily site generated aggregates, in addition to the existing approved production of asphalt concrete.

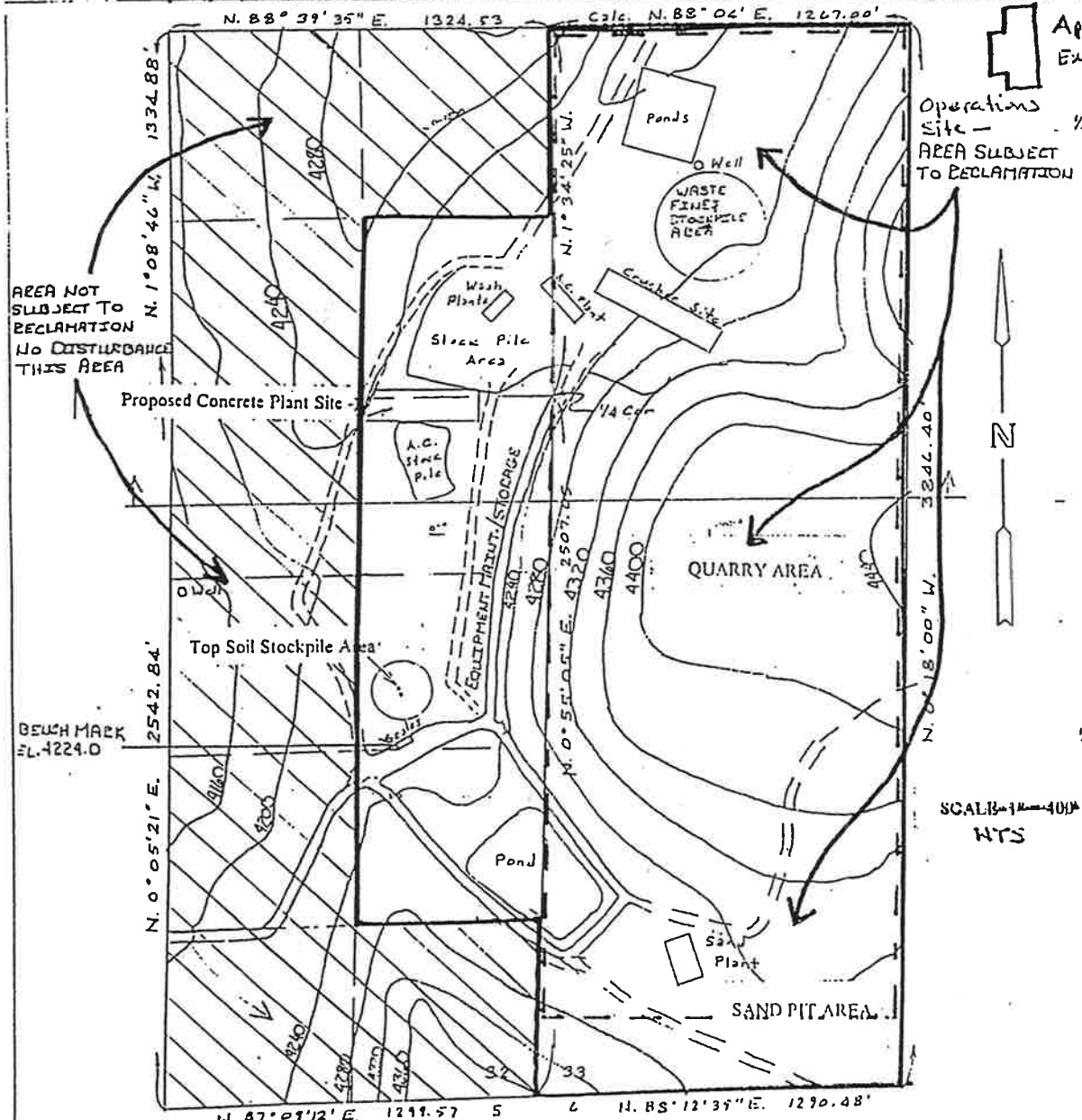
3. Expand the season of operation from seven months (April through October) to year around as weather permits.

EXPLANATION OF LEAD AGENCY RESPONSES

1. <u>Earth</u>

(b and c) YES -- The project involves excavation of rock, sand and gravel as well as stockpiling of aggregates, establishment of a concrete batch plant, and maintenance and storage of equipment, which will result in the over covering, displacement and in some cases compaction of the surface. Changes in topography would be related to the increase in proposed material recovery within the excavation areas (rock, sand and gravel) from an estimated 500,000 c.y. over ten years to 1,700,000 c.y. over 40 years (from the date the operations were approved in 1980).

PRE MINING TOPOGRAPHIC CONDITION

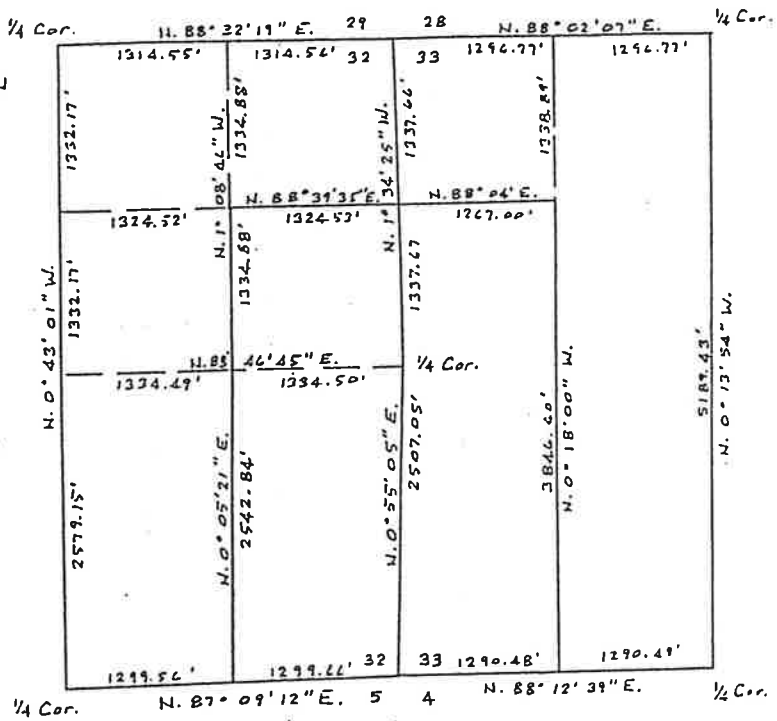


Operations Site — AREA SUBJECT TO RECLAMATION

SCALE 1" = 400'
NTS

Approx. Boundary original approved Project site

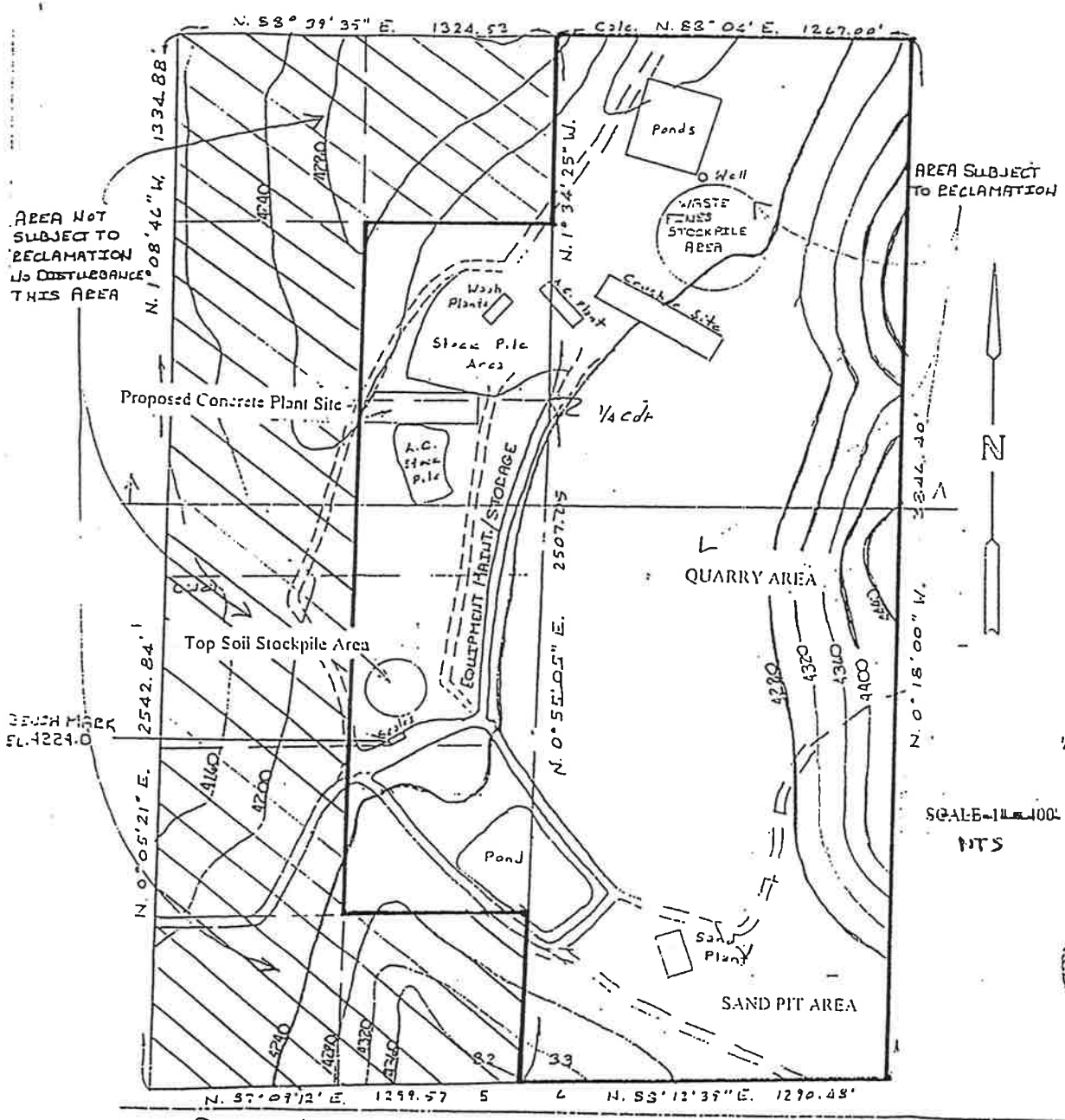
Approx. Boundary proposed Expanded project site



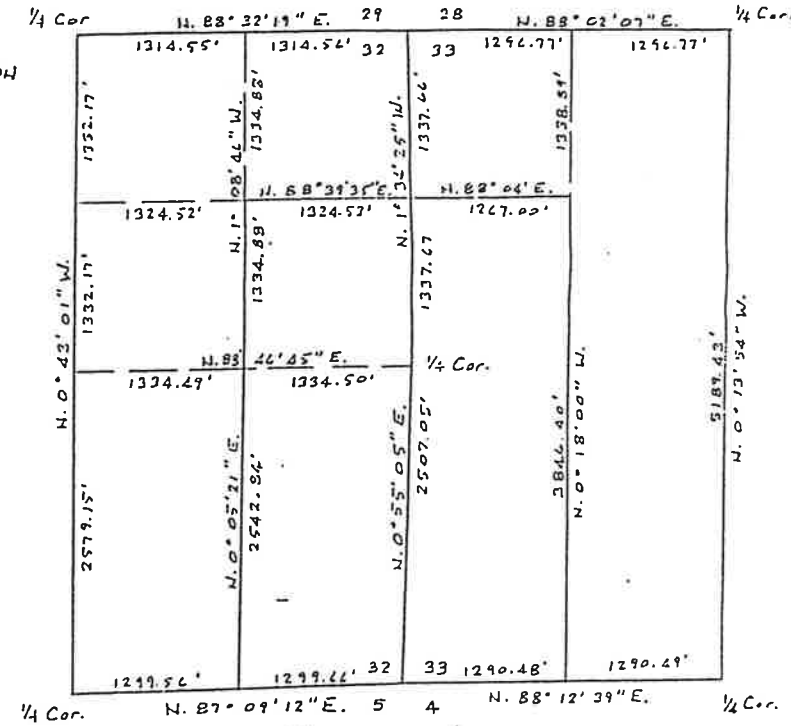
SECTIONAL BREAKDOWN
SCALE 1" = 1000'

LICENSED LAND SURVEYOR
DARRELL E. HATCH
Exp. 12-31-95
No. LS 5293
STATE OF CALIFORNIA

MILLER'S CUSTOM WORK, INC.
WARD LAKE PIT
Being a Portion of
Sections 32 & 33, T. 30N, R. 14 E., M.D.M.



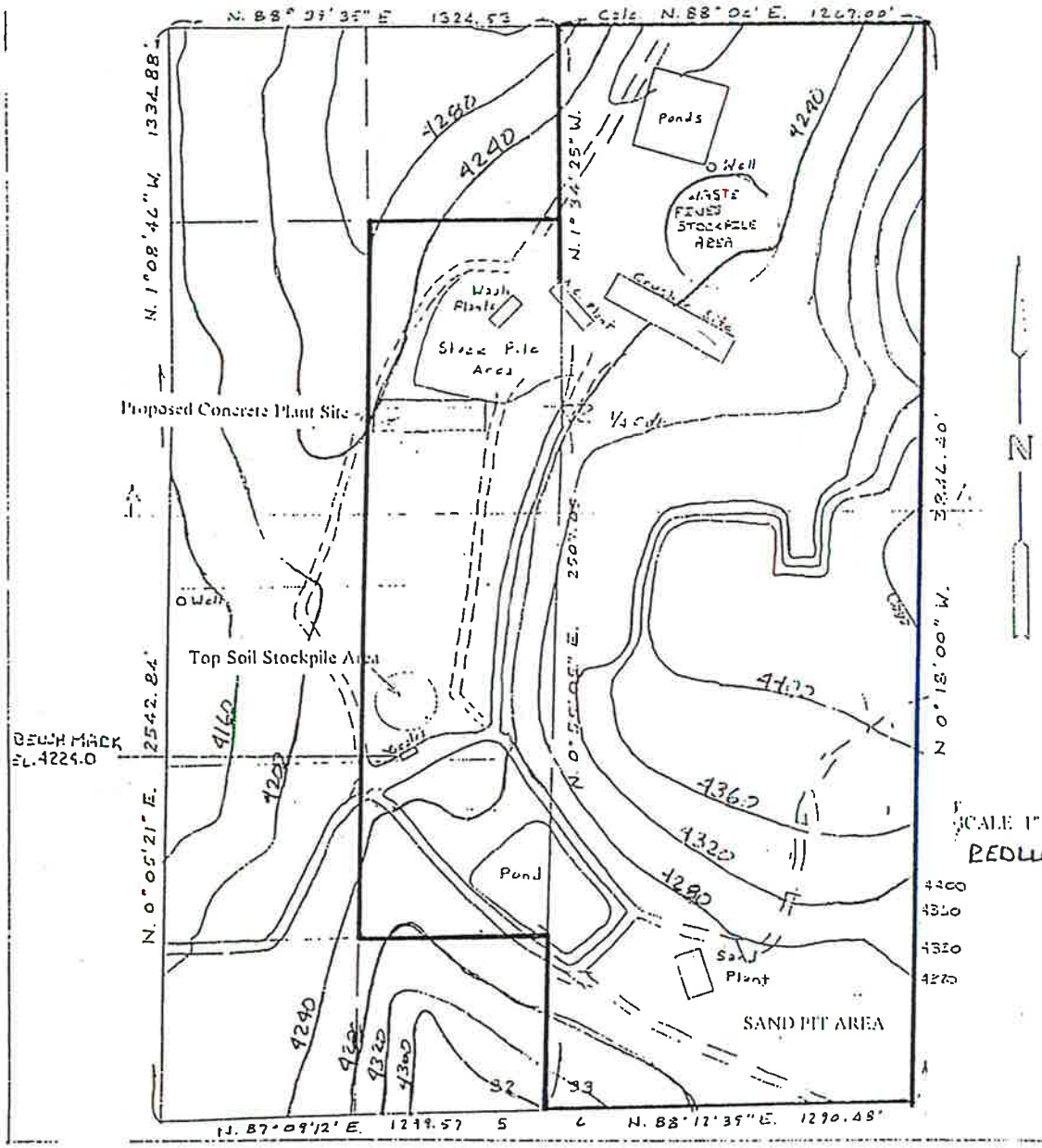
POST MINING TOPOGRAPHIC CONDITION



SECTIONAL BREAKDOWN
SCALE 1" = 1000'

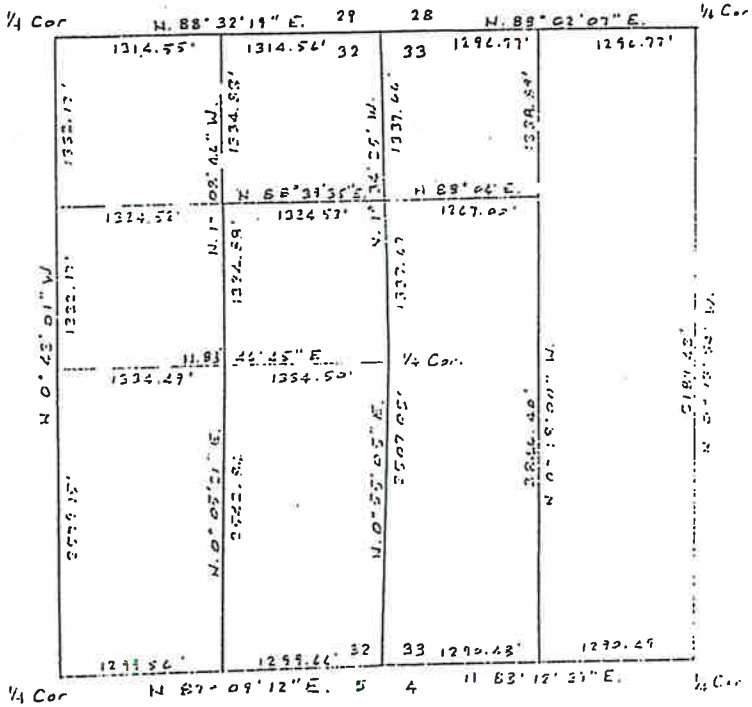
LICENSED LAND SURVEYOR
DARRELL E. HATCH
Exp. 12-31-15
No. LS 8393
STATE OF CALIFORNIA

MILLER'S CUSTOM WORK, INC.
WARD LAKE PIT
Being a Portion of
Sections 32 & 33, T. 30N., R. 14 E., M.D.M.



SCALE 1" = 400'

REDUCED FROM ORG.



SECTIONAL BREAKDOWN

SCALE 1" = 1000'

LICENSED LAND SURVEYOR
DARRELL E. WATCH
Exp. 12-31-97
No. LS 5853
STATE OF CALIFORNIA

MILLER'S CUSTOM WORK, INC
WARD LAKE PIT
Being a Portion of
Sections 32 & 33, T. 30N., R. 14 E., M.D.M.

TOPO CONDITIONS AS PRESENTLY EXIST (5/96) - Approx.

REGIONAL MAP INCLUDING PROJECT AREA/MAP #1

MITIGATION: Final maximum slopes within excavation areas, including the rock quarry, shall be 2H:1V overall. Sand and gravel excavation sites are proposed to be smoothed and reshaped to blend with surrounding topography. The sand and gravel areas will be resoiled using fines from the crusher and stockpiled topsoil, then revegetated with grasses and brush to stabilize slopes and provide wildlife forage. Specific revegetation species are to be determined in consultation with Fish and Game and the Department of conservation, with final approval by the County.

2. Air

NO — The project, including the new ready mix batch plant has been reviewed and approved by the Lassen County Air Pollution Control district (copy of letter attached).

3. Water

No — The existing project includes secondary containment structures for fuel tanks. Previous conversations with Regional Water Quality Control Board staff confirms that asphaltic oil generally does not require secondary containment due to its high viscosity at normal temperatures (i.e., it will not migrate if spilled). The existing operation includes water retention and recirculation ponds that have been recently inspected and approved by the Regional Board. A Spill Prevention Control and Countermeasure Plan has been prepared for the project by a registered engineer, and is included in the application. There is no evidence in the record that the existing or proposed expanded operation may have significant impacts on water resources. The project will be subject to the on-going permitting and inspection requirements of the Regional Board. (attached)

4. Flora

(a and c) YES and MAYBE respectively-- The project will involve the removal of native grass and brush in the expanded excavation, area which could also result in a barrier to normal replenishment until reclamation of the site is underway.

MITIGATION: The sand excavation areas, shall be regraded to maximum slopes of 2H:1V, shall be resoiled with adequate growth medium to support vegetation and shall be revegetated (i.e., the operator shall be responsible to re-establish a viable, self-sustaining plant community similar to that which existed prior to mining) with native species including sage, bitterbrush, rabbit brush. The rock quarry area shall be re-graded to a maximum overall slope of 2H:1V and shall be benched with minimum 10 foot wide benches at vertical intervals appropriate for the type of material, but not greater than 15 feet. The benches shall be sloped to drain toward the hillside,

shall be resoiled and revegetated using native range grasses, shrubs and trees if they can be supported. The operator shall institute a test plot program on the first available rock face bench to determine the best species mix and planting scheme for subsequent benches. The test plots shall be set up and monitored by qualified personnel with reports submitted to the lead agency at least once per year. The final proposed species list and planting density selected for revegetation must be approved by the County.

5. Fauna

(a and d) MAYBE — The project may reduce the number of deer and/or antelope that use the area and may cause a reduction of on site wildlife habitat value by increasing the amount of land devoted to mining activities with associated removal of vegetation, and expansion of the activity season to year around as weather permits.

As described in #1 above, most of the disturbed portions of the site will be reshaped and revegetated to stabilize disturbed slopes and restore habitat values. However, reclamation and restoration of habitat may not occur for twenty years or more.

6. Noise

NO — Sound level measurements, taken at the nearest residential property line (+/- 800 feet from the noise), by a licensed professional surveyor, indicates that during full operation the new ready mix plant generates noise levels of 50 dBA, which is within the standard established in the Lassen County Noise Element Table III (copies of the noise measurement test result letter, and the Noise Element Table III attached). Because of the distance between the operation site and the nearest residence (the property at which the measurements were taken is not developed. The nearest existing home is approximately 1/4 mile to the west), combined with the noise attenuating characteristics of the existing low ridge that separates the site from properties to the west, noise resulting from the proposed expansion would not be significant.

7. Light and Glare

NO — The project does not include nighttime operations and is not expected to add significant new light or glare to the area.

8. Land Use

The project is an expansion of an existing sand, gravel and rock excavation and processing operation subject to a reclamation plan which calls for returning the land to marginal grazing and

habitat which is consistent with the General Plan designation of Extensive Agriculture (Standish-Litchfield area Plan, 1986). The addition of the concrete batch plant is not an allowed use within the U-C zoning district, however, it may be allowed within the U-C-2 zoning, as proposed for the site, with an approved use permit. The proposed end use of grazing and habitat is consistent with both the current and proposed zoning for the site. The project therefore does not represent a substantial change in the existing nor the planned land use for the site and surroundings.

9. Natural Resources

NO — Mining is conducted in response to the demand for materials, and does not, in itself, increase the rate of resource use.

10. Risk of Upset

MAYBE — The project includes use and on site storage of fuels and asphaltic oils, as well as occasional explosives. As stated previously, on site fuel storage tanks have secondary containment structures.

MITIGATION: Explosives shall be handled by a licensed operator, and shall be stored in an ATF inspected and approved magazine on site.

11. Population

NO — The project will not effect population distribution, density or growth rates. The proposed expansion is not growth inducing as utilities are already available to the expansion area and no extensions of services are required.

12. Housing

NO — The project will not effect existing housing nor create a demand for new housing.

13. Transportation/Circulation

NO — Based on separate traffic counts generated by both the applicant (submitted with the application) and the County, the County Road Department has determined that the usage of the Center Road/Ward Lake Road intersection does not warrant improvements to accommodate the proposed expansion on the operation and that the project will not have significant effects on traffic nor the transportation system (see letters from the County Road Department with supporting documents attached).

14. Public Services

NO — The project is an expansion of the existing operation and will have no new effects on public services.

15. Energy

NO — The project will not result in substantial use of energy, nor in demand for new services.

16. Utilities

NO — The project will not result in the need for new systems, nor substantial alteration to any utilities. The site is served by power and telephone, and there is a portable chemical toilet available.

17. Human Health

NO — The project does not represent a hazard to human health.

18. Aesthetics

MAYBE — A substantial portion of the site is shielded from public view by a rock ridge between the site and Ward Lake Road. However, the expansion of the rock quarry face from the existing +/- 84 feet to approximately 150 feet in height will make the face visible to east-bound travelers on conservation Center Road (a County Road) and Highway 395, and from other locations west of the project site. Successful benching and revegetating the quarry face, as required in #4 above, will reduce long term visual impacts resulting from excavation cuts, but it may not be practical to mitigate short term visual impacts during operations.

19. Recreation

NO — The project will not impact upon recreational opportunities.

20. Archaeological/Historical

NO — The project will not result in the alteration or destruction of any known archaeological site. An archaeological survey was performed at the site in 1980 which resulted in archaeological clearance for the site as no resources were found. Correspondence from the Northeastern Center of the California Historical Resources Information System (Center) dated

July 22, 1996, reflects the Center's finding that there is no evidence that the site contains any significant cultural resources. The Center recommended that no survey of the site be preformed for this project. However, the Center recommends that if any resources are uncovered at the site, the work shall stop in the vicinity and a qualified archaeologist shall be called in to assess the resource and recommend mitigation (copy of Center letter attached).

21. Mandatory Findings of Significance

(a) MAYBE — The project could result in a reduction to existing deer and antelope habitat in the area by removal of vegetation within the proposed expansion area, and could reduce wildlife use of the site and surrounding area in winter due to proposed year around rather than seasonal operations.

F. Notice of EIR Preparation Comments, November and December, 1996

1. NOP
2. California Department of Fish and Game

Department of Community Development

County of Lassen

• PLANNING • BUILDING INSPECTION • ECONOMIC DEVELOPMENT/HOUSING • LAFCO • CODE ENFORCEMENT • MINING

ROBERT K. SORVAAG, *Director*
JOSEPH J. BERTOTTI, *Assistant Director*
707 Nevada Street
Susanville, CA 96130

(916) 251-8269
Fax: (916) 251-8373

Zoning & Building Inspection Requests
(916) 257-LAND

November 20, 1996

TO: All Reviewing Agencies

FROM: Richard W. Simon, Senior Planner
Lassen County Community Development Department

SUBJECT: Notice of Preparation of an EIR for the Ward Lake Pit, Miller's Custom Work, Inc.

Enclosed is the Notice of Preparation for the project described above. This packet includes the following information/documents:

1. Notice of Preparation;

2. Initial Study #96056, Miller's Custom Work, Inc., Introduction, Brief Project Description, Summary of Environmental Issues;

3. Use Permit Application (submitted by applicant);

4. Initial Study Checklist and Explanation of Lead Agency Responses (prepared by Lead Agency;

5. Comments from Agencies and Individuals from Early Consultation, including:
   a. Comments from APCO with copies of approved Permits to Operate;
   b. Comments from the Lahontan RWQCB with follow-up Memo based on phone conversation between Lead Agency staff and Lahontan staff and Spill Prevention Control and Countermeasure Plan submitted by applicant;
   c. Comments from the Department of Fish and Game;
   d. Noise Measurement data and Excerpt from Lassen County Noise Element;
   e. Comments from Lassen County Road Department and Caltrans with Traffic Count data;
   f. Comments from the Northeastern Center of the California Historical Resources Information System;
   g. Comments submitted by Everd McCain.

Please contact Richard Simon at (916) 251-8270 with any questions you may have regarding this notice.

is/96056/NOPcvrltr

NOTICE OF PREPARATION

TO:

FROM: Lassen County
Dept. of Comm. Dev.
707 Nevada Street
Susanville, CA 96130

SUBJECT: **Notice of Preparation of a Draft Environmental Impact Report for a Use Permit for the Ward Lake Pit, submitted by Miller's Custom Work, Inc.**

Lassen County will be the Lead Agency and will prepare an environmental impact report (EIR) for the project identified herein. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agencies statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR prepared by our agency when considering your permit or other approval for the project. Pursuant to the CEQA Guidelines Section 15082(b)(1)(A), responses should identify the significant environmental issues and reasonable alternatives and mitigation measures which the responsible agency will need to have explored in the draft EIR.

The project description, location and explanation of the probable environmental effects are contained in the attached materials. A copy of the Initial Study is attached. Please note that in June, 1996, Lassen County conducted an early consultation with your agency on this project. The comments submitted at that time contributed to the County's determination to prepare a Draft EIR, and are attached hereto for your reference.

Due to the time limits mandated by State law, your responses, if any, must be sent at the earliest possible time, but not later than thirty (30) days after receipt of this notice.

Please send your responses to:

Richard W. Simon, Senior Planner
Lassen County Department of Community Development
707 Nevada Street, Room 236
Susanville, CA 96130

PROJECT APPLICANT: Miller's Custom Work, Inc.

Date: November 19, 1996

Signature: _____
Title: Senior Planner
Telephone: (916) 251-8270

DISTRIBUTION: Fish and Game (Wendel/Redding); Caltrans; BLM (Susanville); Lahontan RWQCB; SLFPD; Co. Fire Warden; Lassen APCO; Maidu Nation; Everd McCain.

/is/96056/NOP

STATE OF CALIFORNIA—THE RESOURCES AGENCY

PETE WILSON, Gover

DEPARTMENT OF FISH AND GAME
601 LOCUST STREET
REDDING, CA 96001
(916) 225-2300

RECEIVED
DEC 20 1996
Lassen County
Department of Community Development

December 17, 1996

Mr. Richard W. Simon, Senior Planner
Lassen County Planning Department
707 Nevada Street
Susanville, California 96130

Dear Mr. Simon:

Notice of Preparation for Ward Lake Pit,
Miller's Custom Work, Inc., Lassen County

As the designated trustee agency for fish and wildlife in California (see Fish and Game Code §1802), the Department of Fish and Game has previously identified for Lassen County the significant natural resources at risk from the Miller's Custom Work project. In testimony before the Lassen County Board of Supervisors and in successive letters placed into the administrative record, the wildlife concerns have been identified. Although wintering mule deer are especially of concern, the affected habitat is important for numerous terrestrial wildlife species.

The environmental impact report (EIR) should describe, in terms of context and severity, the consequences of unmitigated impacts to wintering mule deer populations from the existing facility over the past 15 years. The proposed continuation of excavation and processing for at least 24 additional years are cumulative to past impacts. Beyond that, the probability of implementation and success of reclamation should be described.

As previously proposed, this project did not include effective mitigation to offset impacts. Seasonal closures were not consistently implemented. Cumulatively significant losses of habitat value can be minimized but not avoided entirely by operational techniques such as seasonal closures. Without seasonal closures it will not be possible to completely mitigate cumulatively significant adverse effects on site. The EIR should identify feasible measures to minimize impacts on-site and develop mitigation off-site commensurate with the loss or degradation of affected habitat. A full range of mitigation alternatives including restoration, enhancement and protective acquisition should be evaluated. Preferably, mitigation would benefit the Horse Lake deer herd, however, opportunities may also be practical for other mule deer populations in Lassen County.

For further coordination please contact Environmental Services Supervisor Mr. Mark Stopher at (916) 225-2275.

Sincerely,

Mark Stopher

for Richard L. Elliott
Regional Manager

cc: Messrs. Mark Stopher and
John Siperek
Department of Fish and Game
601 Locust Street
Redding, California 96001

Mr. Frank Hall
Department of Fish and Game
728-600 Fish & Game Road
Wendel, California 96136

PAGE 02 COMMUNITY DEV

G. Deer Herd Impact Analysis by Tom Kucera, PhD.

10 December 1996

Ms. Laurie Oberholtzer
Planning Concepts
309 Commercial
Nevada City, CA 95959

Dear Ms. Oberholtzer:

Please consider this my letter report on the Ward Lake Quarry Expansion project in Lassen County.

The proposed project is the expansion of a currently existing surface mining operation ("Miller's Custom Work, Inc.") on private land at the base of the west slope of Shaffer Mountain, east of Ward Lake Road and about two miles northwest of the town of Litchfield, Lassen County, California. The Lassen County Superior Court ordered additional assessment of potentially significant environmental impacts to deer and antelope associated with the project.

The expansion proposed is both spatial and temporal. The spatial expansion of the project is from the existing 110 acres to 160 acres, and involves the removal of vegetation from about 40 acres for the duration of the project, through the year 2020. The temporal expansion is from an operating season of April through October as envisioned in the original project, approved in 1981, to year-round operation. The seasonal closure was due to unsuitable winter conditions for aggregate excavation and processing and to reduce the project's impacts on mule deer and pronghorn antelope using the area in the winter.

In my assessment of the potential impacts of the project on mule deer and pronghorn antelope, I obtained and reviewed a variety of documents. These include the East Lassen Deer Herd Management Plan, parts of the 1981 EIR for the original project addressing wildlife issues, the draft Negative Declaration prepared by the Lassen County Planning Department in April, 1994, various letters sent by the California Department of Fish and Game (DFG) to the Lassen County Board of Supervisors and Community Development Department regarding the project between 1994 and 1996, and DFG data from annual censuses of deer near the project area since 1985.

In addition to reviewing these documents, on 11 November 1996 I discussed the project in person with Mr. Frank Hall, wildlife biologist with DFG in the area, at DFG's Honey Lake wildlife area near the project site. I also visited the project area and observed the site and its environs from the public road near its base.

To understand potential impacts of the project, one must know something about the biology of the animals in the area. The mule deer are seasonal migrants; they

summer at higher elevations, probably on Shaffer Mountain, where fawns are born. Deer descend to lower elevations in fall and early winter, where they remain until spring. Pronghorn antelope are less specifically predictable in their seasonal movements, and do not have such a pronounced elevational change in summer and winter. On the winter range, deer feed mainly on sagebrush and bitterbrush. Winter is a difficult period for deer and for antelope; cold temperatures and low-quality vegetation combine to cause nutritional stress. Breeding occurs sometime around December, and so most does are pregnant during the coldest, most severe weather. After several months on the winter range, deer are typically in very poor nutritional condition. When spring greenup occurs, deer rapidly switch their diets to take advantage of the nutritious new plant growth and reverse their winter caloric deficiencies.

According to the East Lassen Deer Herd Plan, prepared by the California Department of Fish and Game in 1982, the deer of concern in this project are part of the East Lassen herd. Defined largely by administrative rather than ecological boundaries, this herd occupies some 2,000 square miles in east-central Lassen county and extreme western Nevada. At the time the plan was written, the estimate of total population size of the East Lassen herd was about 16,000. It was thought that this was substantially smaller than the population several decades earlier. An objective of the herd plan was to increase habitat quality sufficient to maintain a herd size of 20,000. Management problems identified included poor recruitment of fawns into the yearling age class, poorly known herd boundaries and migration routes, and generally poor range condition.

The herd plan identified several sub-herds, admittedly based on incomplete knowledge, within the range of the East Lassen herd. It is likely that the animals near the project area form a sub-population that summers higher on Shaffer Mountain and winters at its base, without making the long migrations characteristic of other animals in the East Lassen herd. However, to my knowledge, no site-specific research into the behavior and ecology of these animals has been conducted. The plan identifies the area around Shaffer Mountain as "critical" winter range, that is, winter range where deer are concentrated during severe winters.

The project site is at the southwest base of Shaffer Mountain, several hundred feet above the valley floor. This elevation is important because it is above the thermal inversion that makes the valley floor colder than nearby slopes, and below the deeper snow at higher elevations that impedes deer movement and covers forage. The site is also located among south- and west-facing slopes. This exposure is important because it not only facilitates rapid melting of snow but also accelerates plant phenology to produce the first green vegetation in late winter and early spring. This early "greenup" is particularly important to wintering deer by providing their first opportunity to reverse the pattern of winter malnutrition and caloric deficit. Thus, the

combination of elevation, exposure, and the presence of favored browse species, particularly bitterbrush, provides conditions favorable for deer in the winter.

Empirical data from DFG confirm the value of the area as deer winter range. On standardized censuses from a helicopter conducted between 15 and 30 March from 1985 to 1994, DFG observers have counted between 73 and 233 deer near the project site. This is in late winter and early spring when deer are probably at their most precarious nutritional state, females are in the last half of gestation, and vegetation is just beginning to grow.

During winter and early spring, deer also tend to occur in groups, perhaps as a result of threat of predation during this vulnerable period when they are concentrated on winter ranges. Mountain lions are probably the most important predator on deer in the area. The open slopes and benches near the project site provide little opportunity for concealment, or "hiding cover", and the deer may be particularly sensitive to disturbance. This is supported anecdotally by the DFG observation that during their censuses, when human activity at the project site was minimal, deer were nearer to, or on, the project site.

Pronghorn antelope are less regular and predictable in their movements, but many of the concerns are similar. Human disturbance during a time of particular nutritional stress may effectively remove a portion of their winter range.

Thus, there are two types of impacts to mule deer and antelope from the proposed project: direct habitat loss, and displacement due to human disturbance. These arise from the project's spatial and temporal components, respectively. The loss of some 40 additional acres of vegetation during the planned operation of the project is of less concern than the potential effective loss of a larger area due to disturbance and displacement of the deer if the season of operation is expanded from April-October to year-round. Because there are several hundred deer potentially affected, this would be a significant environmental impact. The only way to reduce this impact to non-significance is to maintain the seasonal closure through March. Simply closing the site, for example, in December and January, or just during periods of heavy snow, might ameliorate some negative effects due to snow depth, if otherwise displaced deer were allowed to descend to the project site without disturbance. However, this would do nothing about displacing animals taking advantage of late-winter and early spring plant phenology, or the spring greenup, due to noise and activity at the site. I stress that both of these factors, escaping mid-winter snow and accessing late-winter greenup, are important for deer.

It is likely, however, that early winter presents fewer constraints regarding facility operation and disturbance to wintering deer. The animals then are in better nutritional condition, coming off the summer range, and may not yet be in the area while the

weather remains mild. If that is in fact the case, operations at the site during November could occur without affecting wintering deer. I assume that deer arrive on the low part of the winter range later in the fall or in response to severe weather. In the event of severe weather or deep snow that drove the animals to the base of the mountain, operations at the facility would cease because of this same weather. Thus, operations at the plant during November, under mild weather conditions before the deer arrive in the area, would not disturb wintering deer.

There is nothing to be done regarding the loss of 40 acres of vegetation on the site for the duration of the project. However, with an appropriate reclamation plan developed and adhered to, I believe this loss of habitat would be a non-significant effect. This reclamation plan should involve stockpiling topsoil for reuse, post-closure planting with bitterbrush, sagebrush, and native grasses, all from local sources, and protection from grazing and browsing by both wildlife and livestock until the plants are well established. Monitoring to ensure compliance must be a component of reclamation. I am sure DFG can be helpful in developing and reviewing a reclamation plan, and should be involved in its approval.

In summary, to reduce effects of the planned project on mule deer and pronghorn antelope to a level of non-significance, I believe that the seasonal closure must extend at least December through March to reduce the impacts due to displacement from noise and human activity, and that a reclamation plan must be developed and approved by DFG to reduce the impacts from direct habitat loss.

Thank you for your attention. Please contact me if you have any questions.

Sincerely,

Thomas E. Kucera

Thomas E. Kucera, Ph.D.
2909 Regent St. Apt. 2
Berkeley CA 94705

cc. Rick Simon

Miller's Custom Work, Inc.
Ward Lake Pit Expansion
Final Environmental Impact Report

July 31, 1997

Prepared by:

309 Commercial St., Nevada City, CA 95959 (916) 265-8068

Table of Contents

Page #

Introduction 1

Summary of Changes Made to the DEIR 2

Final List of Mitigation Measures 2

Response to Comments from:

- Caltrans 3
- 7/2/97 Lassen County Planning Commission Public Meeting
  - Everd McCain 3
  - Frank Hall 3
  - Martin Sisk 3
  - Commissioner Totten 3
  - Commissioner Hansom 4
  - Entire Commission 4

Written comments from

- Martin and Nancy Sisk 4

Revised DEIR Pages 6

Introduction

The California Environmental Quality Act (CEQA) provides for public review and comment on draft EIRs. A draft EIR becomes a final EIR only after response has been made to the public comments.

The State CEQA Guidelines describe the required contents of a final EIR:

§151132 The final EIR shall consist of:

(a) The draft EIR or a revision of the draft.
(b) Comments and recommendations received on the draft EIR either verbatim or in summary.
(c) A list of persons, organizations and public agencies commenting on the draft EIR.
(d) The responses of the Lead Agency to significant environmental points raised in the review and consultation process.
(e) Any other information added by the Lead Agency.

In this case, the format used is a Response to Comments section in which individual comments are responded to and a revised Draft EIR (RDEIR) which reflects the appropriate changes with ~~strikeouts~~ for deletions and shading for additions.

Public comments were solicited through the written comment periods and at a hearing on the draft EIR. Each comment is numbered and responses are numbered accordingly in the Response to Comments section of this FEIR.

Summary of Changes Made to the DEIR

In response to comments on the draft EIR, and based on the responses in this Final EIR, the following changes have been made to the draft EIR:

> Traffic impacts relative to road conditions have been recharacterized as significant, but mitigable (rather than less than significant) and a mitigation measure has been added requiring project responsibility for chip sealing Ward Lake Road and cleaning out the culvert at the north end of Ward Lake Road.

The revised DEIR pages reflecting these changes are included at the end of this Final EIR.

Response to Comments

Response to Comments from CalTrans

Caltrans specifically noted that they would not be submitting comments.

Response to Comments at the Lassen County Planning Commission Public Meeting, July 2, 1997

1. **Everd McCain.**

   a. **Structural adequacy of Ward Lake Road.** In response to this comment, Dave Ernaga, Assistant Engineer with the County Surveyor's Office inspected Ward Lake Road and made comments in the memo on the following page (July 15, 1997). He did note road damage and recommended that an additional condition be added to the project requiring project payment for chip sealing of the road . This recommendation has been added as a mitigation measure in this FEIR. (See RDEIR Summary Table and RDEIR page 9-3.

   b. **Turning radius at intersection of Ward Lake Road and Center Road.** The DEIR discussed the adequacy of the intersection design ant Ward lake Road and Center Road and found not need for redesign (see DEIR page 9-1).

2. **Frank Hall, Department of Fish and Game.** It is noted that this comment agrees with the conclusions of the DEIR.

3. **Martin Sisk.** Based on this comment, Dave Ernaga, Assistant Engineer with the County Surveyor's Office inspected Ward Lake Road and made comments an additional condition be added to the project requiring cleaning out the culvert at the north end of Ward Lake Road. This recommendations has been added as a mitigation measure in this FEIR. (See RDEIR Summary Table and RDEIR page 9-3.

4. **Martin Sisk.** A speed reduction was included as a mitigation measure in the DEIR (page 9-3).

5. **Martin Sisk.** See Response to Comment 3 above.

6. **Martin Sisk.** This comment does not apply to the adequacy of the DEIR.

7. **Commissioner Totten.** The road related issues are responded to in the responses above and in the memo on the following page.

DATE: July 15, 1997

TO: Community Development Department

FROM: Dave Ernaga, Assistant Engineer,
County Surveyor's Office

SUBJECT: USE PERMIT #96056, REZONE #96056, Miller's Custom Works, Inc.

FINDINGS:

1. Ward Lake Road CR 308 is a paved County Maintain Road.

2. Ward Lake Road was improved to a asphaltic surface with a minimum depth of .17' and a width 24' and a traffic index of 6.5 in 1986.

3. From the Draft Environmental Impact Report for the Ward Lake Pit Expansion approximately 20 aggregate haul truck trips/day are generated by the current operation and the expansion will increase the trips to 4 to 5 trucks trips/day.

4. There are 6 homes on and use Ward Lake Road.

5. Trucks hauling material can weigh up to 80,000 lbs. legal allowable load limit gross weight which has more affect on the road section that a passenger vehicle per Caltrans Highway Design Manual Section 603.1.

6. The surface of Ward Lake Road is aging and in need of some repair.

7. Russell Gum and myself when out to Ward Lake Road on July 8, 1997 and looked at the condition of the road and we noticed that the northbound lane had transverse cracking and the southbound lane had transverse cracking as well as alligator cracking.

CONDITIONS:

1. The County shall enter into a fairshare agreement with Miller's Custom Works Inc. to do a chip seal on Ward Lake Road.

2. Clean out the outlet of the culvert at the north end of Ward Lake Road.

the request for FHWA approval should be submitted to the Chief, Office of Value Engineering and Productivity Management. The request must include a work plan which indicates specific functional managers and units which have been assigned responsibility for objective follow-up, evaluation, and documentation of the effectiveness of the proprietary item. See page 2-04.3 ("Construction-evaluated Research") of the Construction Manual for further details on the work plan and the approval procedure.

Technical assistance is available from the TransLab and the OPPD to assist with designs that utilize new materials, methods, and products.

Topic 603 - Traffic Data for Structural Section Design

603.1 Introduction

The primary goal of the design of the structural roadbed section is to provide a structurally stable and durable pavement and base system which, with a minimum of maintenance, will carry the projected traffic loading for the selected design period. This topic discusses the factors to be considered and procedures to be followed in developing a projection of truck traffic for design of the "pavement structure" or the structural section for specific projects.

Structural roadbed sections are designed to carry the projected truck traffic considering the expanded truck traffic volume, mix, and the axle loads converted to 18-kip equivalent single axle loads (ESAL's) expected to occur during the design period. The effects on pavement life of passenger cars, pickups, and two-axle trucks are considered to be negligible.

Traffic information that is required for structural section design includes axle loads, axle configurations, and number of applications. The results of the AASHO Road Test (performed in the early 1960's in Illinois) have shown that the damaging effect of the passage of an axle load can be represented by a number of 18-kip equivalent single axle loads or ESAL's. For example, one application of a 12-kip single axle load was found to cause damage equal to an application of approximately 0.23 of an 18-kip single axle load, and four applications of a 12-kip single axle were found to cause the same damage (or reduction in serviceability) as one application of an 18-kip single axle.

This AASHO Road Test concept is applied in the conversion of a mixed truck traffic stream of different axle loads and axle configurations into a common denominator, the 18-kip ESAL. The truck traffic stream, mix, and loads for the project are converted to an equivalent number of 18-kip single axle loads for the design period. Finally, this sum is converted to a Traffic Index or TI which is used in the respective standard section selection or design procedures for portland cement concrete pavement and for asphalt concrete pavements, as described in Topics 607 and 608. Derivation of the TI is covered in Index 603.4.

Unfortunately, for the purpose of structural roadway section design, the development of truck traffic projections is not always a simple straight line projection of available data. This is especially true in areas where there are rapid growth patterns and changing land use. Since the early 1970's, there has been a growing trend to allow local planning agencies a more influential role in the planning of the State highways including the Interstate routes down to the project level. This has been especially true where regional or local planning agencies have developed or adopted traffic models (developed by others) which are used to project traffic growth.

The Caltrans Planning staffs are nevertheless responsible for developing traffic projections (including trucks) for the planning and design of State highways. In urban areas, it is generally most appropriate to obtain traffic projections from traffic models. Model input data should be in conformance with the adopted land use plan and Department of Finance population forecasts. Traffic forecasts made by regional or local agencies may be used as the basis of ESAL and subsequent TI determination if the Deputy District Director for Planning is satisfied that the traffic model used is adequate for the

8. **Commissioner Hanson.** It is noted here that the State Department of Fish and Game agrees with the recommended mitigation measures in the DEIR.

9. **Entire Commission.** It is noted here that the Commission overall is satisfied with the adequacy of the DEIR.

Response to Written Comments from Martin and Nancy Sisk

1. This comment does not relate to the adequacy of the DEIR but should be considered by the Planning Commission during its project approval deliberations.

2a-c. While the operation may be slightly visible from these long distance locations, the last paragraph on page 6-3 of the DEIR adequately describes the level of visual impact which can be expected from long distance locations in general when it notes that the project will not dominate the landscape and will be consistent with views normally expected in this type of agricultural/ resource production area and because of the distance between the viewer and the site.

2d. The information in the comment agrees with the DEIR.

2e. In order to take some of the subjectivity out of the visual impact analysis, the DEIR discusses the project in light of impact evaluation criteria available in adopted plans and policies (see DEIR pages 6-2 to 6-3). The cited criteria center around the moderate degree of change considered appropriate in an agricultural/ resource area and the fact that impacts will be influenced by distance and scale. Based on these criteria, it is difficult to conclude from a CEQA standpoint that the project will result in significant impacts from the long or mid range. However, please note that significant impacts are expected in the short term, close-in.

3. The applicant plans to detain all runoff on site. However, the DEIR notes that until this is adequately demonstrated through plans which must be submitted to the State Water Quality Control Board, impacts must be considered potentially significant. This applies to ground water impacts as well which can be controlled by the measures listed such as lining of ponds, pretreatment of runoff, and control of hazardous chemicals.

4. The Public Works Department traffic counts included in the Appendix to the DEIR found a lower traffic count on Ward Lake Road than noted in the comment. The DEIR estimates new project truck traffic on page 9-2 (an increase of 4 to 6 trucks per day).

5. The DEIR recommends lowering of the speed limit of Ward Lake Road.

6. This comment does not relate to the adequacy of the DEIR.

7a,b,8. These comments do not relate to the adequacy of the DEIR but would be appropriate for consideration by the Planning Commission during its project approval deliberations.

8. The Planning Department complied with State law and its usual procedures in its notice of the public meeting and circulation of the DEIR.

Revised DEIR Pages

Table 3-1
MILLER'S CUSTOM WORK, INC.
WARD LAKE PIT EXPANSION EIR
SUMMARY TABLE OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance - Before Mitigation	Recommended Mitigation Measures	Level of Significance - After Mitigation
		- Provisions for an on-site Spill Cleanup Kit - Provisions for employee training on spill prevention and clean up. c. Dust control measures (as required in the Air Quality chapter OF this EIR) to minimize degradation of surface waters from the deposition of fugitive dust. d. Obtain and provide evidence of proper documentation/ application/ approval related to the National Pollutant Discharge Elimination permit system.	
ARCHEOLOGY/ CULTURAL RESOURCES			
1. Impacts to Cultural Resources	Project: Less than significant. Cumulative: Less than significant.	1. Work stop if cultural resources uncovered. If cultural resources or human remains are uncovered during site operations, work shall stop immediately. The Lassen County Community Development Department shall be contacted and a qualified archaeologist shall be called in to assess the resources and recommend appropriate mitigation which shall be implemented prior to additional work.	Project: Less than significant. Cumulative: Less than significant.
TRAFFIC			
1. Increased traffic Volumes	Project: ~~A+B Less than~~ potentially significant, mitigable Cumulative: Less than significant.	1. a. Safety Measures. No measures were recommended in the 1996 Initial Environmental Study for this less than significant impact. However, the 1981 EIR recommended the use of a number of measures if they become warranted as the project progresses. The County should continue to monitor the project traffic flow for safety concerns and institute any of the following or other appropriate measures if it becomes necessary: - Installation of a STOP sign at the junction of the access road with County Road 308 by the applicant and if warranted, "Truck Crossing" warning signs along Road 308. - Decrease speed limits on Ward Lake Road to 25 MPH due to the road conditions and the short length encompassed (approximately one mile). b. Load limits. Trucks hauling materials should not exceed the legal allowable load limit of 80,000 lbs. (40 tons) gross weight.	Project: A+B Less than significant. Cumulative: Less than significant.

Table 3-1
MILLER'S CUSTOM WORK, INC.
WARD LAKE PIT EXPANSION EIR
SUMMARY TABLE OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance - Before Mitigation	Recommended Mitigation Measures	Level of Significance - After Mitigation
	Project: ~~Less than~~ potentially significant, mitigable Cumulative: Less than significant.	c. Road repair. The applicant shall enter into a fair share agreement with the County to chip seal Ward Lake Road. The Culvert at the north end of Ward Lake Road shall be cleaned out by applicant.	Project: Less than significant. Cumulative: Less than significant.
AIR QUALITY			
1. Increases in dust and other air pollutants.	Project: Significant. mitigable. Cumulative: Significant, mitigable.	1. Compliance with Air Pollution Control District Permit to Operate Conditions. These conditions are listed below (with changes made to ensure consistency with this EIR underlined and lined out as appropriate). a. Miller's Custom Works shall apply water to all roads on the plant site which are being used during plant operation. All roads being used shall be wet at all times without exception. Additionally, stockpiles of sand, gravel, etc. should also be watered when feasible. b. Miller's Custom Work shall install or replace any and all metal flashing around hoppers, conveyors or fans in order that fugitive dust resulting from operation of the plant is reduced to a level which is in compliance with District Rule 4:18. Installation or replacement of such metal flashing shall occur prior to startup of the plant in 1991 (and the concrete plant in 1996). Additionally, Miller's Custom work shall notify the Lassen County Air Pollution Control District at the start or the first days of operation in 1991(and the concrete plant in 1996), so that an inspection can be made of the plant sites to determine compliance with this condition. c. Millers Custom Work shall contract with a California Air Resources Board certified private contractor for an annual compliance test at the Ward Lake facility to determine compliance with Lassen County Air Pollution Control District Rule 4:3. (Grain Loading Rule -0.3 grain per cubic foot gas). This test shall be performed prior to January 1 of every year. Permit conditions for concrete plant: a. Not more than 7,000 cubic yards of concrete shall be processed annually. b. Aggregate charged and/or processed shall be kept sufficiently moist to prevent visible dust emissions.	Project: Less than significant. Cumulative: Less than significant.

(Average 1.65 tons aggregate/concrete batch load (Aggregate Producers Association average) X 6 concrete loads (estimate of activity by Jim Miller)/ 7.5 tons/aggregate haul truck = 1.3 aggregate truck trip reductions.)

Approximately 6 concrete truck loads would replace this aggregate load reduction, for a net increase of 4 to 5 truck loads/day. These lighter loads will result in less wear on County roads and are quieter than the heavier trucks. However over time, if business increases, the 6 concrete loads per day could be additive to the current 20 aggregate hauls/day.

Cumulative Impacts: The conclusion above relates to cumulative impacts also since area land use buildout will be of low traffic generating low density residential and agricultural uses. As a result, cumulative traffic impacts including project impacts are not expected to be significant. For example, AASHTO warrants cited by the Road Department in their 1996 Early Consultation letter, would not require a turn lane even with peak hour advance volumes of 115 (the lowest level listed on AASHTO Table IX-15, 1990,) and 30% turns at 60 mph approach speed until opposing traffic levels reached 800 (peak hour). Current volumes are only 42 at peak hour (opposing) with turning volumes of about 25% and advancing volumes of about 40.

Road Damage: During the comment period on the draft EIR Dave Ernaga, Assistant Engineer with the County Surveyor's Office, inspected Ward Lake Road in response to comments concerning truck damage. It was determined that the north bound lane showed evidence of transverse cracking and the southbound lane had transverse as well as alligator cracking. Since the truck traffic makes up much of the traffic on the road, it is likely the key contributor to the wear. The culvert at the north end of Ward Lake Road has also been filled with sand and sediment which may be from the project. These are considered significant impacts which the applicant should be responsible for remedying; mitigation measures are recommended.

Summary: To summarize, it was determined in the 1996 Initial Environmental Study that traffic impacts would be less than significant. This EIR concurs with the 1996 determination. The Superior Court order apparently agreed with this conclusion as well in that it only ordered additional environmental analysis related to visual impacts and the deer and antelope herd, and dismissed the complainants allegating that increased truck traffic was not adequately discussed in the original Initial Study.

During the preparation of this EIR it was determined that the truck traffic is damaging Ward Lake Road and mitigation measures have been recommended.

Level of Significance:

~~**Project Impacts--Less than significant**~~
~~**Cumulative Impacts--Less than significant**~~
Project Impacts--Significant, mitigable
Cumulative Impacts--Significant, mitigable

Mitigation Measures

1. Increased Traffic Volumes.

a. Safety Measures. No measures were recommended in the 1996 Initial Environmental Study for this less than significant impact. However, the 1981 EIR recommended the use of a number of measures if they become warranted as the project progresses. The County should continue to monitor the project traffic flow for safety concerns and institute any of the following or other appropriate measures if it becomes necessary:

- Installation of a STOP sign at the junction of the access road with County Road 308 by the applicant and if warranted, "Truck Crossing" warning signs along Road 308.

- Decrease speed limits on Ward Lake Road to 25 MPH due to the road conditions and the short length encompassed (approximately one mile).

b. Load limits. Trucks hauling materials should not exceed the legal allowable load limit of 80,000 lbs. (40 tons) gross weight.

c. Road Repair. Based on information provided during preparation of the FEIR: The applicant shall enter into a fair share agreement to chip seal Ward Lake Road and the culvert at the north end of Ward Lake Road shall be cleaned out by the applicant.

Responsibility for Implementation:

A+B: Annual and on complaint mitigation monitoring by Lassen County Road Department.

C: Payment to County by applicant for work per agreement between the parties.

Effectiveness of Measures:

Level of Significance after Mitigation: **Project impacts -- Less than Significant**
Cumulative impacts -- Less than Significant

Project traffic impacts are expected to be less than significant. However, these measures will serve to ensure this conclusion by monitoring for changed conditions over the life of the project as well as monitoring for compliance with County standards.

Comments

State of California

GOVERNOR'S OFFICE OF PLANNING AND RESEARCH

1400 TENTH STREET
SACRAMENTO 95814

PETE WILSON
GOVERNOR

LEE GRISSOM
DIRECTOR

July 21, 1997

RICHARD W. SIMON
LASSEN COUNTY
707 NEVADA STREET
SUSANVILLE, CA 96130

Subject: MILLER'S CUSTOM WORK, INC. AMENDMENT TO UP, WARD LULU PIT
SCH #: 94051008

Dear RICHARD W. SIMON:

The State Clearinghouse submitted the above named environmental document to selected state agencies for review. The review period is closed and none of the state agencies have comments. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call at (916) 445-0613 if you have any questions regarding the environmental review process. When contacting the Clearinghouse in this matter, please use the eight-digit State Clearinghouse number so that we may respond promptly.

Sincerely,

ANTERO A. RIVASPLATA
Chief, State Clearinghouse

RECEIVED
JUL 25 1997
Lassen County
Department of Community Development

Notice of Completion

Appendix F

Mail to: State Clearinghouse, 1400 Tenth Street, Sacramento, CA 95814 916/445-0613

SCH # 94051008

Project Title: Miller's Custom Ward Lake Pit Expansion

Lead Agency: Lassen County — **Contact Person:** Richard W. Simon

Street Address: 707 Nevada Street — **Phone:** 916/251-8269

City: Susanville — **Zip:** 96130 — **County:** Lassen

Project Location

County: Lassen — **City/Nearest Community:** Litchfield

Cross Streets: Ward Lake Rd./Conservation Center Road — **Total Acres:** 160

Assessor's Parcel No. 109-100-40 — **Section:** 32 & 33 — **Twp.** 30N — **Range:** 14E — **Base:** MDB&M

Within 2 Miles: State Hwy #: 395 — **Waterways:** Willow Creek

Airports: n/a — **Railways:** n/a — **Schools:** Shaffer

Document Type

CEQA: ☐ NOP ☐ Early Cons ☐ Neg Dec ☒ Draft EIR ☐ Supplement/Subsequent ☐ EIR (Prior SCH No.) ☐ Other

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other

Local Action Type

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☐ Rezone ☐ Prezone ☒ Use Permit ☐ Land Division (Subdivision, Parcel Map, Tract Map, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☐ Other

Development Type

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____
☐ Commercial: Sq.ft. ____ Acres ____ Employees ____
☐ Industrial: Sq.ft. ____ Acres ____ Employees ____
☐ Educational
☐ Recreational
☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type
☒ Mining: Mineral Aggregate
☐ Power: Type ____ Watts ____
☐ Waste Treatment: Type
☐ Hazardous Waste: Type
☐ Other:

Project Issues Discussed In Document

☑ Aesthetic/Visual ☐ Agricultural Land ☑ Air Quality ☑ Archeological/Historical ☐ Coastal Zone ☑ Drainage/Absorption ☐ Economic/Jobs ☐ Fiscal
☐ Flood Plain/Flooding ☐ Forest Land/Fire Hazard ☑ Geologic/Seismic ☑ Minerals ☑ Noise ☐ Population/Housing Balance ☑ Public Services/Facilities ☐ Recreation/Parks
☐ Schools/Universities ☐ Septic Systems ☐ Sewer Capacity ☑ Soil Erosion/Compaction/Grading ☐ Solid Waste ☑ Toxic/Hazardous ☑ Traffic/Circulation ☑ Vegetation
☑ Water Quality ☐ Water Supply/Groundwater ☐ Wetland/Riparian ☑ Wildlife ☑ Growth Inducing ☑ Landuse ☑ Cumulative Effects ☐ Other

FILED JUN 6 1994 STATE CLEARINGHOUSE

Present Land Use/Zoning/General Plan Use Project site is currently an approved surface Mining operation on 110 acres. Zoning is "U-C" Upland Conservation. General Plan designation is Extensive Agriculture.

Project Description The project consists of the expansionof an existing surface mining operation from 110 acres to 160 acres; expansion of the quarry face from 84 feet high to 150 feet high; increase harvest from 500,000 cubic yards to 1,700,000 cubic yards; expansion of operating season from seven months (Nov.- March closure) to year-round. Approved reclamation plan calls for regrading sand pits to blend with surrounding topography, benching quarry face and revegetating the disturbed areas with native grass and shrub species.

State Clearinghouse Contact: Mr. Chris Belsky (916) 445-0613

State Review Began: 6-6-94

Dept. Review to Agency 7-14

Agency Rev to SCH 7-18

SCH COMPLIANCE 7-21

Please note SCH Number on all Comments

94051008

Please forward late comments directly to the Lead Agency

AQMD/APCD 14 (Resources: 617)

Project Sent to the following State Agencies

- X Resources
- ____ Boating
- ____ Coastal Comm
- ____ Coastal Consv
- ____ Colorado Rvr Bd
- ____ Conservation
- X Fish & Game # 1
- ____ Delta Protection
- ____ Forestry
- X Parks & Rec/OHP
- ____ Reclamation
- ____ BCDC
- X DWR
- ____ OES
- **Bus Transp Hous**
- ____ Aeronautics
- X CHP
- X Caltrans # 2
- ____ Trans Planning
- ____ Housing & Devel
- **Health & Welfare**
- ____ Drinking H20
- ____ Medical Waste

State/Consumer Svcs

- ____ General Services
- **Cal/EPA**
- X ARB
- ____ CA Waste Mgmt Bd
- ____ SWRCB: Grants
- ____ SWRCB: Delta
- ____ SWRCB: Wtr Quality
- ____ SWRCB: Wtr Rights
- X Reg. WQCB # 6 SLT
- ____ DTSC/CTC
- **Yth/Adlt Corrections**
- ____ Corrections
- **Independent Comm**
- ____ Energy Comm
- X NAHC
- ____ PUC
- ____ Santa Mn Mtns
- X State Lands Comm
- ____ Tahoe Rgl Plan
- ____ Other:

RECEIVED County of Lassen JUN 12 1997

Department of Community Development

• PLANNING • BUILDING INSPECTION • ECONOMIC DEVELOPMENT/HOUSING • CODE ENFORCEMENT • MINING

ROBERT K. SORVAAG, *Director*
JOSEPH J. BERTOTTI, *Assistant Director*
Lassen County
Department of Community Development
707 Nevada Street
Susanville, CA 96130
☎ (916) 251-8269
Fax: (916) 251-8373
Zoning & Building Inspection Requests
☎ (916) 257-LAND

June 5, 1997

NOTICE OF PUBLIC REVIEW
NOTICE OF PUBLIC MEETING
MILLER'S CUSTOM WORK, INC. WARD LAKE PIT EXPANSION
DRAFT ENVIRONMENTAL IMPACT REPORT

As lead agency, Lassen County has prepared a Draft Environmental Impact Report (DEIR) for the following project:

File # 96056: Proposed expansion of the Miller's Custom Work, Inc. Ward Lake Aggregate Pit involving expansion of the mine site from 110 acres to 160 acres; increasing the height of the quarry face from 84 feet to 150 feet; on site manufacture of ready mix concrete; increase the total potential harvest from 500,000 cubic yards (cy) to 1,700,000 cy; and rezoning the parcel from U-C Upland Conservation to U-C-2 Upland Conservation/Resource Management.

A 45-day review period has been established for review of the DEIR. The review period begins June 9, 1997 and will end on July 23, 1997. The County invites written comments prior to the end of the review period concerning the adequacy of the DEIR in identifying, evaluating and mitigating potentially significant environmental impacts.

Copies of the DEIR have been distributed to affected responsible and trustee public agencies, and to those individuals who had previously requested the document. Additional copies are available for public review at the Lassen County Department of Community Development, 707 Nevada Street, Susanville, during regular business hours which are 7:00 a.m. to Noon and 1:00 p.m. to 4:00 p.m., Monday through Friday, and at the Susanville Public Library.

The Lassen County Planning Commission will hold a public meeting to review the DEIR and to receive public comments concerning its adequacy at 1:30 p.m. on July 2, 1997, in the Board of Supervisors Room, 707 Nevada Street, Susanville.

Written comments must be received by the Department of Community Development no later than 4:00 p.m. on July 23 to be considered in the Final EIR. Comments should be sent to Lassen County Department of Community Development, 707 Nevada Street, Susanville, CA 96130.

All documents referenced in the DEIR are available at the Lassen County Department of Community Development. The project site is not located on a listed toxics site.

Sincerely,

for: Robert K. Sorvaag,
Environmental Review Officer

No Comment

Jerry L. Severson 6-12-97
Caltrans Dist. 2 IGR/CEQA unit

Note: Anyone wishing to challenge in court an action on the project may be limited to raising only those issues raised during the review period and the project public hearings.

is/96056/DEIRnotice

Post-it® Fax Note 7671	Date	# of pages ▶
To RICK SIMON	From JERRY SEVERSON	
Co./Dept. PLANNING	Co. CALTRANS	
Phone # 251-8270	Phone # 225-3481	
Fax # 251-8373	Fax # 225-3271	

SUMMARY OF ORAL COMMENTS
LASSEN COUNTY PLANNING COMMISSION
PUBLIC MEETING
JULY 2, 1997

FILE No.: #96056, Initial Study, Use Permit
PROJECT: Draft EIR for Miller's Custom Work, Inc. Ward Lake Pit Operation

BACKGROUND: The public review period for the DEIR was set for June 9, 1997 to July 23, 1997 (45 days). The Planning Commission held a duly noticed public meeting during their regularly scheduled July 2, 1997 meeting in Susanville. The purpose of the public meeting was to: 1) provide an opportunity for the general public and agencies to comment on the adequacy of the DEIR; and 2) to allow the Planning Commission to comment on and discuss the DEIR. The following is a summary of the oral comments made to the Commission. No written comments were submitted at the meeting.

COMMENTS:

Everd McCain (citizen): Happy to be in a position to support the applicant. If the Commission had decided to prepare an EIR two years ago on this same project, they would have been a lot further along. Agrees with the information and conclusions in the DEIR regarding traffic volumes related to the project. Would like to see the issue of the structural adequacy of Ward Lake Road addressed. Does not believe the road is structurally adequate for the truck traffic generated by the project. Expressed his belief that Ward Lake Road has failed due to truck traffic from the project and is in need of substantial repair. Said that the Public Works Department has scheduled chip seal for the road for the past two years, but has run out of money and has not done that job. If the EIR addressed structural adequacy of Ward Lake Road, both the EIR and the project would be very good. Also thinks that increasing the turning radius at the intersection of Ward Lake Road and Center Road would make it safer for trucks turning to the intersection. 1

Frank Hall (Dept. of Fish and Game): Supports the investigation and conclusions in the DEIR relating to wildlife, especially deer and antelope, impacts. The closure period of December through March proposed as mitigation in the DEIR is acceptable to the Department. 2

Martin Sisk (citizen, lives on Ward Lake Road): Concerned about the accumulation of sand and silt on Ward Lake Road during runoff events after heavy rains. Indicates that the County road crew has had to dredge the drainage ditches along Ward Lake Road and Conservation Center Road on a number of occasions. He believes that the water and silt move down a drainage south of the quarry, across the old Eagle Lake Ditch, along the east side then across the agricultural fields on the east side of Ward Lake Road, ending up near the intersection of Ward Lake and Center roads. 3 Also supports speed controls on Ward Lake Road, especially for trucks going to and from the mine site. There is no posted speed limit on the road. 4

Nancy Sisk (citizen, lives on Ward Lake Road): Reiterates concerns about drainage, sand and silt on the road. Clarifies that the school bus travels up and down Ward Lake Road, rather than stopping on Center Road at the intersection, for safety reasons. 5 6

Commissioner Totten asks that staff look into the road related issues raised. 7

Commissioner Hanson comments that there appears to be some common ground with the applicant and Fish and Game regarding the potential closure period. 8

Commissioners overall express satisfaction with the document. 9

(following the meeting, and pursuant to the Commission's direction to look into the road related issues raised, Community Development staff prepared a memo to the Public Works Director requesting an assessment of the structural status of Ward Lake Road, and information regarding the drainage situation at the intersection of Ward lake Road and Center Road. (copy attached))

/is/96056/Summary of Oral Comments7-02-97

July 21, 1997

TO: Lassen County Department of Community Development
707 Nevada Street
Susanville, CA 96130

RECEIVED
JUL 23 1997
Lassen County
Department of Community Development

FROM: Martin and Nancy Sisk
P.O. Box 126
Litchfield, CA 96117

To Whom It May Concern:

We were at the public hearing on July 2, 1997 concerning Miller's Custom Work Inc., Ward Lake Aggregate Pit DEIR but because we had just received the DEIR that day we were not prepared to make many comments.

After reviewing the DEIR in depth we would like to see the Lassen County Planning Commission go with the No Project, No Expansion alternative or Alternative Site. When this project was first approved in 1981, it was a short term project. With this added expansion; it will become a minimum 40 year project and who knows, a request for even further expansion may occur. 1

One thing we are concerned with is the visual impact. The DEIR states that the initial point that the site is visible is 5.7 miles to the west on Conservation Center Road but even Jim Miller stated at the hearing that it can be seen from McDonald's in Susanville. 2a

It states in the 1996 Initial Environmental Study that the expansion will make the quarry face visible to east bound travelers on both Conservation Center Road and Highway 395 and from other valley locations west of the project site. While the quarry face would not obstruct any scenic vistas it could be considered offensive. 2b

The DEIR states that much of the operation is shielded from short and long range view by a low ridge. This low ridge only shields the southern view but from Susanville to west of Ward Lake Road the project is visible. 2c

It was our impression at the hearing that the proposed expansion would not be any higher. But according to the DEIR the swath will almost double in height(an additional 66 ft. in height) in the area visible now and an additional area approximately equal in width to the now visible area to the south will be noticeably disturbed above the intervening ridgeline(approximately 40 feet in height). 2d

We would tend to disagree with the DEIR that the cut will not dominate the landscape or form an eyesore. Just in the past few years the current project has become quite visible and noticeable as we travel from Susanville to our residence on Ward Lake Road. We feel that by almost doubling the height and width that it will surely be much more visible and a definite eyesore. 2e

We would like to ask all of you involved in this final decisiom to take a drive from Susanville to the proposed expansion site and see for yourself. 2f

Another concern is water quality. Is the project run-off fully detained on-site? What about storm water run off and is there an impact on ground water quality from run-off as well as from unlined ponds? 3

Traffic is a big concern. The DEIR states that there are approximately 20 aggregate haul truck trips/day generated by the current operation. This statement is misleading. On days that the plant is running full steam, there are probably at least 40 trucks an hour going up and down Ward Lake Road and onto Center Road. If this expansion were to occur we could invision at least half again as many trucks traveling these roads. 4

There are also no speed controls on Ward Lake Road and many times trucks are traveling much too fast. Also the hours of operation are not being adhered to. 5

One note concerning the on-site production of ready mix concete added to the use permit as an allowed use. It is our understanding that Miller Custom Work already has a concrete plant site approved in Susanville. We feel there is no need to even consider this part of the proposal. 6

In closing, we would hope that you would remember the well attended townhouse meetings held this past spring at Shaffer School concerning Community Issues and the Standish-Litchfield Area Plan. 7a

When the amendment to the area plan concerning Industrial Land Use: Regarding production of asphalt and ready mix concrete on aggregate mine sites; the general public consensus was option b) amend policy and implementation to clearly prohibit such production anywhere within the planning area. 7b

We believe that if this expansion is approved it will be going against the general consensus of this community. We also feel that there was not enough public notice concerning this project and for most people the public hearing was impossible to attend due to the time of day at which it was held. 8

We would appreciate your serious consideration on this issue and thank you for your time.

Sincerely,

Martin Sisk

Nancy Sisk

Martin and Nancy Sisk

Department of Community Development

County of Lassen

• PLANNING • BUILDING INSPECTION • ECONOMIC DEVELOPMENT HOUSING • LAFCO • CODE ENFORCEMENT • MINING

ROBERT K. SORVAAG, *Director*
JOSEPH J. BERTOTTI, *Assistant Director*
KEVIN BAILEY, *Building Official*
707 Nevada Street
Susanville, CA 96130

☎ (916) 251-8269
Fax: (916) 251-8373

Zoning & Building
Inspection Requests
☎ (916) 257-LAND

July 2, 1997

MEMORANDUM

TO: Russell Gum, Public Works Director

FROM: Robert Sorvaag, Community Development Director

SUBJECT: Ward Lake Road -- Miller's Custom Work, Inc. Aggregate Mine

---

The Planning Commission held a public meeting on Wednesday, July 2, 1997, to assess the Draft Environmental Impact Report (DEIR) prepared for the Miller's Custom Work, Inc. Ward Lake operation expansion (Initial Study #96056). The DEIR reflects the Road Department's earlier comments related to traffic counts at the intersection of Ward Lake Road and Conservation Center Road. Consistent with the Road Department's assessment, the document concludes that no improvements to the intersection are warranted by the proposed project.

However, two road-related issues were raised by members of the public at the July 2 meeting which were not addressed in the DEIR. The Commission has directed staff to investigate these issues. First, there was concern that Ward Lake Road may not be structurally adequate to handle truck traffic generated by the mining operation. In order to determine whether additional study of the road is needed, I would appreciate your comments and assessment of the situation. Second there were comments indicating that Ward Lake Road is receiving substantial amounts of sand and silt from up-slope sources during heavy rains, and that the County has had to routinely dredge the drainage ditches (on Ward Lake and Conservation Center roads) following runoff events. Your road crews may be able to provide information that would help in determining the source(s) of the sand and silt. If it originates from the mine site, we might be able to address the issue through the DEIR and the Use Permit process.

To address these issues effectively, we will need your assistance as soon as possible. We are already working on the Final EIR, and the Planning Commission has requested that information on the issues above be incorporated in that final document. Please check with Rick Simon should you have any questions.

Thank you for your assistance.

/is/96056/Gum7-2-97

Appendix C

2018 County Initial Study

PRELIMINARY DETERMINATION

INITIAL STUDY #2018-001 for USE PERMIT AMENDMENT #2018-003 and RECLAMATION PLAN AMENDMENT #2018-001, TLT Enterprises, LLC

DETERMINATION:

On the basis of this Initial Study:

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

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described in the Initial Study have been made a part of the project. A NEGATIVE DECLARATION will be prepared.

☒ I find that the project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT will be required.

Maurice L. Anderson,
Environmental Review Officer

6-1-18
Date

Project Title:	Ward Lake Pit Amendment
Lead Agency Name and Address:	Lassen County, 707 Nevada Street, Susanville, CA 96130
Project Location:	The project is located in Litchfield, CA at 476250 Ward Lake Road, off Center Road (A-27) in Lassen County, approximately 13 miles east of Susanville, CA. A.P.N.: 109-100-59 (Old 109-100-40, 42, 44).
Proponent's Name and Address:	Perry Thompson TLT Enterprises LLC 24339 Highway 89 Burney, CA 96013
General Plan:	Extensive Agriculture; *Standish-Litchfield Area Plan*
Zoning:	U-C-2 (Upland Conservation/Resource Management District) and U-C-A-P (Upland Conservation Agricultural Preserve Combining District)

Project Description:

Proposal to amend mining operations at the Ward Lake Pit (CA mine ID #91-18-0008). If approved, the amendment would allow for 24-hour mining operations, Monday through Saturday (currently the use permit allows operations from 6:00 a.m. to 7:00 p.m., Monday through Saturday), extend the life of the mine from 2020 to 2030, allow annual site production in excess of the permitted 100,000 tons during declared emergencies, and increase the estimated number of truck trips from 10 per day and 55 per week to an average of 26 per day and maximum 150 per day during peak operations (not including employee vehicles). The submitted Use Permit Project Detail Supplement identifies a proposed noise level of 80-90 dB at a distance of 50 feet during daytime operations and proposed noise levels at the nearest property line of 70 dB during daytime operations and 65 dB during nighttime operations.

The Ward Lake Pit currently occupies 160 acres on a 442-acre parcel, owned by TLT Enterprises LLC. The surface mining operation is presently permitted for the mining of rock, crushing, screening, washing, material stockpiling, fuel storage; operation of a cement plant (12,000 cubic-yard annual limit) and asphalt plant; and the use of settling ponds, scales, an office and a truck shop. Grading, excavating, and blasting are prohibited onsite between January 1 and March 31 annually, except in a state of emergency, as declared by the local Emergency Services Director and/or the Board of Supervisors and/or the City of Susanville. The detonation of explosives is prohibited between the hours of 6:00 p.m. and 7:00 a.m. year-round. Current noise standards for the operation, as measured at the nearest affected residentially designated lands, require that daytime noise levels stay below 70 dBA and nighttime noise levels stay below 60 dBA (noise level standard varies with the cumulative number of minutes the noise lasts in any one-hour time period, see Lassen County Noise Element, Table III). The currently permitted activities and all associated conditions and restrictions will serve as the baseline for this Initial Study. All existing and anticipated ground disturbance associated with the mining operation was previously considered in an Environmental Document during the mines permitting process. No additional ground disturbance is proposed by this project.

Environmental Setting:

The project site is an active and permitted aggregate quarry, cement plant, and asphalt plant. It is located in Litchfield, CA at 476250 Ward Lake Road, off Center Road (A-27) in Lassen County, approximately 13 miles east of Susanville, CA. [A.P.N.: 109-100-59 (Old 109-40, 42, 44)] Much of the surrounding land use is related to agriculture; however, there are approximately 15 residences within a one-mile radius of the project site.

The site has been used as an active rock quarry since 1980, when Use Permit 79-80-44 was granted for a new mine with an asphalt batch plant. Condition #5 of this Use Permit, regarding the responsibilities of the operator for surfacing Ward Lake Road. was amended in 1985 by Use Permit 11-02-85. In 1994, Use Permit 94032 allowed for expansion of the mine and the addition of a concrete batch plant. The mine currently operates under Reclamation Plan 96056 and Use Permit 96056, approved in 1997, which rezoned land to allow for concrete production, allowed

for year round operations (with limited winter activities), and further expanded the mine to its current 160-acre boundary.

Current permitted operations at the site occur Monday –Saturday, from 6:00 a.m. to 7:00 p.m. Activities include excavating, grading, blasting, crushing, screening, washing, material stockpiling, wet suppression to prevent dust on roads and other surfaces, fueling of equipment and loading/unloading of belly dump semi-trailers; operation of a cement plant (12,000 cubic-yard annual limit) and asphalt plant; and the use of settling ponds, scales, an office and a truck shop. The existing mining operation is permitted for an annual production of up to 100,000 tons, 2,600,000 gross, and as many as 26 daily truck trips (an estimate, not an average) were anticipated and considered during the most recent environmental review and permitting process (1997 EIR). The site contains the following: numerous pieces of heavy equipment (e.g. loaders, excavators, concrete trucks, dump trucks, belly dumps, fuel haulers, water truck), crushers, sorters, fuel tanks, water tanks, a permitted well, a scale and scale house, an asphalt batch plant, a concrete batch plant, large stockpiles of sorted aggregate and stockpiled topsoil.

ACCESS: Access is by way of paved Ward Lake Road and paved Wells Drive, off of Center Road (A-27).

NOISE: A 1988 Community Noise Study identified an estimated day-night average noise level (Ldn) of 43.7 dBA at the intersection of CR 218 (Chappius Ln) at CR 211 (Lake Leavitt Rd), approximately 3.5 miles from the project site. According to the 1997 Environmental Impact Report, sound levels were taken during full operation of the ready mix [concrete] plant, which indicated that at full operation it generates noise levels of 50 dBA (measured at the nearest boundary of a property which could develop residentially). Current noise standards for the mining operation, as measured at the nearest affected residentially designated lands, are to be consistent with the standards outlined in the 1989 Noise Element, pg. 21 #19 and Table III. Table III shows that daytime noise levels must stay below 70 dBA and nighttime noise levels must stay below 60 dBA (noise level standard varies with the cumulative number of minutes the noise lasts in any one-hour time period). The mining operation is not currently permitted for nighttime operations.

VEGETATION: The project area consists mainly of shrub communities, including sagebrush, bitterbrush, and rabbitbrush. Approximately 120 acres of the project site, out of 160 permitted acres, has been cleared of vegetation.

WILDLIFE: The project area is considered important wintering range for deer and antelope, and also serves resident antelope and chuckar. Special status wildlife species that are known to occur, or have the potential to occur, within the project area include the golden eagle, northern harrier, Swainson's hawk, greater sage-grouse, burrowing owl, long-eared owl, short eared owl, loggerhead shrike, gray wolf, American badger, pallid bat, Townsend's big-eared bat, pygmy rabbit, and white-tailed jackrabbit.

HYDROLOGY: There are no existing streams or bodies of water within the boundaries of the project site, and the site is not within the 100-year floodplain. Several permitted settling ponds

are located at the north end of the project site, which drain into intermittent channels. At its closest point, the Eagle Lake Ditch is 375 feet west of the site. Although it does not hold water, it is federally listed as a historic site, but is located outside of the current operation boundary. Additionally, Ward Lake is located 0.5 miles southwest of the site, Willow Creek is 1 mile west of the site, and the Susan River 2 miles south of the site.

The mining operation currently has an approved Stormwater Pollution Prevention Plan (SWPPP). The operation practices standard soil erosion control protocols, including the use of berms, water bars or rolling dips; the use of rock check dams on roadway ditches; diverting run-on away from stockpile areas; installing stabilizers as necessary (silt fence, wattles, etc.); and directing runoff within the quarry to detention ponds.

Well water is used by the current operation for wet suppression of on-site dust. The applicant estimates 0-6 truckloads of water per day (4,000g/load) during daytime operations, with an average of 4-5 loads.

The project site is located within the Honey Lake Valley Groundwater Basin, which has been identified as a "low priority basin" by the Department of Water Resources, signifying that it is not currently at risk for overdraft. Within this basin, California's *Bulletin 118* estimates the total volume of water stored in the upper 100 feet of saturated basin-fill deposits and volcanic-rock aquifers to be 10 million acre-feet. Estimates of groundwater extraction for agricultural, municipal and industrial, and environmental wetland uses are 51,000, 15,000, and 3,800 acre-feet, respectively. Deep percolation from agricultural applied water is estimated to be 14,000 acre-feet.

As seen in the groundwater levels for monitored wells in the project area, found in the Department of Water Resources (DWR) Water Data Library, there is currently no trend or pattern indicating overdraft in the basin.

SOILS: According to the Natural Resources Conservation Services (NRCS) Web Soil Survey, soils at the project site are comprised of Devada-Rock outcrop association (2 to 50 percent slopes; nonirrigated land capability class 7e; no specified irrigated land capability classification), Orhood very stony sandy loam (5 to 15 percent slopes; nonirrigated land capability class 7s; no specified irrigated land capability classification), McConnel-Mottsville complex (2 to 9 percent slopes; nonirrigated land capability class 6e; irrigated land capability class 3e), and Fivesprings-Longcreek association (9 to 30 percent slopes; nonirrigated land capability class 7s; no specified irrigated land capability classification). These soils are listed by the NRCS as well drained to excessively drained, with no flooding or ponding concerns.

GEOLOGY: The following setting discussion is based on the text of the 1981 and 1997 Environmental Impact Reports for this mining operation.

The project site is located where the Modoc Plateau meets the Great Basin. This is an area of Cenozoic volcanic rock, the lower levels of which have been converted to gravels by shoreline action on ancient Lake Lahontan. The deposit to be mined is located just above the high water

line of Lake Lahontan in a large deposit of Pleistocene volcanic basalt. The deposit appears as ledge rock, the exposed edges of volcanic flow (Map #2-A, "Areal Geology"/Page 23).

Faults in the area trend in a northwesterly direction with a few faults shown to trend northeasterly. The fault shown very near the project site (within 0.25 miles) to the northeast (Map #2-C "1", 1981 EIR, page 26) is Pre-Quaternary (older than two million years) or without recognized Quaternary displacement. There has not been any activity ascertained, and it is considered inactive. Another fault adjacent to this fault is a Quaternary fault displacement of less than two million years old, without any historic (past two hundred years) record of activity. The "Litchfield Fault" that follows County Road A-27 (Center Road, south of the project site), is also a Pre-Quaternary fault.

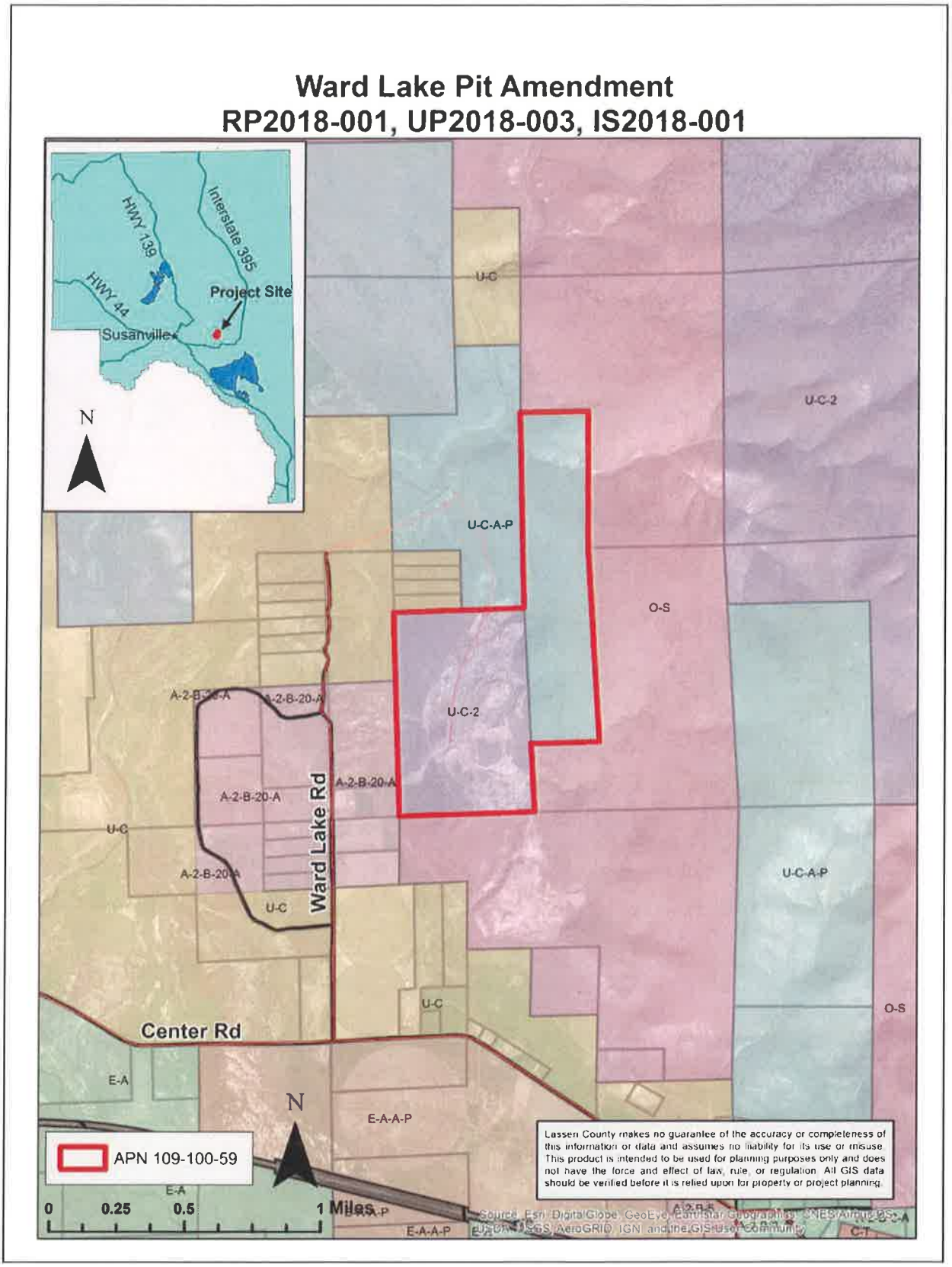
According to the California Geological Survey (CGS) *Earthquake Zones of Required Investigation Map*, there are no Alquist-Priolo Special Study Earthquake zones (active faults) within the project site. The nearest fault mapped by the CGS is approximately 7.8 miles to the southwest.

REGULATORY ENVIRONMENT: Lassen County is the lead agency for this project under the California Environmental Quality Act (CEQA) and the Surface Mining and Reclamation Act (SMARA), and has primary authority for project approval. In addition to Lassen County, the following agencies may have permitting authority over the project or portions thereof:

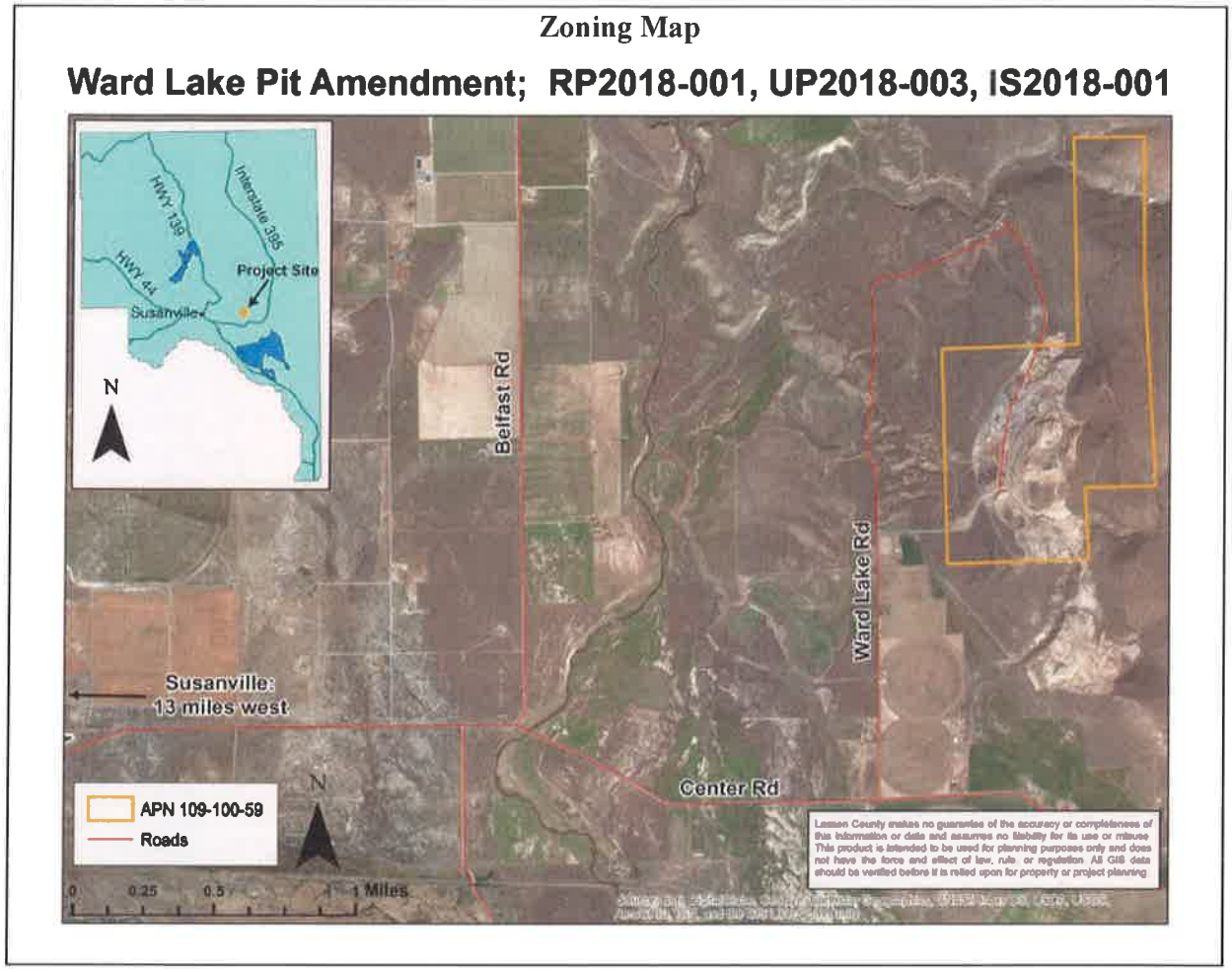
- Lahontan Regional Water Quality Control Board (RWQCB)
- Lassen County Air Pollution Control District (APCD)
- Department of Conservation, Division of Mine Reclamation (DMR)

SURROUNDING LAND USE: The project site is zoned Upland Conservation, Resource Management District. Lands immediately adjacent to the project area are zoned Open Space District; Upland Conservation District; Upland Conservation, Agricultural Preserve Combining District; and Agricultural Residential 20 Acre Building Site, Agricultural Combining District. The *Standish-Litchfield Area Plan* classifies these surrounding lands as Extensive Agriculture, Open Space, and Agricultural Residential. The area surrounding the site is primarily used for agriculture and open space. The nearest residence is approximately 875 feet from the western property line of the project parcel. This residence was constructed in 2005.

	Zoning	**Parcel Size** (acres)	**Land Use Designation** *(Lassen County General Plan 2000)*
Site	U-C-2	442	Extensive Agriculture
North	U-C, U-C-A-P	8 - 212	Open Space (Public Lands)
East	U-C-A-P, O-S	246 - 350	Open Space (Public Lands)
South	O-S	19 - 498	Open Space (Public Lands), Extensive Agriculture
West	U-C, A-2-B-20-A	9 - 269	Agricultural Residential, Extensive Agriculture


Ward Lake Pit Amendment
RP2018-001, UP2018-003, IS2018-001
HWY 139
Interstate 395
HWY 44
Project Site
Susanville
N
U-C
U-C-2
U-C-A-P
O-S
A-2-B-20-A
Ward Lake Rd
Center Rd
E-A
E-A-A-P
C-T
APN 109-100-59
0
0.25
0.5
1 Miles
Lassen County makes no guarantee of the accuracy or completeness of this information or data and assumes no liability for its use or misuse. This product is intended to be used for planning purposes only and does not have the force and effect of law, rule, or regulation. All GIS data should be verified before it is relied upon for property or project planning.
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Zoning Map



Vicinity Map

Previous Environmental Documents:

This mining operation was first approved through Use Permit 79-80-44. The 1981 Final Environmental Impact Report for Operation of Aggregate Materials Source, Operation of Rock Crushing Plant, Operation of Asphalt Concrete Batch Plant (Applicant: Miller's Custom Work) was certified as the environmental document for the project. Subsequently, Use Permit 11-02-85 amended a condition regarding the resurfacing of Ward Lake Road. On August 3, 1994, Use Permit 94032 was approved, which allowed for expansion of the mine and the addition of a concrete batch plant. On September 23, 1997, Board of Supervisors Resolution No. 97-067 was adopted to approve Use Permit 96056 and Reclamation Plan 96056, which rezoned land to allow for concrete production, allowed for year road operations (with limited winter activities), and further expanded the mine to its current 160-acre boundary. Said resolution established the current conditions of approval for the mining operation. The Miller's Custom Work, Inc. Ward Lake Pit Expansion Final EIR was certified as the environmental document for said amendment.

The purpose of this Initial Study is to determine the appropriate environmental document for the proposed project. The changes to the mining operations discussed herein require a use permit

amendment (pursuant to Chapters 9.60 and 18.112 of the Lassen County Code) and a reclamation plan amendment. Said amendments are subject to the California Environmental Quality Act (CEQA).

The appropriate environmental document for the subject use permit and reclamation plan amendments is determined in accordance with section 15162 of the CEQA Guidelines. Said section requires a subsequent EIR in any of the following instances:

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

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

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

    a. The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

    b. Significant effects previously examined will be substantially more severe than shown in the previous EIR;

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

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

This Initial Study will show that the proposed amendments would introduce new potentially significant environmental effects. As such, in accordance with section 15162, a subsequent EIR is the appropriate environmental document for the proposed use permit and reclamation plan amendments. However, CEQA Guidelines section 15163 allow the preparation of a supplement to an EIR, instead of a subsequent EIR, provided the following are applicable:

1. Any of the conditions described in Section 15162 would require the preparation of a subsequent EIR, and

2. Only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation.

The second of the above findings, that only minor additions or changes would be necessary to make the previous EIR adequately apply, cannot be made because of the following:

- The amendment would allow continuous 24 hour operations (April 1 – December 31, as mitigated by the applicant), Monday through Saturday, whereas currently hours are restricted to 6:00 a.m. to 7:00 p.m., Monday through Saturday. This is approximately a 163 percent increase in the number of hours the mine could operate.

- The amendment would extend the life of the mine an additional 10 years.

- The amendment would increase the number of truck trips from 10 per day (55 per week) to an average of 26 per day (with up to 150 per day during peak operations).

The above amendments are not considered "minor additions or changes". As such, a supplement to an EIR is not appropriate and a subsequent EIR is required pursuant to CEQA Guidelines section 15162.

---

1. LAND USE AND PLANNING. Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
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?	☒	☐	☐	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

DISCUSSION:

a) No change in the project site is proposed.

b) The project's proposed increase in truck trips is potentially in conflict with the *Lassen County General Plan 2000 Land Use Element* and *Circulation Element* and the *Standish-Litchfield Area Plan* Circulation section.

Lassen County General Plan 2000 Land Use Element

GOAL L-11: Transportation systems which compliment and support the County's land use patterns.

LU-25 POLICY: The County shall continue to review and, when warranted, formulate improved standards for the necessary improvement and maintenance of roads serving new development, including standards for the incremental improvement or development of public roads.

LU-26 POLICY: When proposed projects which would generate a substantial number of large trucks carrying heavy loads, the County shall require special mitigation measures to insure that those projects do not cause significant deterioration of County roads, or will otherwise mitigate such damage with adequate repair.

Implementation Measure LU-R: Pursuant to impacts evaluated in an environmental impact report or other form of project review, the County may require mitigation measures which will insure that project developers adequately and fairly compensate or participate with the

County in the necessary upgrading and/or repair of roads which will be significantly damaged by a project.

LU-27 POLICY: The County shall refer to the Circulation Element for additional policies and implementation measures which relate to land use issues.

Lassen County General Plan 2000 Circulation Element

CE-12 POLICY: No public highway or roadway should be allowed to fall to or exist for a substantial amount of time at or below a Level of Service rating of "E" (i.e., road at or near capacity; reduced speeds; extremely difficult to maneuver; some stoppages).

Standish-Litchfield Area Plan – Circulation

Policy 17-A: It shall be a policy of Lassen County to provide a transportation system that provides safe and efficient service for the travel needs of all citizens, the movement of goods and as a means to implement the goals and objectives of this plan.

Implementation 17.3: Prior to the approval of all new projects, the County shall evaluate the potential effect on existing traffic patterns and shall require as a condition of approval, any improvements or in lieu fees necessary to alleviate potential traffic congestion and/or to ensure traffic safety throughout the Planning Area.

Implementation 17.4: The Planning Commission should determine during the public hearing process which public and private roads should be upgraded and to which standards they should be improved to.

The Lassen County Department of Public Works responded during early consultation. They discussed the need for a traffic study on roads affected by the project, in order to ascertain whether improvements, such as turn lanes or road rehab, would be necessary to offset the proposed increased travel load. Road improvements and/or in lieu fees or a fair share agreement should be executed, as identified as necessary by the Lassen County Department of Public Works, after a proper traffic study is conducted. Currently, there is not enough information to determine if impacts can be mitigated to a less than significant level.

On April 26, 2018, the applicant submitted a traffic study to assist with the Ward Lake Pit, Use Permit Amendment Initial Study (IS). Due to a number of deficiencies, as outlined in the attached letter to VESTRA Resources, dated May 8, 2018, the traffic study does not provide adequate support for a finding that traffic impacts are less than significant under the California Environmental Quality Act (CEQA).

The project may also conflict with the *Standish-Litchfield Area Plan.* The project area is identified in said plan as Antelope Winter Range and as a "10: Most Important" on the Sensitivity Index. Board Resolution 97-067 Exhibit One discusses adverse impacts to deer herds and antelope herds, leading to the partial closure of the site from January 1 through March 31

each year (Condition #21). The purpose of this partial closure, as recommended by the Planning Commission, was to "substantially reduce impacts to deer and antelope by limiting the most disruptive mining activities during the critical time period." Impacts of 24-hour operations and increased truck traffic on wildlife are not discussed in the application. Despite the fact that there is no newly proposed physical disturbance, wildlife could be disturbed by additional noise, light, and traffic (especially at night).

During early consultation, the California Department of Fish and Wildlife (CDFW) also suggested downward facing lighting, reducing noise levels or using noise barriers, and the inclusion of a detailed analysis of impacts from potential vehicle collisions, within the environmental document. A biological survey needs to be conducted to confirm that no additional special status species are present in the project area (see section 7. Biological Resources).

Lassen County General Plan 2000 Land Use Element

GOAL L-22: Protection and enhancement of important wildlife habitats to support healthy, abundant and diverse wildlife populations.

LU-49 POLICY: The County supports the management of wildlife resources in ways that enhance the health and abundance of wildlife populations and the diversity of species and their habitats and which, at the same time, balance management policies and program objectives with the range of social and economic needs for which the County is also responsible.

Lassen County Noise Element

The proposed project is also in conflict with policies of the *Lassen County Noise Element* (see section 10. Noise).

The proposed project is consistent with the U-C-2 zoning and the *Lassen County General Plan 2000* designation of Extensive Agriculture.

c) Lassen County does not have a specific habitat conservation plan or natural community conservation plan and defers to the direction of the CDFW. No conflicting plan was identified by the CDFW during early consultation.

MITIGATION:

LP-1 (applicable to section b): The applicant will continue limited winter operations (Resolution No. 97-067, Condition #21).

LP-2 (applicable to section b): The applicant will limit 24-hour operations to April 1 – December 31 annually, except in a state of emergency, as declared by the local Emergency Services Director and/or the Board of Supervisors and/or the City of Susanville.

LP-3 (applicable to section b): The applicant will not grade/excavate between 7:00 p.m. and 6:00 a.m. or blast between 6:00 p.m. and 7:00 a.m.

LP-4 (applicable to section b): Full shield light fixtures will be used for lighting at night, only low beams will be used on trucks, and lighting would be directed internally to site and berm when possible.

LP-5 (applicable to section b): "Reduce speed" signs [must specify speed limit] will be posted by the operator for trucks on the access road and Ward Lake Road and "reduce use of jake brake" signs [must be NO use] will be posted by the operator on the access road and at the Center Road and Ward Lake Road intersection.

2. POPULATION AND HOUSING. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

DISCUSSION :

a) No new development/infrastructure is being proposed and no additional employees are anticipated.

b) Existing housing will not be displaced by the project, as it does not propose expansion or relocation of the mining operation.

c) No people will be displaced by the project, as it does not propose expansion or relocation of the mining operation or additional employees.

3. GEOLOGIC PROBLEMS. Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
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?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
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?	☐	☐	☐	☒

DISCUSSION:

a-e) There is no proposed change to the location or type of mining. The current 160-acre mining boundary was permitted September 23, 1997. There is no existing or proposed septic system or wastewater disposal system on site.

4. HYDROLOGY AND WATER QUALITY. Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
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)?	☐	☐	☒	☐
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒

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?	☐	☐	☐	☒
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
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?	☐	☐	☐	☒
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

DISCUSSION:

a,c-j) There is no proposed change to the location, type of mining, drainages/sediment ponds, or on-site structures; therefore, no additional impacts to hydrology and water quality are expected to result from the proposed project. The operation is subject to Conditions 4 and 5 of Resolution No. 97-067, requiring all necessary permits from the Lahontan Regional Water Quality Control Board (RWQCB) and/or the State Water Resources Board be secured and a Spill Prevention and Countermeasure Plan be approved by the RWQCB.

b) Well water is used by the current operation for wet suppression of on-site dust. The applicant estimates 0-6 truckloads of water per day (4,000g/load) during daytime operations, with an average of 4-5 loads, and 0-4 loads per day during nighttime operations, with an average of 2-3 loads. The applicant does not anticipate additional shifts, but instead anticipates a portion of the current daytime work changing to nighttime work. If this is the case, permitting night operations has the potential to decrease groundwater use. However, if operations used the maximum amount of loads per night in addition to the maximum per day over the maximum 6 days per week year-round, an approximate total of 38.3 AFA of groundwater would be used (22.98 AFA during daytime operations and 15.32 AFA during nighttime operations).

The project site is located within the Honey Lake Valley Groundwater Basin, which has been identified as a "low priority basin" by the Department of Water Resources, signifying that it is not currently at risk for overdraft. Within this basin, California's Bulletin 118 estimates the total volume of water stored in the upper 100 feet of saturated basin-fill deposits and volcanic-rock aquifers to be 10 million acre-feet. Estimates of groundwater extraction for agricultural, municipal and industrial, and environmental wetland uses are 51,000, 15,000, and 3,800 acre-feet, respectively. Deep percolation from agricultural applied water is estimated to be 14,000 acre-feet.

A review of groundwater levels for monitored wells in the project area, found in the Department of Water Resources (DWR) Water Data Library, showed no trend or pattern indicating overdraft in the basin.

While the amount of groundwater used by the surface mining operation may be impacted by the proposed amendments, the project is not expected to create a demand for water in excess of available supplies and said impacts are expected to be less than significant.

5. AIR QUALITY. 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:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

DISCUSSION:

a,b) No changes to the asphalt plant operations are being proposed and concrete production will still be limited to 12,000 cubic yards per year, which was analyzed under the previous environmental document. Increased dust may result from the proposed increases in truck traffic and 24-hour operations, but a condition is already in place, requiring wet suppression for the control of dust from excavation, processing activities, and on haul roads at all times (Resolution No. 97-067, Condition #16). This condition will continue to apply; consequently, any changes in dust will have less than significant impacts. Air quality requirements for this operation are managed by the Lassen County Air Pollution Control District (APCD). Permits from the APCD are required for operations (Resolution No. 97-067, Condition #3), the operator is required to submit annual reports to APCD (Resolution No. 97-067, Condition #25) and the site is monitored by APCD for compliance.

During early consultation, APCD was notified of the project and did not identify conflict with any applicable air quality plan. Addressed by APCD were the need for continued wet suppression of fugitive dust and the potential health risks associated with the diesel exhaust from the previously permitted electrical generator engines.

c) Lassen County is not on the Environmental Protection Agency (EPA) list of Current Nonattainment Counties for All Criteria Pollutants. (https://www3.epa.gov/airquality/greenbook/ancl.html - current as of 4/30/2018; accessed on 5/14/2018)

d,e) Although the extended hours of the asphalt plant and additional truck emissions resulting from the proposed increase in truck trips have the potential to expose the adjacent residences to additional odors and pollutants, these impacts are expected to be less than significant. No changes are being proposed to the permitted asphalt production, meaning that while a portion of the plant operations may take place at night, the total amount of odors or pollutants produced by the plant will remain unchanged. Potential truck emissions were analyzed using the Environmental Protection Agency (EPA) Diesel Emissions Quantifier tool (https://cfpub.epa.gov/quantifier/index.cfm?action=results.quantify) and the Bay Area Air Quality Management District (BAAQMD) air quality thresholds of significance. The proposed 150 truck trip maximum was analyzed for a total round trip distance of 30 miles per truck, at an average gas mileage of 5.9 miles per gallon, over 365 days per year (worst case scenario), resulting in 278,389 gallons of gasoline annually. This information was entered into the EPA Diesel Emissions Quantifier, yielding annual results in short tons of 3.625 for oxides of nitrogen (NOx), 0.082 for particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less ($PM_{2.5}$), and 0.232 for hydrocarbons (HC). Significance thresholds identified by the BAAQMD are 10 tons per year each for NOx, $PM_{2.5}$, and reactive organic gases (ROG; the equivalent of HC). Doubling the round trip distance to 60 miles per truck would still yield results below these thresholds.

6. TRANSPORTATION/TRAFFIC. Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
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?	☒	☐	☐	☐

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?	☒	☐	☐	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☒	☐	☐	☐
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?	☐	☐	☐	☒
g) Rail, waterborne or air traffic?	☐	☐	☐	☒

DISCUSSION:

An increase in permitted truck trips is proposed, going from the current 10 trips per day and 55 trips per week to an average of 26 trips per day, with 150 trips per day under peak conditions (an estimated 20-40 days per year). Truck traffic may be spread across daytime and nighttime operations (project specific).

a,b) The proposed project is potentially in conflict with both the *Lassen County General Plan 2000 Circulation Element* and the *Standish-Litchfield Area Plan* Circulation section. As discussed, this is a potentially significant impact.

Lassen County General Plan 2000 Circulation Element

CE-6 POLICY: The County shall continue to review and, when warranted, formulate improved standards for the necessary improvement and maintenance of roads serving new development, including standards for the incremental improvement or development of public roads.

CE-10 POLICY: In consideration of proposed projects which would generate a substantial number of large trucks carrying heavy loads, the County shall require special mitigation

measures to insure that those projects do not cause, or will adequately mitigate, significant deterioration of County roads.

Implementation Measure CE-C: Pursuant to impacts evaluated in an environmental impact report or other form of project review, the County may require mitigation measures which will insure that project developers adequately and fairly compensate or participate with the County in the necessary upgrading and/or repair of the affected roads.

CE-12 POLICY: No public highway or roadway should be allowed to fall to or exist for a substantial amount of time at or below a Level of Service rating of "E" (i.e., road at or near capacity; reduced speeds; extremely difficult to maneuver; some stoppages).

Standish-Litchfield Area Plan – Circulation

Policy 17-A: It shall be a policy of Lassen County to provide a transportation system that provides safe and efficient service for the travel needs of all citizens, the movement of goods and as a means to implement the goals and objectives of this plan.

Implementation 17.3: Prior to the approval of all new projects, the County shall evaluate the potential effect on existing traffic patterns and shall require as a condition of approval, any improvements or in lieu fees necessary to alleviate potential traffic congestion and/or to ensure traffic safety throughout the Planning Area.

Implementation 17.4: The Planning Commission should determine during the public hearing process which public and private roads should be upgraded and to which standards they should be improved to.

The Lassen County General Plan 2000 Circulation Map identifies Center Road as a "major collector."

During the most recent environmental review and permitting process (the 1997 Environmental Impact Report), as many as 26 daily truck trips were anticipated and considered. This 26 trips was discussed as a daily estimate, not an average, and was considered to be less than significant with mitigation. However, impacts of 150 truck trips within one day were not discussed and could have impacts, not only as a circulation or road deterioration concern, but also as an issue for noise, safety, public services, wildlife, and aesthetics.

The Lassen County Department of Public Works responded during early consultation. They discussed the need for a traffic study on roads affected by the project, in order to ascertain whether improvements, such as turn lanes or road rehab, would be necessary to offset the proposed increased travel load. Road improvements and/or in lieu fees or a fair share agreement should be executed, as identified as necessary by the Lassen County Department of Public Works, after a proper traffic study is conducted. Currently, there is not enough information to determine if impacts can be mitigated to a less than significant level.

On April 26, 2018, the applicant submitted a traffic study to assist with the Ward Lake Pit, Use Permit Amendment Initial Study (IS). Due to a number of deficiencies, as outlined in the attached letter to VESTRA Resources, dated May 8, 2018, the traffic study does not provide adequate support for a finding that traffic impacts are less than significant under the California Environmental Quality Act (CEQA).

The proposed project is consistent with the U-C-2 zoning and the *Lassen County General Plan 2000* designation of Extensive Agriculture.

c) Air traffic is not a part of the proposed project.

d) No change in design features is proposed. The existing design was analyzed by the previous environmental document and the impact was concluded to be less than significant.

e) The proposed project could result in intersection congestion on Center Road, inhibiting efficient travel of emergency vehicles along this route. This potential for restricted emergency access and increased response times is considered a potentially significant impact on fire and emergency services. Without knowing the frequency of trucks entering and exiting the project site, there is not enough information to determine if impacts can be mitigated to a less than significant level. Due to a number of deficiencies, the submitted traffic study does not provide adequate support for a finding that traffic impacts are less than significant under CEQA.

The Lassen County Department of Public Works responded during early consultation. They discussed the need for a traffic study on roads affected by the project, in order to ascertain whether improvements, such as turn lanes or road rehabilitation, would be necessary to offset the proposed increased travel load. Road improvements and/or in lieu fees or a fair share agreement should be executed, as identified as necessary by the Lassen County Department of Public Works, after a proper traffic study is conducted. Currently, there is not enough information to determine if impacts can be mitigated to a less than significant level.

f) No policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities are relevant to this area.

g) No changes in rail, waterborne, or air traffic are proposed as part of this project.

MITIGATION:

TT-1 (applicable to sections a,b,e) "Reduce speed" signs [must specify speed limit] will be posted by the operator for trucks on the access road and Ward Lake Road. No additional mitigation measures to reduce these traffic impacts were proposed by the applicant.

7. BIOLOGICAL RESOURCES. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☒	☐	☐	☐
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?	☐	☒	☐	☐
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?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

DISCUSSION:

There is no proposed change to the location or type of mining. The current 160-acre mining boundary was permitted September 23, 1997. However, despite no newly proposed physical disturbance, wildlife could be disturbed by additional noise, light, and traffic (especially at night).

a) Comments were received from the California Department of Fish and Wildlife (CDFW) during early consultation. The CDFW comments included their concern for the potential disturbance of special status species due to noise, light, and traffic produced by the proposed project, if any are present. The CDFW suggested reducing noise levels or using noise barriers, including a detailed analysis of impacts from potential vehicle collisions in the environmental document, and using downward facing, fully-shielded lighting. Lighting is also addressed by Lassen County Code Section 18.108.155, which states in part that "all lighting, exterior and interior, shall be designed and located so as to confine direct lighting to the premises. A light source shall not shine upon or illuminate directly on any surface other than the area required to be lighted." It was recommended by the CDFW that the site be surveyed within the undisturbed portion of the project area, at the appropriate time of year, to confirm which species exist on and/or near the project site. Currently, there is not enough information to determine if impacts can be mitigated to a less than significant level.

b) There is no riparian habitat present at the site. Wintering deer and antelope herds may be considered sensitive natural communities under this section, as identified by the *Standish-Litchfield Area Plan*. Impacts will be mitigated to less than significant by eliminating nighttime operations during winter months and by extending the grading, excavating, and blasting restrictions of Board Resolution 97-067, Condition #21 to all nighttime activities.

c) No federally protected wetlands are present at this site.

d) The project area is identified in the *Standish-Litchfield Area Plan* as Antelope Winter Range and as a "10: Most Important" on the Sensitivity Index. Impacts to wintering deer and antelope herds during daytime operations were analyzed during a previous amendment. Board Resolution 97-067 Exhibit One discusses adverse impacts to deer herds and antelope herds, leading to the partial closure of the site from January 1 through March 31 each year (Condition #21). The purpose of this partial closure, as recommended by the Planning Commission, was to "substantially reduce impacts to deer and antelope by limiting the most disruptive mining activities during the critical time period." Impacts of 24-hour operations and increased truck traffic on these species will be mitigated to less than significant by seasonal and nighttime restrictions.

e) There are no such local policies or ordinances.

f) There are no such local plans and comments from the CDFW did not include conflict with any state habitat conservation plan.

MITIGATION:

BR-1 (applicable to sections a,b,d): The applicant will continue limited winter operations (Resolution No. 97-067, Condition #21).

BR-2 (applicable to sections a,b,d): The applicant will limit 24-hour operations to April 1 – December 31 annually, except in a state of emergency, as declared by the local Emergency Services Director and/or the Board of Supervisors and/or the City of Susanville.

BR-3 (applicable to sections a,b,d): The applicant will not grade/excavate between 7:00 p.m. and 6:00 a.m. or blast between 6:00 p.m. and 7:00 a.m.

BR-4 (applicable to sections a,b,d): Full shield light fixtures will be used for lighting at night, only low beams will be used on trucks, and lighting would be directed internally to site and berm when possible.

BR-5 (applicable to sections a,b,d): "Reduce speed" signs [must specify speed limit] will be posted by the operator for trucks on the access road and Ward Lake Road and "reduce use of jake brake" signs [must be NO use] will be posted by the operator on the access road and at the Center Road and Ward Lake Road intersection.

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

DISCUSSION:

a,b) There is no proposed change to the location or type of mining. The current 160-acre mining boundary was permitted September 23, 1997. There is also no proposed change for total site production. The current operation boundary, mining type, and production amount were analyzed under a previous environmental document and the impact was concluded to be less than significant.

9. HAZARDS AND HAZARDOUS MATERIALS. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
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?	☐	☐	☒	☐

DISCUSSION:

a,b) No changes to mineral or asphalt production are being proposed. The existing permitted mineral and asphalt production amount were analyzed under a previous environmental document and the impact was concluded to be less than significant. Additionally, the operation is required to have necessary permits from Lassen County Environmental Health for storing hazardous materials. Operations will continue to follow the applicable laws and regulations regarding hazardous material transport, as defined in Section 353 of the California Vehicle Code.

c) The nearest school (Shaffer Elementary) is over 2 miles from the site (as the crow flies).

d) There is no proposed change to the location or type of mining. The current 160-acre mining boundary was permitted September 23, 1997.

e) The project site is not within an airport land use plan and is approximately 8 miles from the nearest public or public use airport.

f) There is no proposed change to the location of the mining operation and it is not in the immediate vicinity of a private airstrip.

g) The proposed project will not affect any emergency evacuation routes.

h) The proposed nighttime operations may add to the risk of a fire starting on site at night. However, wildfire spreading is reduced at night, due to increased relative humidity and decreased temperature and wind. The potential of fire to spread to the few residences in the area is low, due to the roads and agricultural land use. Additionally, it is expected that operations will move from day to night (project specific), without additional shifts. Because the volume of mining is not increasing, but rather undergoing a change in its timing, the cumulative risk for wildfire will not increase.

10. NOISE. Would the project result in:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☒	☐	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

DISCUSSION:

An increase in permitted truck trips is proposed, from the current 10 trips per day and 55 trips per week to an average of 26 trips per day, with 150 trips per day under peak conditions (an estimated 20-40 days per year). Truck trips will be spread across daytime and nighttime operations. The applicant is also proposing 24-hour asphalt plant and crusher operations (currently, operations are permitted from 6:00 a.m. to 7:00 p.m.). The submitted Use Permit Project Detail Supplement identifies a proposed noise level of 80-90 dB at a distance of 50 feet during daytime operations and proposed noise levels at the nearest property line of 70 dB during daytime operations and 65 dB during nighttime operations. A noise study is needed to determine actual noise levels of the proposed operations.

a) Resolution No. 97-067, Condition #28 identifies noise standards of the 1989 Noise Element, pg. 21 #19 and Table III, pg. 19. Table III shows that daytime noise levels must stay below 70 dBA and nighttime noise levels must stay below 60 dBA (noise level is as measured at the nearest affected residentially designated lands and the noise standard varies with the cumulative number of minutes the noise lasts in any one-hour time period).

Lassen County Noise Element, IV Implementation Program

Policy 1. Noise created by locally-regulated noise sources associated with new projects or developments shall be controlled so as not to exceed the noise level standards as set forth [in Table III] as measured from any affected residentially designated lands or land use situated in either the incorporated or unincorporated areas. New residential development shall not be allowed where the ambient noise level due to locally-regulated noise sources will exceed noise level standard set forth [in Table III]. These standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

Policy 3. Areas within Lassen County shall be defined as noise-impacted if exposed to existing or projected exterior noise levels exceeding either 60 dB Ldn/CNEL or the performance standards of Table III.

Policy 4. New development of residential land uses will not be permitted in noise-impacted areas unless the project design include effective mitigation measures to reduce noise to the following levels:

A. For noise due to traffic on public roadways, railroad line operations and aircraft in flight: 60 dB Ldn/CNEL or less in outdoor activity areas, and 45 dB Ldn/CNEL or less in indoor areas. Where it is not possible to reduce exterior noise to 60 dB Ldn/CNEL or less by incorporating a practical application of the best available noise-reduction technology, an exterior noise level of up to 65 dB Ldn/CNEL will be allowed. Under no circumstances will interior noise levels be permitted to exceed 45 dB Ldn/CNEL with the windows and doors closed.

[Although the above discusses policy for development of residential land uses, it may be applicable to a determination of significance in the present case.]

Policy 7. Noise produced by commercial uses shall not exceed 67.5 dB Ldn/CNEL at the nearest property line.

Policy 8. Noise produced by industrial uses shall not exceed 70 dB Ldn/CNEL at the nearest property line.

Policy 12. Lassen County shall prepare a community noise control ordinance in accordance with the following policies and procedures:

C. The intent of the draft ordinance shall be to protect persons from excessive levels of noise which interfere with sleep, communication, relaxation, health or legally permitted use of property, whether such noise if from existing or future sources.

D. "Excessive" levels of noise shall be defined as levels which exceed the standards of Table III and other policies of the Noise Element.

As proposed, the project exceeds the noise level performance standards of Table III and the project area would be considered noise impacted, according to Policy 3 of the *Lassen County Noise Element, IV Implementation Program*. Additionally, the proposed project has the potential to affect the community noise environment, as described by Figure 4 of the Noise Element. Although the 1997 Environmental Impact Report states that "traffic noise impacts in very low-density residential areas with speeds of approximately 35 mph do not typically become a concern warranting specific analysis until traffic levels reach approximately 125 trips/hour (A-V Group, personal communication, March 1997)," there is not enough information known to apply this statement to the proposed project. A noise study should be conducted, as there is currently not enough information to determine if impacts can be mitigated to a less than significant level. As such, this impact is considered potentially significant.

b) Plant equipment, crusher equipment, and trucks on site and traveling Ward Lake Road could increase groundborne vibration or noise levels at night, while nearby residents may be sleeping. A noise study should be conducted, as there is currently not enough information to determine if impacts can be mitigated to a less than significant level. As such, this impact is considered potentially significant.

c,d) A 1988 Community Noise Study identified an estimated day-night average noise level (Ldn) of 43.7 dBA at the intersection of CR 218 (Chappius Ln) at CR 211 (Lake Leavitt Rd), approximately 3.5 miles from the project site. The mining operation currently has permitted operations during daytime hours, but the proposed nighttime plant and crusher operations are predicted to cause both permanent (e.g. generator, crusher, plant) and temporary (e.g. haul trucks, jake brake) increases in ambient noise levels in the project vicinity above levels existing without the proposed project. A noise study should be conducted, as there is currently not enough information to determine if impacts can be mitigated to a less than significant level. As such, this impact is considered potentially significant.

e) The project site is not within an airport land use plan and is approximately 8 miles from the nearest public or public use airport.

f) There is no proposed change to the location of the mining operation and it is not in the immediate vicinity of a private airstrip.

MITIGATION:

NO-1 (applicable to sections a,b,c,d): "Reduce speed" signs [must specify speed limit] will be posted by the operator for trucks on the access road and Ward Lake Road and "reduce use of jake brake" signs [must be NO use] will be posted by the operator on the access road and at the Center Road and Ward Lake Road intersection.

NO-2 (applicable to sections a,b,c,d): The applicant will continue limited winter operations (no grading, excavating or blasting - Resolution No. 97-067, Condition #21).

NO-3 (applicable to sections a,b,c,d): The applicant will limit 24-hour operations to April 1 – December 31 annually.

NO-4 (applicable to sections a,b,c,d): The applicant will not grade/excavate between 7:00 p.m. and 6:00 a.m. or blast between 6:00 p.m. and 7:00 a.m.

NO-5 (applicable to sections a,b,c,d): During nighttime operations, trucks will only turn right onto Center Rd from Ward Lake Rd, to avoid the Litchfield residential area.

Because a noise study was not submitted, there is currently not enough information to determine if impacts can be mitigated to a less than significant level.

11. PUBLIC SERVICES.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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:	☐	☐	☒	☐
b) Fire protection?	☐	☐	☒	☐
c) Police protection?	☐	☐	☐	☒
d) Schools?	☐	☐	☐	☒
e) Parks?	☐	☐	☐	☒
f) Other public facilities?	☐	☐	☐	☒

DISCUSSION:

a,b) The addition of nighttime operations could increase the risk of on-site fires, but this is not anticipated to affect service ratios, response times or other performance objectives for fire protection services. As such, this impact is considered less than significant.

c-f) There is no proposed change to the location or type of mining. The current 160-acre mining boundary was permitted on September 23, 1997. As the project does not propose expansion or relocation of the mining operation or additional employees, and therefore will not add to needed services, it will not impact police protection, schools, parks, or other public facilities.

12. UTILITIES AND SERVICE SYSTEMS.

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒

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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
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?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

DISCUSSION:

a) Necessary permits were secured from the Lahontan RWQCB and/or State Water Resources Board prior to the start of current operations. No applicable changes are being proposed. Existing conditions were already analyzed by the previous environmental document.

b,e) No new or expanded water or wastewater treatment facilities are proposed. Existing conditions were already analyzed by the previous environmental document.

c) No new or expanded stormwater drainage facilities are proposed. Existing conditions were already analyzed by the previous environmental document.

d) Well water is used by the current operation for wet suppression of on-site dust. While the amount of groundwater used by the surface mining operation may be impacted by the proposed amendments, the project is not expected to create a demand for water in excess of available supplies and said impacts are expected to be less than significant. (see section 4. Hydrology and Water Quality)

f,g) No changes that would affect solid waste are being proposed.

13. AESTHETICS. Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☒	☐	☐	☐

DISCUSSION:

a) The *Standish-Litchfield Area Plan* and the *Lassen County Energy Element* identify scenic corridors. The project appears to be outside any scenic corridor. There are no known scenic vistas identified.

b) There is no proposed change to the location or type of mining or to the total site production. The current 160-acre mining boundary was permitted September 23, 1997. The existing permitted location and type of mining were analyzed under a previous environmental document and the impact was concluded to be less than significant.

c,d) The proposed project has the potential to affect the project area aesthetically, due to changes in lighting. The project proposes 24-hour operations, extending the hours of the existing lighting, currently used only in the early morning and evening. While the lights will be used more frequently (e.g. at night), no new lights are proposed. The existing lights used in the early morning and evening will be utilized.

Lighting is addressed by Lassen County Code Section 18.108.155, which states: "Unless otherwise provided in this title, the following lighting requirements shall apply: all lighting, exterior and interior, shall be designed and located so as to confine direct lighting to the premises. A light source shall not shine upon or illuminate directly on any surface other than the

area required to be lighted. No lighting shall be of the type or in a location so as to constitute a hazard to vehicular traffic, either on private property or on abutting streets. (Ord. 467-AC § 28, 2003.)"

A visual simulation analysis was conducted by VESTRA for on-site lighting at night (see Visual Simulation Analysis Section 3.3 Conclusions, pg. 17). VESTRA concluded that although visible from five residences along Ward Lake Road, the project should not cause a significant impact on the visual character of the area. Much of the area already experiences light from the California Correctional Center and/or is managed by the State of California or Federal land management agencies and does not have residences.

An increase in permitted truck trips is proposed, from the current 10 trips per day and 55 trips per week to an average of 26 trips per day, with 150 trips per day under peak conditions (an estimated 20-40 days per year). Said trucks will travel local roads and highways, degrading the existing visual character of the site and its surroundings through the use of headlights. These truck lights may add substantial light and/or glare which could affect nighttime aesthetics in the area. In particular, said headlights will impact Ward Lake Road and shine into existing homes during nighttime hours.

The previous EIR (1997) discussed visual impacts of the quarry face and determined that short-term impacts to close-in views were significant and unmitigable. Board of Supervisors Resolution No. 9-01-97 adopted a statement of overriding considerations, saying that the unmitigable impacts of the quarry face are acceptable, because the project's benefits outweigh the unavoidable adverse impacts. The 1997 EIR, however, did not consider or discuss lighting impacts, relevant to the currently proposed project, which will result from nighttime site operations and increased truck traffic at night.

While the applicant has proposed mitigation measures to lessen these impacts, it has not been demonstrated that said impacts can be mitigated to a less than significant level. As such, this impact is considered potentially significant.

MITIGATION:

AT-1 (applicable to section c,d): Full shield light fixtures will be used for lighting at night.

AT-2 (applicable to section c,d): Lighting will be directed internally to site and berm when possible.

AT-3 (applicable to section c,d): Only low beams will be used on trucks.

AT-4 (applicable to section c,d): During nighttime operations, trucks will only turn right onto Center Road to the Leavitt Lake cutoff road to Hwy 395, in order to avoid headlights through the residential area in Litchfield.

14. CULTURAL RESOURCES. Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

DISCUSSION:

a-d) There is no proposed change to the location or type of mining. The current 160-acre mining boundary was permitted September 23, 1997. No proposed change for total site production. The existing permitted location and type of mining were analyzed under a previous environmental document and the impact was concluded to be less than significant.

15. RECREATION. Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

DISCUSSION:

a,b) The proposed project does not include recreational facilities and would have no foreseeable impact on existing recreational facilities, nor would the project increase the need for recreational services, as no additional employees are proposed. The previous environmental document analyzes this impact.

16. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California 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:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220[g]), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104[g])?	☐	☐	☐	☒

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

DISCUSSION:

a-e) There is no proposed change to the location or type of mining. The current 160-acre mining boundary was permitted September 23, 1997. No additional land will be disturbed by this project. The existing permitted location and type of mining were analyzed under a previous environmental document and the impact was concluded to be less than significant.

17. GREENHOUSE GAS EMISSIONS.

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

DISCUSSION:

The proposed project has the potential to generate additional greenhouse gas emission through the use of trucks to transport materials. An increase in permitted truck trips is proposed, from the current 10 trips per day and 55 trips per week to an average of 26 trips per day, with 150 trips per day under peak conditions (an estimated 20-40 days per year). No changes in permitted asphalt production are proposed.

a,b) The proposed 150 truck trip maximum was analyzed for greenhouse gas emissions, for a total round trip distance of 30 miles per truck, at an average gas mileage of 5.9 miles per gallon, over 365 days per year (worst case scenario). Using the EPA Greenhouse Gas Equivalencies Calculator (https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator), it was found that the sum of the greenhouse gas emissions resulting from 278,389 gallons of gasoline is equal to 2,474 metric tons of carbon dioxide equivalent per year (MT CO2e/yr). Doubling the round trip distance to 60 miles would then result in 4,948 MT CO2e/yr.

There are no thresholds of significance adopted for the Northeast Plateau Air Basin. That said, the thresholds that have been proposed or adopted by other agencies were reviewed to provide an indicator as to the potential of this project to result in a significant impact. It is recognized that thresholds are likely air basin specific, but based on the CEQA significance threshold of 10,000 MT CO2e/yr, used by the Bay Area Air Quality Management District and the Placer County Air Pollution Control District, impacts of the proposed project would be less than significant. It was found that a project of this scale is below the threshold of significance established by many (if not all) agencies.

Additionally, even though an increase in permitted truck trips is proposed, the number of trips will still be dependent on the number of roadwork projects in the area. If these roadwork projects are not served by the Ward Lake mining/asphalt operation, they will be served by a different operation. Therefore, overall emissions will not be increased due to a higher number of permitted truck trips at this site, as the number of roadwork projects in the area will not change. Facilitating roadwork projects with local materials may in fact decrease emissions by reducing travel.

18. MANDATORY FINDINGS OF SIGNIFICANCE.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☒	☐	☐	☐
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.)	☒	☐	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

DISCUSSION:

a,b,c) The proposed project, due primarily to increases in traffic and noise, has the potential to degrade the quality of the environment, restrict the range of rare or endangered animals, and cause substantial adverse effects on human beings, either directly or indirectly. The impacts of this project, as proposed, are individually considerable, and therefore cumulatively considerable. Without a proper traffic study, noise study, and biological survey, there is not enough information to determine if these impacts can be mitigated to a less than significant level.

Appendix D

NOP and Comment Letters

County of Lassen
Department of Planning and Building Services
• Planning • Building Permits • Code Enforcement • Surveyor • Surface Mining

Maurice L. Anderson, *Director*
707 Nevada Street, Suite 5
Susanville, CA 96130-3912
Phone: 530 251-8269
Fax: 530 251-8373
email: landuse@co.lassen.ca.us
website: www.co.lassen.ca.us

Zoning & Building
Inspection Requests
Phone: 530 257-5263

June 19, 2018

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT

TO: Responsible and Trustee Agencies

FROM: Maurice Anderson, Director
Lassen County Department of Planning and Building Services
707 Nevada Street, Suite 5
Susanville, CA 96130

SUBJECT: EIR #2018-001, Ward Lake Pit Amendment

The County of Lassen will be the Lead Agency and will prepare a Draft Environmental Impact Report (EIR) for the proposed Ward Lake Pit Amendment project. This Notice of Preparation (NOP) has been prepared to solicit comments from interested agencies as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use this EIR when considering permits or other approvals for the project.

The project description, location map and discussion of probable environmental impacts (i.e., an Initial Study prepared by the Lassen County Environmental Review Officer) are attached. Additional documents, including the full amendment application, are available upon request.

Due to the time limits mandated by State law, responses to this NOP must be sent at the earliest possible date, but no later than 30 days after receipt of this notice. Please send written responses to Nancy McAllister, Natural Resources Technician, Lassen County Department of Planning and Building Services, at the above address. Please provide a contact person for your agency in the written response.

This Notice of Preparation, attachments and the project file are available for review at the Lassen County Department of Planning and Building Services, located at 707 Nevada Street, Susanville, CA 96130. The department is open from 7 a.m. to 12 p.m. and 1 p.m. to 4 p.m., Monday through Friday, excepting holidays.

1.0 PROJECT LOCATION

The project is located in Litchfield, CA at 476250 Ward Lake Road, in Lassen County, approximately 13 miles east of Susanville, CA. A.P.N.: 109-100-59 (Old 109-100-40, 42, 44). Access is by way of paved Ward Lake Road and paved Wells Drive, off Center Road (A-27).

2.0 PROJECT DESCRIPTION

The project is a proposal to amend mining operations at the Ward Lake Pit (CA mine ID #91-18-0008). If approved, the amendment would allow for 24-hour mining operations, Monday through Saturday (currently the use permit allows operations from 6:00 a.m. to 7:00 p.m., Monday through Saturday), extend the life of the mine from 2020 to 2030, allow annual site production in excess of the permitted 100,000 tons during declared emergencies, and increase the estimated number of truck trips from 10 per day and 55 per week to an average of 26 per day and maximum 150 per day during peak operations (not including employee vehicles). The submitted Use Permit Project Detail Supplement identifies a proposed noise level of 80-90 dB at a distance of 50 feet during daytime operations and proposed noise levels at the nearest property line of 70 dB during daytime operations and 65 dB during nighttime operations.

The Ward Lake Pit currently occupies 160 acres on a 442-acre parcel, owned by TLT Enterprises LLC. The surface mining operation is presently permitted for the mining of rock, crushing, screening, washing, material stockpiling, fuel storage; operation of a cement plant (12,000 cubic-yard annual limit) and asphalt plant; and the use of settling ponds, scales, an office and a truck shop. Grading, excavating, and blasting are prohibited onsite between January 1 and March 31 annually, except in a state of emergency, as declared by the local Emergency Services Director and/or the Board of Supervisors and/or the City of Susanville. The detonation of explosives is prohibited between the hours of 6:00 p.m. and 7:00 a.m. year-round. Current noise standards for the operation, as measured at the nearest affected residentially designated lands, require that daytime noise levels stay below 70 dBA and nighttime noise levels stay below 60 dBA (noise level standard varies with the cumulative number of minutes the noise lasts in any one-hour time period, see Lassen County Noise Element, Table III). The currently permitted activities and all associated conditions and restrictions will serve as the baseline for this Initial Study. All existing and anticipated ground disturbance associated with the mining operation was previously considered in an Environmental Document during the mines permitting process. No additional ground disturbance is proposed by this project.

3.0 Project Site Characteristics

The project area consists mainly of shrub communities, including sagebrush, bitterbrush, and rabbitbrush. Approximately 120 acres of the project site, out of 160 permitted acres, has been cleared of vegetation. The project area is considered important wintering range for deer and antelope, and also serves resident antelope and chukar. Special status wildlife species that are known to occur, or have the potential to occur, within the project area include the golden eagle, northern harrier, Swainson's hawk, greater sage-grouse, burrowing owl, long-eared owl, short eared owl, loggerhead shrike, gray wolf, American badger, pallid bat, Townsend's big-eared bat, pygmy rabbit, and white-tailed jackrabbit. There are no existing streams or bodies of water within the boundaries of the project site, and the site is not within the 100-year floodplain. Several permitted settling ponds are located at the north end of the project site, which drain into intermittent channels. The project site is located within the Honey Lake Valley Groundwater Basin, which has been identified as a "low priority basin" by the Department of Water Resources, signifying that it is not currently at risk for overdraft. The area surrounding the site is primarily used for agriculture and open space. The nearest residence is approximately 875 feet from the western property line of the project parcel.

4.0 POTENTIAL ENVIRONMENTAL IMPACTS

The Environmental Review Officer prepared an Initial Study, which identifies potentially significant impacts in the following categories, and mitigation measures have not been identified to reduce said impacts to a less than significant level (see the attached Initial Study for more information):

- Land Use and Planning
- Transportation/Traffic
- Biological Resources
- Noise
- Aesthetics
- Mandatory Findings of Significance

This project poses potentially significant environmental effects, primarily due to the proposed nighttime operations and increase in permitted haul trucks. Mitigation measures that have been identified to reduce these effects include the continuation of limited winter operations during the daytime (no grading, excavating, blasting), the limiting of 24-hour operations to April 1 – December 31 annually, the limiting of all grading/excavating/blasting to daytime hours, the use of full shield light fixtures, the exclusive use of low beams on trucks, the directing of light internally when possible, the posting of "reduce speed" and "reduce use of jake brake" signs, and the avoidance of the Litchfield residential area during nighttime operations. Additional studies and surveys are necessary to determine if the proposed mitigations are sufficient to reduce any of the above-mentioned impacts to a less than significant level.

MLA:njm

Distribution: Supervisor Hammond (5); Perry Thompson (Applicant); VESTRA Resources (Consultant); Co. Assessor's Office; County Counsel; Co. Fire Warden/CAL FIRE; Co. Environmental Health Dept.; Co. Public Works/Road Div.; Lassen Co. Fish & Game Com.; CA Dept. of Fish & Wildlife (Redding/Wendel); Caltrans; Lahontan RWQCB (email); Department of Water Resources (DWR); Division of Mine Reclamation; Natural Resources Agency; Office of Historic Preservation; Department of Parks and Recreation; California Highway Patrol; Air Resources Board; State Water Resources Control Board; Department of Toxic Substances Control; Native American Heritage Commission; State Lands Commission; Bureau of Land Management -Susanville; Pit River Tribe of California; Greenville Rancheria of Maidu Indians; Susanville Indian Rancheria; Honey Lake Maidu; Washoe Tribe of Nevada and California; Standish-Litchfield Fire Protection District; Co. Air Pollution Control Officer; Shaffer Elementary School

S:\PLA\Planning\2018\MP#2018-001, Perry Thompson\EIR#2018-001\NOP

STATE OF CALIFORNIA
NATIVE AMERICAN HERITAGE COMMISSION
Environmental and Cultural Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710
Fax (916) 373-5471
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov
Twitter: @CA_NAHC

Edmund G. Brown Jr., Governor

RECEIVED
JUL 03 2018
Lassen County Department of
Planning and Building Services

June 28, 2018

Nancy McAlliser
Lassen County 707 Nevada Street, Suite 5
Susanville, CA 96130

RE: SCH#2018022056 Ward Lake Pit Amendment

Dear Ms. McAlliser,

The Native American Heritage Commission has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.), specifically Public Resources Code section 21084.1, states that a project 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. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines Section 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. (Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd.(a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code § 21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code § 21084.3 (a)). **AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. § 800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments. **Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.**

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
   a. A brief description of the project.
   b. The lead agency contact information.
   c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code § 21080.3.1 (d)).
   d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code § 21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code § 21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. (Pub. Resources Code § 21080.3.1(b)).
   a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18). (Pub. Resources Code § 21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
   a. Alternatives to the project.
   b. Recommended mitigation measures.
   c. Significant effects. (Pub. Resources Code § 21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
   a. Type of environmental review necessary.
   b. Significance of the tribal cultural resources.
   c. Significance of the project's impacts on tribal cultural resources.
   d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code § 21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code § 21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
   a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
   b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code § 21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
    a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
    b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code § 21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code § 21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code § 21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
        i. Planning and construction to avoid the resources and protect the cultural and natural context.
        ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
        i. Protecting the cultural character and integrity of the resource.
        ii. Protecting the traditional use of the resource.
        iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code § 21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a nonfederally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code § 815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code § 5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code § 21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code § 65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code § 65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code section 65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction. (Gov. Code § 65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have been already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.

b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5, subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions, please contact me at my email address: frank.lienert@nahc.ca.gov

Sincerely,

Frank Lienert
Associate Governmental Program Analyst

cc: State Clearinghouse

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Region 1 – Northern
601 Locust Street
Redding, CA 96001
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

RECEIVED
JUL 17 2018
Lassen County Department of
Planning and Building Services

July 16, 2018

Nancy McAllister
Natural Resources Technician
Lassen County
707 Nevada Street, Suite 5
Susanville, CA 96130

Subject: Review of the Notice of Preparation for Draft Environmental Impact Report for the Ward Lake Pit Amendment, State Clearinghouse Number 2018022056, Lassen County

Dear Ms. McAllister:

The California Department of Fish and Wildlife (Department) has reviewed the Notice of Preparation dated June 19, 2018, for the above-referenced project (Project). As a trustee for the State's fish and wildlife resources, the Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants and their habitat. As a responsible agency, the Department administers the California Endangered Species Act (CESA) and other provisions of the Fish and Game Code that conserve the State's fish and wildlife public trust resources. The Department offers the following comments and recommendations on this Project in our role as a trustee and responsible agency pursuant to the California Environmental Quality Act (CEQA), California Public Resources Code §21000 et seq.

Project Description

The Project as proposed is to "*amend mining operations at the Ward Lake Pit (CA mine ID #91-18-0008). If approved, the amendment would allow for 24-hour mining operations, Monday through Saturday (currently the use permit allows operations from 6:00 a.m. to 7:00 p.m., Monday through Saturday), extend the life of the mine from 2020 to 2030, allow annual site production in excess of the permitted 100,000 tons during declared emergencies, and increase the estimated number of truck trips from 10 per day and 55 per week to an average of 26 per day and maximum 150 per day during peak operations (not including employee vehicles). The submitted Use Permit Project Detail Supplement identifies a proposed noise level of 80-90 dB at a distance of 50 feet during daytime operations and proposed noise levels at the nearest property line of 70 dB during daytime operations and 65 dB during nighttime operations.*"

Comments and Recommendations

The Department commented on this Project on March 15, 2018, during the early consultation period. Comments provided during this process were incorporated into the Initial Study. The Department would like to reiterate the Project area needs to be surveyed within the undisturbed portion, at the appropriate time of year, to confirm which species exist on and/or near the Project site.

To enable Department staff to adequately review and comment on the proposed Project, we recommend the following information be included in the draft Environmental Impact Report, as applicable.

1. A complete assessment of the flora and fauna within and adjacent to the Project area should be conducted, with particular emphasis upon identifying special-status species including rare, threatened, and endangered species. This assessment should also address locally unique species, rare natural communities, and wetlands. The assessment area for the Project should be large enough to encompass areas potentially subject to both direct and indirect Project affects. Both the Project footprint and the assessment area (if different) should be clearly defined and mapped in the draft EIR. If previous surveys have been conducted, they should be less than two years old.

    a. The Department's California Natural Diversity Data Base (CNDDB) should be searched to obtain current information on previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code. In order to provide an adequate assessment of special-status species potentially occurring within the Project vicinity, the search area for CNDDB occurrences should include all U.S.G.S 7.5-minute topographic quadrangles with Project activities, and all adjoining 7.5-minute topographic quadrangles. The EIR should discuss how and when the CNDDB search was conducted, including the names of each quadrangle queried, or why any areas may have been intentionally excluded from the CNDDB query. As a reminder, the Department cannot and does not portray the CNDDB as an exhaustive and comprehensive inventory of all rare species and natural communities statewide. Field verification for the presence or absence of sensitive species will always be an important obligation of our customers. Likewise, your contribution of data to the CNDDB is equally important to the maintenance of the CNDDB. Whenever possible, we request that data be submitted using our online field survey form along with a map with the rare populations or stands indicated.

    b. A complete assessment of rare, threatened, and endangered invertebrate, fish, wildlife, reptile, and amphibian species should be presented in the draft

EIR. Rare, threatened, and endangered species to be addressed shall include all those which meet the CEQA definition (see CEQA Guidelines, § 15380). Seasonal variations in use of the Project area should also be addressed. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with the Department and the U.S. Fish and Wildlife Service. Links to some survey procedures are provided on the Department's website.[1]

c. Species of Special Concern status applies to animals generally not listed under the federal Endangered Species Act or the California Endangered Species Act, but which nonetheless are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist (see CEQA Guidelines, section 15380 and CEQA Guidelines Appendix G (IV)(a)). Species of Special Concern (SSC) should be considered during the environmental review process. CEQA (California Public Resources Code §§ 21000-21177) requires State agencies, local governments, and special districts to evaluate and disclose impacts from "projects" in the State. Section 15380 of the CEQA Guidelines clearly indicates that species of special concern should be included in an analysis of project impacts if they can be shown to meet the criteria of sensitivity outlined therein.

d. Sections 15063 and 15065 of the CEQA Guidelines, which address how an impact is identified as significant, are particularly relevant to SSCs. Project-level impacts to listed (rare, threatened, or endangered species) species are generally considered significant thus requiring lead agencies to prepare an Environmental Impact Report to fully analyze and evaluate the impacts. In assigning "impact significance" to populations of non-listed species, analysts usually consider factors such as population-level effects, proportion of the taxon's range affected by a project, regional effects, and impacts to habitat features.

e. Fully Protected animals may not be taken or possessed at any time and the Department is not authorized to issue permits or licenses for their incidental take[2]. Fully Protected animals should be considered during the environmental review process and all Project-related take must be avoided.

f. A thorough assessment of rare plants and rare natural communities should

[1] https://www.wildlife.ca.gov/Conservation/Survey-Protocols

[2] Scientific research, take authorized under an approved NCCP, and certain recovery actions may be allowed under some circumstances; contact the Department for more information.

be conducted, following the Department's March 2018 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*.

g. A detailed vegetation map should be prepared, preferably overlaid on an aerial photograph. The map should be of sufficient resolution to depict the locations of the Project site's major vegetation communities, and show Project impacts relative to each community type. The Department's preferred vegetation classification system should be used to name the polygons; however, the vegetation classification ultimately used should be described in detail. Additional information for vegetation mapping can be found on the Department's website[3]. Special Status natural communities should be specifically noted on the map.

h. The draft EIR should include survey methods, dates, and results; and should list all plant and animal species (with scientific names) detected within the Project study area. Special emphasis should be directed toward describing the status of rare, threatened, and endangered species in all areas potentially affected by the Project. All necessary biological surveys should be conducted in advance of the draft EIR circulation, and should not be deferred until after Project approval.

2. A thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts, should be included.

a. The draft EIR should present clear thresholds of significance to be used by the Lead Agency in its determination of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect. (CEQA Guidelines 15064.7)

b. CEQA Guidelines, section 15125 (a-e), direct that knowledge of environmental conditions at both the local and regional levels is critical to an assessment of environmental impacts and that special emphasis shall be placed on resources that are rare or unique to the region.

c. Impacts associated with initial Project implementation as well as long-term operation and maintenance of the Project shall be addressed in the EIR pursuant to CEQA Guidelines 15126.2 (a).

d. In evaluating the significance of the environmental effect of the Project, the Lead Agency should consider direct physical changes in the

[3] https://www.wildlife.ca.gov/Data/VegCAMP

environment, which may be caused by the Project and reasonably foreseeable indirect physical changes in the environment, which may be caused by the Project. Expected impacts should be quantified (e.g., acres, linear feet, number of individuals taken, volume or rate of water extracted, etc. to the extent feasible).

e. Project impacts should be analyzed relative to their effects on off-site habitats and species. Specifically, this may include public lands, open space, downstream aquatic habitats, areas of groundwater depletion, or any other natural habitat or species that could be affected by the Project (CEQA Guidelines Appendix G (IV and IX).

f. Impacts to and maintenance of wildlife corridor/movement areas and other key seasonal use areas should be fully evaluated and provided (CEQA Guidelines Appendix G (IV)).

g. A discussion of impacts associated with increased lighting, noise, human activity, impacts of free-roaming domestic animals including dogs and cats, changes in drainage patterns, changes in water volume, velocity, quantity, and quality, soil erosion, and/or sedimentation in streams and watercourses on or near the Project site.

h. The Department recognizes the effects of artificial lighting on birds and other nocturnal species. The effects are numerous and include impacts to singing and foraging behavior, reproductive behavior, navigation, and altered migration patterns. To minimize adverse effects of artificial light on wildlife, the Department recommends that lighting fixtures associated with the Project be downward facing, fully-shielded and designed and installed to minimize photo-pollution.

i. A cumulative effects analysis shall be developed for species and habitats potentially affected by the Project. This analysis shall be conducted as described under CEQA Guidelines section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts to species and habitats.

3. A range of Project alternatives shall be analyzed to ensure that the full spectrum of alternatives to the proposed Project are fully considered and evaluated. Alternatives, which avoid or otherwise minimize impacts to sensitive biological resources shall be identified.

    a. If the Project will result in any impacts described under the Mandatory Findings of Significance (CEQA Guidelines section 15065) the impacts must be analyzed in depth in the draft EIR, and the Lead Agency is

required to make detailed findings on the feasibility of alternatives or mitigation measures to substantially lessen or avoid the significant effects on the environment. When mitigation measures or Project changes are found to be feasible, such measures should be incorporated into the Project to lessen or avoid significant effects.

4. Mitigation measures for adverse Project-related impacts to sensitive plants, animals, and habitats should be developed and thoroughly discussed. Mitigation measures should first emphasize avoidance and reduction of Project impacts. For unavoidable impacts, the feasibility of on-site habitat restoration or enhancement should be discussed. If on-site mitigation is not feasible, off-site mitigation through habitat creation, enhancement, acquisition and preservation in perpetuity should be addressed.

    a. The Department generally does not support the use of relocation, salvage, and/or transplantation as mitigation for most impacts to rare, threatened, or endangered species. Studies have shown that these efforts are experimental in nature and largely unsuccessful. If considered, these types of mitigation measures must be discussed with the Department prior to release of the draft EIR.

    b. Areas reserved as mitigation for Project impacts shall be legally protected from future direct and indirect development impacts. Potential issues to be considered include public access, conservation easements, species monitoring and management programs, water pollution, and fire management.

    c. Plans for restoration and revegetation should be prepared by persons with expertise in northern California ecosystems and native plant revegetation techniques. Each plan should include, at a minimum: (a) the location of the mitigation site; (b) the plant species to be used, container sizes, and/or seeding rates; (c) a schematic depicting the mitigation area; (d) planting/seeding schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for long-term conservation of the mitigation site.

5. Please include fuel modification impacts on vegetation in the biological resources section of the draft EIR. All impacts, including future maintenance, should be quantified and described.

6. Take of species of plants or animals listed as endangered or threatened under

CESA is unlawful unless authorized by the Department. However, a CESA 2081(b) Incidental Take Permit may authorize incidental take during Project construction or over the life of the Project. The draft EIR must state whether the Project could result in any amount of incidental take of any CESA-listed species. Early consultation for incidental take permitting is encouraged, as significant modification to the Project's description and/or mitigation measures may be required in order to obtain a CESA Permit. Information on how to obtain an Incidental Take Permit is available through the Department's website at: https://www.wildlife.ca.gov/Conservation/CESA/Incidental-Take-Permits.

The Department's issuance of a CESA Permit for a project that is subject to CEQA will require CEQA compliance actions by the Department as a Responsible Agency. The Department as a Responsible Agency under CEQA will consider the Lead Agency's Negative Declaration or Environmental Impact Report for the Project. The Department may require additional mitigation measures for the issuance of a CESA Permit unless the Project CEQA document addresses all Project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of a CESA Permit.

To expedite the CESA permitting process, the Department recommends that the draft EIR addresses the following CESA Permit requirements:

a. The impacts of the authorized take are minimized and fully mitigated;

b. The measures required to minimize and fully mitigate the impacts of the authorized take and: (1) are roughly proportional in extent to the impact of the taking on the species; (2) maintain the applicant's objectives to the greatest extent possible, and (3) are capable of successful implementation;

c. Adequate funding is provided to implement the required minimization and mitigation measures and to monitor compliance with and the effectiveness of the measures; and

d. Issuance of the permit will not jeopardize the continued existence of a State-listed species.

7. The Department has responsibility for wetland and riparian habitats. It is the policy of the Department to strongly discourage development in wetlands or conversion of wetlands to uplands. We oppose any development or conversion, which would result in a reduction of wetland acreage or wetland habitat values, unless, at a minimum, Project mitigation assures there will be "no net loss" of either wetland habitat values or acreage. If applicable, the EIR

should demonstrate that the Project will not result in a net loss of wetland habitat values or acreage.

8. CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database, which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e)). Please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB field survey form can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data. The completed form can be mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

If you have any questions, please contact Amy Henderson, Environmental Scientist, at (530) 225-2779, or by e-mail at Amy.Henderson@wildlife.ca.gov.

Sincerely,

Adam McKannay
Interior Cannabis and LSA Permitting Supervisor

ec: Nancy McAllister
Natural Resources Technician
nmcallister@co.lassen.ca.us

State Clearinghouse
state.clearinghouse@opr.ca.gov

Amy Henderson
California Department of Fish and Wildlife
amy.henderson@wildlife.ca.gov

DocuSign Envelope ID: 0B7AA34B-D9A2-4F7F-8CB7-6C0A78122E49

State of California • Natural Resources Agency
Department of Conservation
Division of Oil, Gas, and Geothermal Resources
Northern District – Sacramento
801 K Street • MS 18-05
Sacramento, CA 95814
(916) 322-1110 • FAX (916) 445-3319 • Dogdist6@conservation.ca.gov

Edmund G. Brown Jr., *Governor*

July 23, 2018

RECEIVED
JUL 23 2018
Lassen County Department of
Planning and Building Services

State Clearinghouse
state.clearinghouse@opr.ca.gov
PO Box 3044
Sacramento, CA 95812-3044

CEQA Project: **SCH #2018022056**
Lead Agency: Lassen County
Project Title: Ward Lake Pit Amendment

The Division of Oil, Gas, and Geothermal Resources (Division) possesses records regarding oil, gas, and geothermal wells drilled and operated in the State of California. (Cal. Public Res. Code, §§ 3215, 3126.) Based on the Division's records and expertise, the Division has undertaken review of the proposed Ward Lake Pit Amendment (Project) to determine if oil, gas, or geothermal well(s) are in the vicinity of the proposed Project. The Division is a responsible agency. The Division provides the information below to facilitate the Lead agency's exercise of local land use authority regarding use of land where oil and gas wells are situated. In contrast, the Division does not possess local land use decision authority, but alternatively has authority for permitting any necessary work on any well in the State. (Cal. Public Res. Code, §§ 3106 and 3203.)

The Division has conducted a records review but not on-site evaluations of any known oil, gas, and/or geothermal wells located within the above referenced project boundary. The records review process consists of determining the possible location, last known operator, and abandonment status of any known well on the property by examining records previously submitted to the Division, and then comparing the abandonment status with current abandonment standards.

In general, a well may be considered adequately abandoned when both the record review process and the on-site evaluation process reflect that steps have been taken to isolate all oil-bearing, gas-bearing, or geothermal resource-bearing strata encountered in the well, and to protect underground or surface water suitable for irrigation or farm or domestic purposes from the infiltration or addition of any detrimental substance, and to prevent damage to life, health, property, and other resources. (Cal. Public Res. Code, § 3208.)

Division staff have reviewed the proposed project boundary and no known oil, gas, or geothermal wells were found. If during the course of development of this proposed project any unknown well(s) is discovered, the Division should be notified immediately so that the newly discovered well(s) can be incorporated into the records and investigated. The Division recommends that any wells found in the course of this project and any pertinent information obtained after the issuance of this letter, be communicated to the appropriate county recorder for inclusion in the title information of the subject real property. This is to ensure that present and future property owners are aware of (1) the wells located on the property, and (2) potentially significant issues associated with any improvements near oil, gas, or geothermal wells.

No well work may be performed on any oil, gas, or geothermal well without written approval from the Division in the form of an appropriate permit. This includes, but is not limited to, mitigating leaking fluids or gas from abandoned wells, modifications to well casings, and/or any other re-abandonment work.

DocuSign Envelope ID: 0B7AA34B-D9A2-4F7F-8CB7-6C0A78122E49

(NOTE: the Division regulates the depth of any well below final grade (depth below the surface of the ground). Title 14, Section 1723.5 of the California Code of Regulations states that all well casings shall be cut off at least 5 feet but no more than 10 feet below grade. If any well needs to be lowered or raised (i.e. casing cut down or casing riser added) to meet this grade regulation, a permit from the Division is required before work can start.)

The local permitting agency and property owner should be aware of, and fully understand, that significant and potentially dangerous issues may be associated with development near oil and gas wells. These issues are non-exhaustively identified in the following comments, and are provided by the Division for consideration by the local permitting agency, in conjunction with the property owner and/or developer, on a parcel-by-parcel or well-by-well basis. As stated above, the Division provides the above well review information solely to facilitate decisions made by the local permitting agency regarding potential development near a gas well.

1. It is recommended that access to a well located on the property be maintained in the event re-abandonment of the well becomes necessary in the future. Impeding access to a well could result in the need to remove any structure or obstacle that prevents or impedes access. This includes, but is not limited to, buildings, housing, fencing, landscaping, trees, pools, patios, sidewalks, and decking.

2. Nothing guarantees that a well abandoned to current standards will not start leaking oil, gas, and/or geothermal fluid in the future. It always remains a possibility that any well may start to leak oil, gas, and/or geothermal fluid after abandonment, no matter how thoroughly the well was plugged and abandoned. The Division acknowledges that wells abandoned to current standards have a lower probability of leaking oil, gas, and/or geothermal fluid in the future, but makes no guarantees as to the adequacy of this well's abandonment or the potential need for future re-abandonment.

3. Based on comments 1 and 2 above, the Division makes the following general recommendations:

    a. Maintain physical access to this gas well.

    b. Ensure that the abandonment of gas wells is to current standards.

If the local permitting agency, property owner, and/or developer chooses not to follow recommendation "b" for a well located on the development site property, the Division believes that the importance of following recommendation "a" for the well located on the subject property increases. If recommendation "a" cannot be followed for the well located on the subject property, then the Division advises the local permitting agency, property owner, and/or developer to consider any and all alternatives to proposed construction or development on the site (see comment 4 below).

4. Sections 3208 and 3255(a)(3) of the Public Resources Code give the Division the authority to order the re-abandonment of any well that is hazardous, or that poses a danger to life, health, or natural resources. Responsibility for re-abandonment costs for any well may be affected by the choices made by the local permitting agency, property owner, and/or developer in considering the general recommendations set forth in this letter. (Cal. Public Res. Code, § 3208.1.)

5. Maintaining sufficient access to a gas well may be generally described as maintaining "rig access" to the well. Rig access allows a well servicing rig and associated necessary equipment to reach the well from a public street or access way, solely over the parcel on which the well is located. A well servicing rig, and any necessary equipment, should be able to pass unimpeded along and over the route, and should be able to access the well without disturbing the integrity of surrounding infrastructure.

DocuSign Envelope ID: 0B7AA34B-D9A2-4F7F-8CB7-6C0A78122E49

6. The Division recommends that a local permitting agency consider the use of surface mitigation measures as a condition for project approval, if and when appropriate. Examples of surface mitigation measures include venting systems for wells, venting systems for parking lots, patios, and other hardscape, methane barriers for building foundations, methane detection systems, and collection cellars for well fluids. The Division does not regulate the design, installation, operation, or adequacy of such measures. The Division recommends that such surface mitigation measures are designed, installed, and operated by qualified engineers. The permitting of surface mitigation measures falls under the jurisdiction of the local permitting agency.

7. If during the course of development of a parcel any unknown well(s) is discovered, the Division should be notified immediately so that the newly discovered well(s) can be incorporated into the Well Review processes.

8. The Division recommends that any soil containing significant amounts of hydrocarbons to be disposed of in accordance with local, state, and federal laws. Please notify the appropriate authorities if soil containing significant amounts of hydrocarbons is discovered during development.

9. The Division recommends that the information contained in this Well Review Report, and any pertinent information obtained after the issuance of this report, be communicated to the appropriate county recorder for inclusion in the title information of the subject real property. This is to ensure that present and future property owners are aware of (1) any well located on the property, and (2) potentially significant issues associated with any improvements near a gas well.

No well work may be performed on any oil or gas well without written approval from the Division in the form of an appropriate permit. This includes, but is not limited to, mitigating leaking fluids or gas from abandoned wells, modifications to well casings, and/or any other re-abandonment work. (NOTE: the Division regulates the depth of any well below final grade (depth below the surface of the ground). Title 14, Section 1723.5 of the California Code of Regulations states that all well casings shall be cut off at least 5 feet but no more than 10 feet below grade. If any well needs to be lowered or raised (i.e. casing cut down or casing riser added) to meet this grade regulation, a permit from the Division is required before work can start.)

To reiterate, the local permitting agency, property owner, and/or developer should be aware of, and fully understand, that the above comments are made by the Division with the intent to encourage full consideration of significant and potentially dangerous issues associated with development near oil, gas, or geothermal wells.

Sincerely,

DocuSigned by:
Charlene L Wardlow
087E7BD5EA114A7...

Charlene L Wardlow
Northern District Deputy

CC: Nancy McAllister
landuse@co.lassen.ca.us

DEPARTMENT of PUBLIC WORKS

County of Lassen

LARRY MILLAR, Director
Public Works/Road/Transportation
County Engineer

707 Nevada Street, Suite 4
Susanville, CA 96130

☎ 530) 251-8288
FAX: (530) 251-2675

B-2(d)
2018/9

March 19, 2018

To: Nancy McAllister, Natural Resources Technician

From: Bob McGarva, Road Field Supervisor BM

Subject: Use Permit #2018-003, Reclamation Plan #2018-001, Initial Study #2018-001, TLT Enterprises, LLC

TLT Enterprises, LLC, is proposing to increase hours of operation to twenty-four (24) hours per day at the Hat Creek construction and materials facility located on Ward Lake Road. The increase in hours will include increased truck traffic to and from their facility at 150 per day/900 per week. The increase in traffic will affect Center Road (CR 215), Ward Lake Road (CR 308), and Cutoff Road (CR 315).

Lassen County Department of Public Works, Road Division, requests TLT Enterprises, LLC to conduct and provide a traffic study on these roads to ascertain whether improvements will be necessary to offset the increased travel load. Possible improvements to these roads may include a turn lane at the intersection of Center Road (CR 215) and Ward Lake Road (CR 308) as well as overlay or rehab to surface roads and intersections.

Let me know if you have any questions or need anything further.

Thank you.

RECEIVED
MAR 21 2018
Lassen County Department of Planning and Building Services

Appendix E

Visual Analysis

VISUAL SIMULATION ANALYSIS
NIGHTTIME LIGHTING PROJECT SITE

WARD LAKE PIT PROPOSED EXPANSION
LASSEN COUNTY, CALIFORNIA

Prepared for

Hat Creek Construction, Inc.

Prepared by

VESTRA Resources, Inc.
5300 Aviation Drive
Redding, California 96002

JANUARY 2018
REVISED FEBRUARY 2019

1.0 INTRODUCTION

The Ward Lake Pit is located at the base of the southwestern slope of Shaffer Mountain at an elevation of approximately 4300 feet. The site lies on the east side of Ward Lake Road, approximately 1 mile north of County Road 27. The existing visual character of the site is that of brush and disturbed mining lands with moderate to steep topography. Mining occurs on approximately 160 acres of a 240-acre parcel. The Bureau of Land Management operates an additional 46-acre quarry directly south of the Ward Lake Pit. The proposed project amendment is temporal and would increase operating hours of the Ward Lake Pit from 12 to 24 hours per day, generating a new source of light in the area.

The character of the area is rural residential with homes on large agricultural-sized parcels. The site is located approximately 4 miles east of the California State Correctional Center. The community of Litchfield is located 3 miles to the southeast and is shielded from the site by topography. The city of Susanville is located approximately 14 miles to the west. The site and the general vicinity are shown in Figure 1.

The purpose of this visual simulation analysis is to evaluate the potential visual effects associated with expanding project operations to nighttime hours. This analysis does not address headlight impacts on Ward Lake Road.

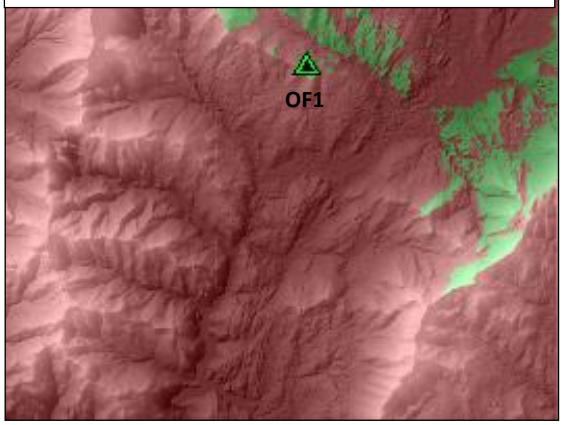
Note that the pit currently operates with artificial lighting in the early morning and evening during the currently permitted operating hours of 6:00 a.m. to 7:00 p.m. The proposed expansion to 24-hour operations is proposed only for response to specific projects that require nighttime work to limit traffic impacts. These are anticipated to be two to three projects per year with nighttime operations of less than 30 total days per year.

2.0 VISUAL SIMULATION ANALYSIS

2.1 Process

The shape of a terrain surface affects which portions of the land surface area can be seen from any given point. To assess the visual components of this project, Geographic Information Systems (GIS) was used to evaluate visibility across the project area from a centroid location. ArcGIS, a GIS package developed by Environmental Systems Research Institute (ESRI), was used for the analysis.

Displaying a hillshade underneath the elevation and the output from a Viewshed Analysis is a useful technique for visualizing the relationship between visibility and terrain.

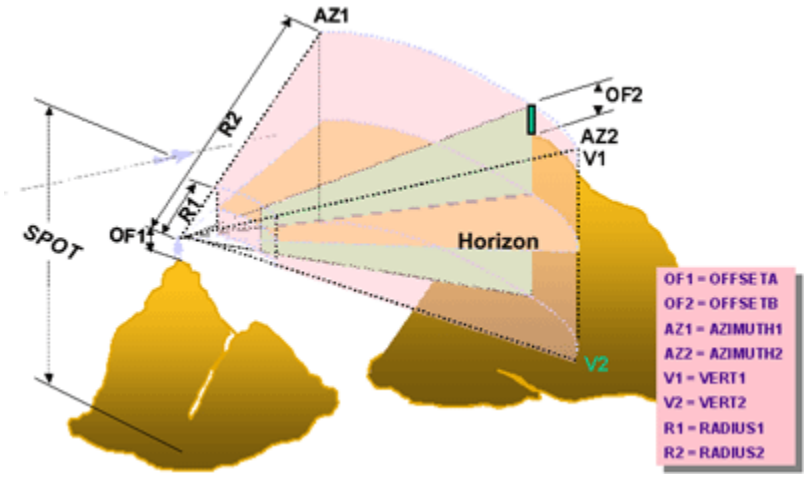


A viewshed identifies the locations in a given area that can be seen from one or more observation points. The elevation data used to perform viewshed analyses are raster-based data. Raster data is data in which a surface is divided into a grid and each cell in the grid contains an elevation value. The resolution of raster data is the distance, in

surface units, of the sides of each cell in the grid. An example of this is the elevation data provided by the U.S. Geological Survey (USGS) for use in GIS. These data sets are commonly provided at either a 10-meter or 30-meter resolution. Viewshed analysis provides a value that indicates how many observer points can be seen from each location. If you have only one observer point, each cell from which the observer point can be seen is given a value of one. All cells from which the observer point cannot be seen are given a value of zero. Observer points can be points or linear features.

A viewshed is useful when you want to know how visible objects might be. Not only can you determine which cells can be seen from the observation point, if you have several observation points, you can also determine which observers can see each observed location. Knowing which observer can see which locations can affect decision making.

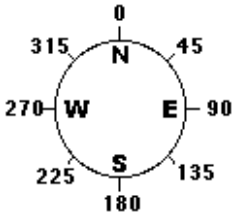
The image below graphically depicts how a viewshed analysis is performed. The observation point is on the mountaintop to the left (at OF1 in the image). The direction of the viewshed is within the cone looking to the right. One can control how much to offset the observation point from the surface (for example, the height of the tower) and the direction(s) to look in both the horizontal and vertical dimensions.



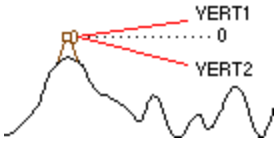
Nine characteristics of the viewshed are controlled as follow:

1. The surface elevations for the observation points (Spot)
2. The vertical distance in surface units to be added to the z-value of the observation points (OffsetA)
3. The vertical distance in surface units to add to the z-value of each cell as it is considered for visibility (OffsetB)

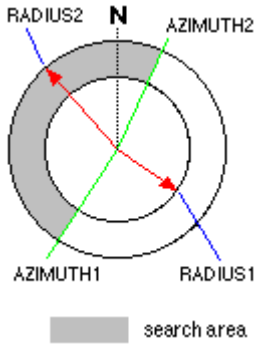
4. The start of the horizontal angle to limit the scan (Azimuth1)
5. The end of the horizontal angle to limit the scan (Azimuth2)



6. The top of the vertical angle to limit the scan (Vert1)
7. The bottom of the vertical angle to limit the scan (Vert2)



8. The inner radius that limits the search distance when identifying areas visible from each observation point (Radius1)
9. The outer radius that limits the search distance when identifying areas visible from each observation point (Radius2)



In order to perform a viewshed analysis, the elevation data is as detailed as possible. For this project, the elevation data was derived from the USGS 10-meter digital elevation model (DEM) that is interpolated into a grid format.

Interpolation is a method of creating raster data specifically designed for the creation of hydrologically correct DEMs. It is based on the ANUDEM program developed by Michael Hutchinson (1988, 1989). See Hutchinson and Dowling (1991) for an example of a substantial application of ANUDEM and for additional associated references. A brief summary of ANUDEM and some applications are given in Hutchinson (1993). The version of ANUDEM used for this analysis is version 4.6.3.

The interpolation procedure is designed to take advantage of the types of input data commonly available and the known characteristics of elevation surfaces. This method uses an iterative

finite difference interpolation technique. It is optimized to have the computational efficiency of local interpolation methods, such as inverse distance weighted (IDW) interpolation, without losing the surface continuity of global interpolation methods, such as Kriging and Spline. It is essentially a discretized thin plate spline technique (Wahba, 1990), for which the roughness penalty has been modified to allow the fitted DEM to follow abrupt changes in terrain, such as streams and ridges. It is also the only ArcGIS interpolator specifically designed to work intelligently with contour inputs.

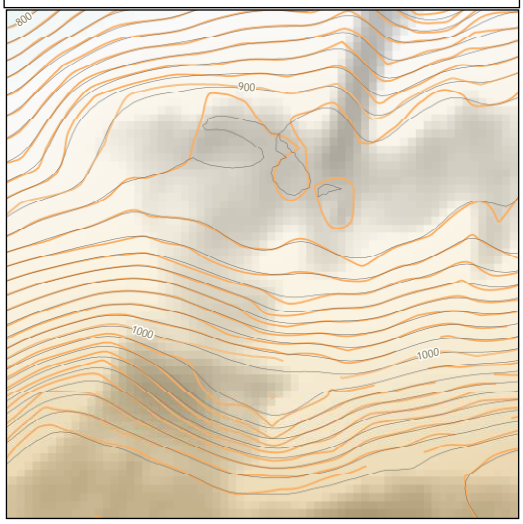
Contours are the most common method for storage and presentation of elevation information. Unfortunately, this method is also the most difficult to properly utilize with general interpolation techniques. The disadvantage lies in the undersampling of information between contours, especially in areas of low relief. At the beginning of the interpolation process, ArcGIS uses information inherent to the contours to build a generalized drainage model. By identifying areas of local maximum curvature in each contour, the areas of steepest slope are identified and a network of streams and ridges is created (Hutchinson, 1988). This information is used to ensure proper hydrogeomorphic properties of the output DEM and can also be used to verify accuracy of the output DEM.

After the general morphology of the surface has been determined, contour data is also used in the interpolation of elevation values at each cell. When the contour data is used to interpolate elevation information, all contour data is read and generalized. A maximum of 50 data points are read from these contours within each cell. At the final resolution, only one critical point is used for each cell. For this reason, having a contour density with several contours crossing output cells is redundant.

Before the analysis, created surfaces are evaluated to ensure that the data and parameters supplied to the program result in a realistic representation of the surface. There are many ways to evaluate the quality of an output surface, depending on the type of input available to create the surface. The most common evaluation is to create contours from the new surface and compare them to the input contour data. It is best to create these new contours at one-half the original contour interval to examine the results between contours. Drawing the original contours and the newly created contours on top of one another can help identify interpolation errors.

In the example (right), the contours created from the new surface are shown with the original 10-foot interval contour data for comparison (1:1,000 scale).

Original 10-foot interval contours compared to contours created from the new surface.



The product of the interpolation of the field survey contour data was the creation of 10-foot-resolution, hydrologically correct digital elevation model (DEM). It has been shown that there is a minor bias in the interpolation algorithm that causes the raster dataset to have slight variations from the input contours. This variation can result in a slight variation in the results when calculating the profile curvature of the output surface but is otherwise not noticeable, and does not affect the overall intended use in a viewshed analysis.

2.2 Observation Locations

Two observation location points were used in the viewshed analysis: the project area and the California Correctional Center. Although the analysis focused on visibility of the project area, the nearby California Correctional Center is a very large, intense nighttime light source. This source can block or reduce the impacts from other light sources and, thus, was included in the analysis.

2.3 Photography

In addition to the simulation, photographs were taken at 12 locations during daytime and nighttime hours to record the visibility of operations and the visibility of the proposed nighttime project operations lighting. Photographs were taken on January 12 and 17, 2018. Nighttime photographs were taken prior to sunrise, between 6:00 a.m. and 7:00 a.m. Photo point locations were determined based on the results of the viewshed topographic analysis and are shown on Figure 2. The locations include both areas anticipated to be visible and not visible.

3.0 RESULTS

3.1 Viewshed Analysis

The product of the viewshed analysis was the creation of 10-foot-resolution raster data layers showing visibility of the Ward Lake Pit and the California Correctional Center from the surrounding area. The resulting data is shown on Figures 3 and 4. As shown in the figures, nighttime light from the project area would not be visible to the east due to the topography of the area.

Based on the simulation, the project area and light from the mine site is estimated to be visible from 55,741 acres. Located just 4 miles to the west, the California Correctional Center and the high-intensity light it produces is estimated to be visible from 82,034 acres. This light source was addressed in previous CEQA documentation as being an allowable impact. Much of the surrounding land that is currently impacted by light produced from the prison and potentially impacted by the proposed project light is owned and administered by the Federal government or State of California for the purpose of resource use; therefore, no potential residences would be impacted. Figure 5 depicts land ownership and areas where light is potentially visible.

Clipping the area previously impacted by the prison and Federal ownership leaves 17,072 acres of land not previously impacted. This is included on Figure 6. The majority of the parcels affected are large-tract agricultural properties.

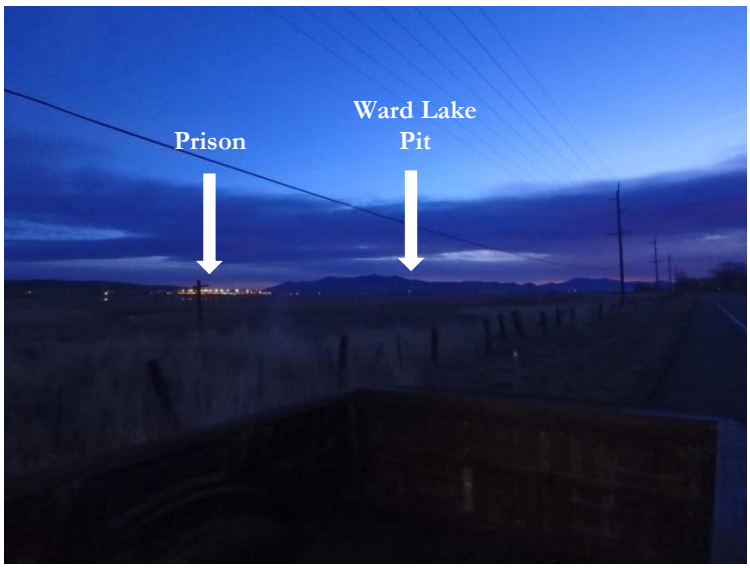
3.2 Photographs

Daytime and nighttime photographs were taken at 12 locations in the area surrounding the project. These locations were chosen for the purpose of "ground-truthing" the visibility results of the visual simulation and to demonstrate the intensity of light generated from the project, if visible. Photo point locations were shown with simulated visibility results on Figure 2. Photographs follow. Please note that daytime photographs were not taken at Photo Points 1 through 3.

Photo Point 1

The photograph above is a northeast view of the area from Photo Point 1 on Highway 395 North looking northeast toward the Ward Lake Pit. The California Correctional Center dominates the visible landscape. The project area is visible only as a single dot of light.

Photo Point 2

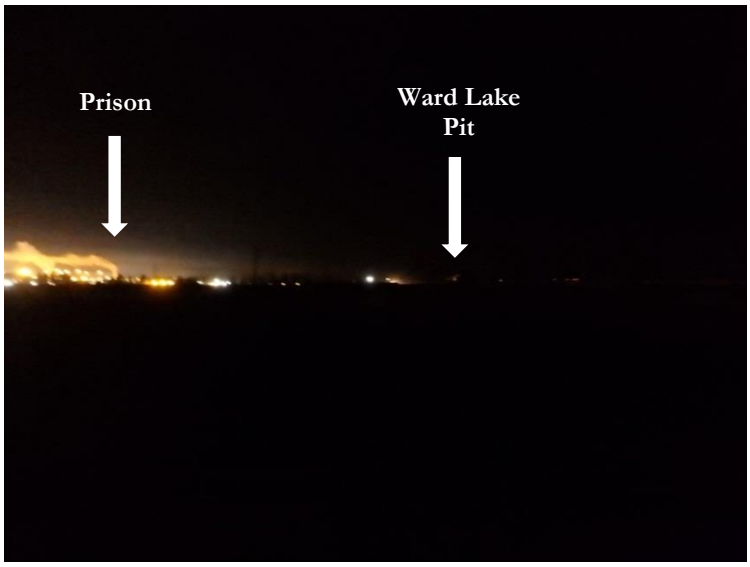


The photograph above is a northeast view of the area from Photo Point 2 on Highway 395 North. The California Correctional Center dominates the visible landscape. The light from the Ward Lake Pit is visible as a dim single dot of light.

Photo Point 3

The photograph above is a northeast view of the area from Photo Point 3 on Highway 395 South, approximately 8.5 miles from the project area. Based on the visual simulation, light from the project area should be visible at this point (see Figure 2). However, the single dot of light from the project area is undetectable, as shown in the photograph. In contrast, the California Correctional Center is still an intense, perceptible light source at this distance.

Photo Point 4 (Nighttime)



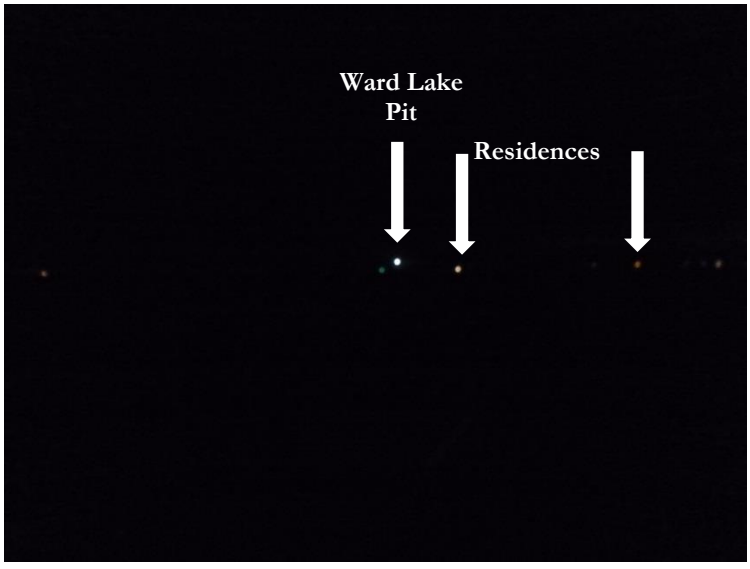
The nighttime photograph above is an eastern view of the area from Photo Point 4 on County Highway A27, approximately 5.4 miles from the project area. From this point, light from the

Ward Lake Pit is visible, but only as a small, single dot. The light from the project is overpowered and washed out by the light generated by the California Correctional Center.

Photo Point 4 (Daytime)

The daytime photograph above is the same eastern view of the area from Photo Point 4 on County Highway A27.

Photo Point 5

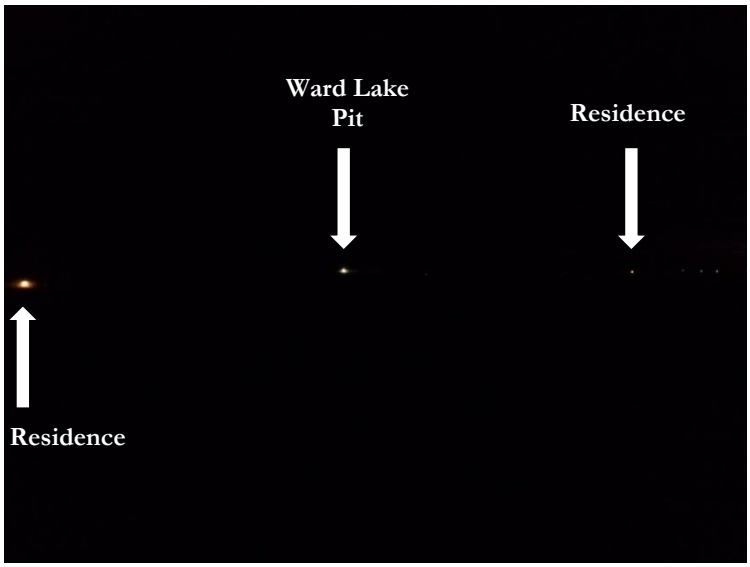


The nighttime photograph above is an eastern view of the area from Photo Point 5 on County Highway A27. This location is approximately 2.5 miles from the project area and light from the project area is visible but not significantly more intense than light from adjacent residences.

Photo Point 5 (Daytime)

The daytime photograph above is the same eastern view of the area from Photo Point 5 on County Highway A27, approximately 2.5 miles from the project area.

Photo Point 6 (Nighttime)

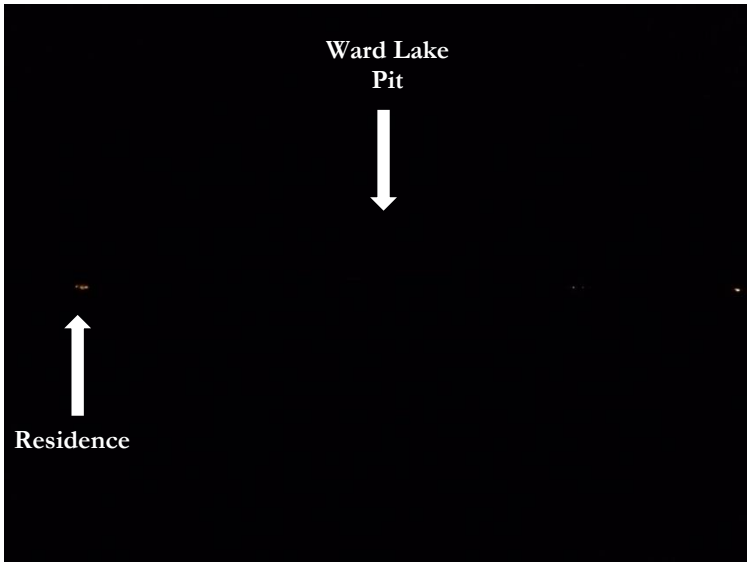


The nighttime photograph above is an eastern view of the area from Photo Point 6 at the intersection of County Highway A27 and Juniper Ridge Road. This location is approximately 2.3 miles from the project area. Light generated from the project area is visible but it is not significantly more intense than light from nearby residences, as seen above.

Photo Point 6 (Daytime)

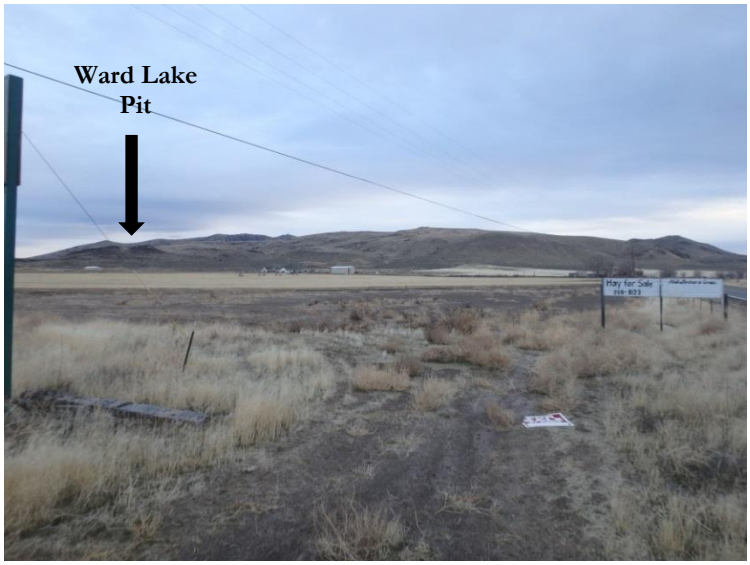
The daytime photograph above is the same eastern view of the area from Photo Point 6 at the intersection of County Highway A27 and Juniper Ridge Road, approximately 2.3 miles from the project area.

Photo Point 7 (Nighttime)



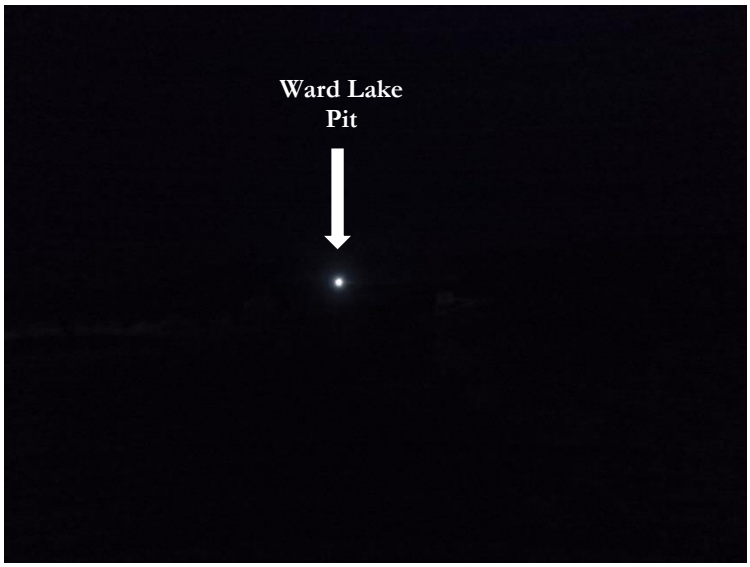
The nighttime photograph above is a northern view of the area from Photo Point 7 at the intersection of County Highway A27 and Ward Lake Road. This location is approximately 0.9 miles from the project area. As shown in the visual simulation (see Figure 2), light from the project area is not visible at this point due to the topography of the area. The photograph above supports the analysis, as no light is visible from the intersection.

Photo Point 7 (Daytime)



The daytime photograph above is a northern view of the area from Photo Point 7 at the intersection of County Highway A27 and Ward Lake Road, approximately 0.9 miles from the project area.

Photo Point 8 (Nighttime)

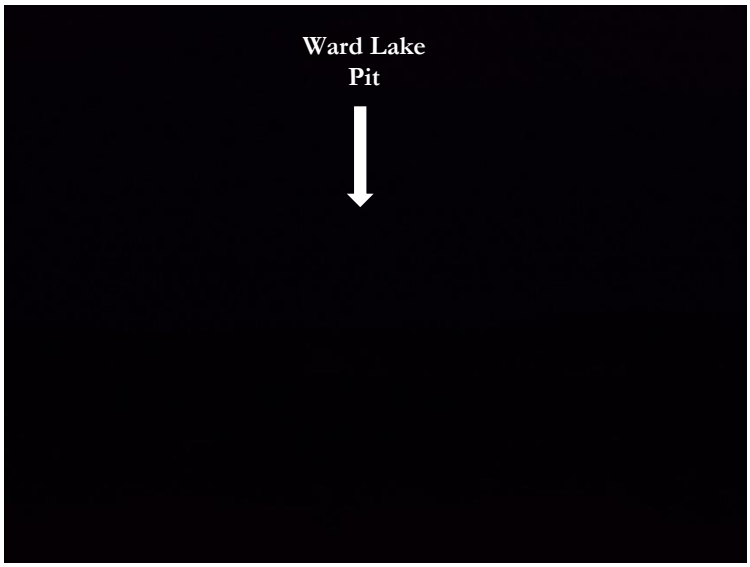


The nighttime photograph above is an eastern view of the project area from Photo Point 8 on Ward Lake Road. This location is approximately 0.25 miles from the project area and is the most affected by project light due to the proximity. There are 5 residences in proximity of this photo location where project light will be visible. As seen in the photograph, the light detected at the residences is in the form of a single point.

Photo Point 8 (Daytime)

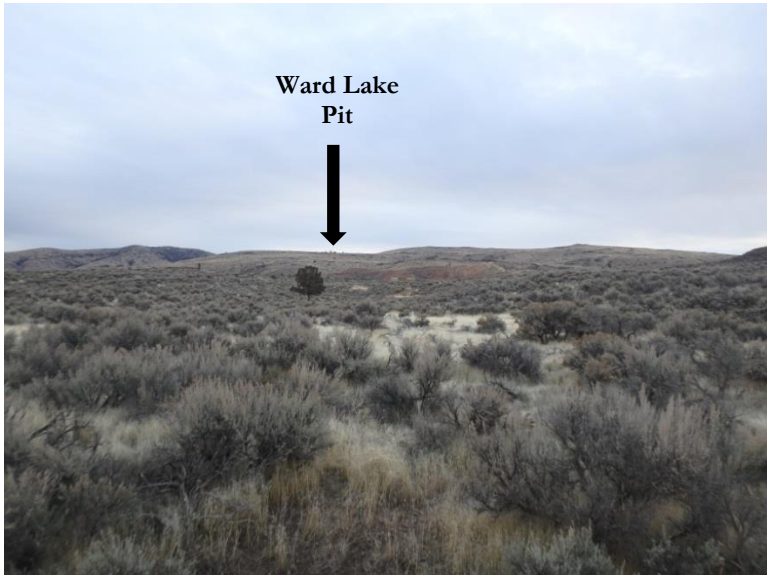
The daytime photograph above is the same eastern view of the project area from Photo Point 8 on Ward Lake Road, approximately 0.25 miles from the project area.

Photo Point 9 (Nighttime)



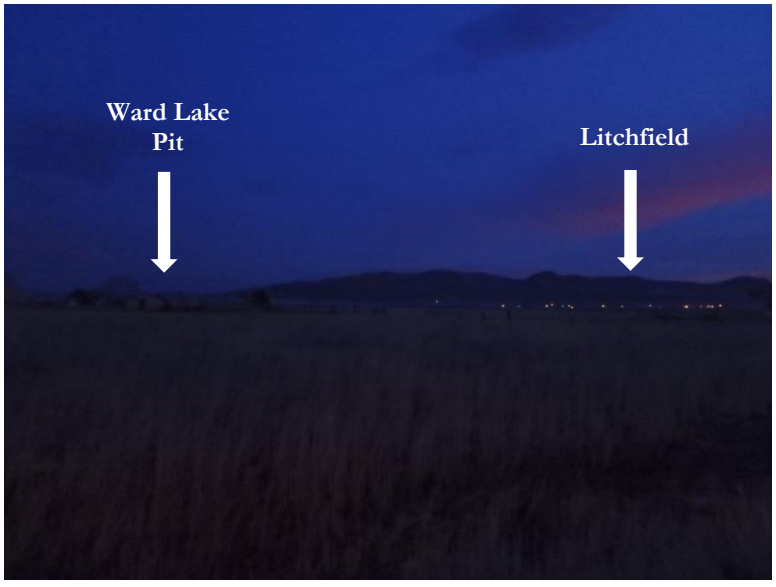
The nighttime photograph above is an eastern view of the project area from Photo Point 9 on Ward Lake Road. This location is approximately 0.25 miles from the project area and 0.2 miles north of Photo Point 8, past the turnoff to the mine site. The visual simulation estimated that light from the project would be visible to most of the area around this photo point. As seen in the photo above, project light is undetectable in some areas due to the topography of the surrounding area.

Photo Point 9 (Daytime)



The daytime photograph above is an eastern view of the project area from Photo Point 9 on Ward Lake Road, approximately 0.25 miles from the project area. Much of project area is visible, but the northern end of the project is blocked by topographic features.

Photo Point 10 (Nighttime)



The nighttime photograph above is a northern view of the project area from Photo Point 10 on Highway 395 in the town of Standish, California. This location is approximately 3 miles south of the project area. The visual simulation estimated that light from the project would not be visible to this area. As seen in the photo above, project light is undetectable from Standish because of topographic features. Light from the town of Litchfield, California, is visible on the right side of the photograph.

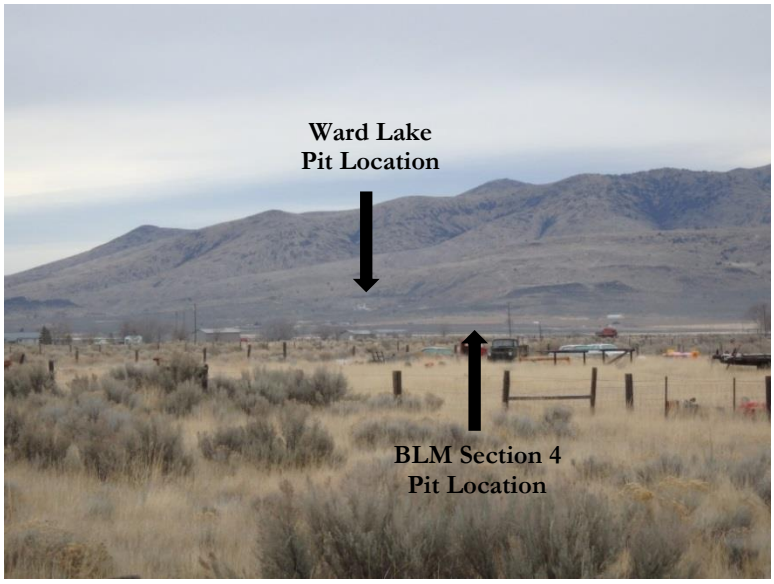
Photo Point 10 (Daytime)

The daytime photograph above is a northern view of the project area from Photo Point 10, approximately 3 miles from the project area. The project area is not visible due to topography; the cut of the BLM pit, located directly south of the project, is slightly visible.

Photo Point 11 (Nighttime)

The nighttime photograph above is a northeastern view of the project area from Photo Point 11 on Highway 395. This location is approximately 3.5 miles southwest of the project area. The visual simulation estimated that light from the project area would be visible in this area. As seen in the photo, project light is detectable in this area, but is not significantly more intense than light from residences in the town of Litchfield, California, visible on the right side of the photograph.

Photo Point 11 (Daytime)



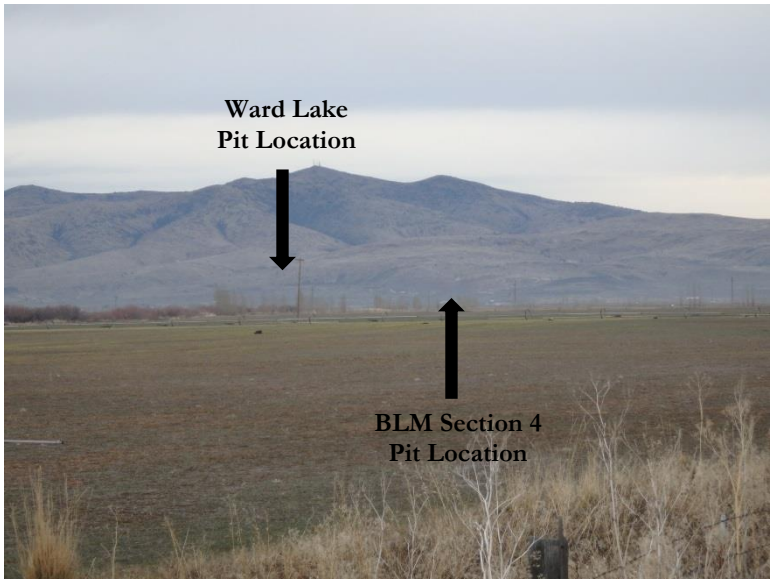
Please note that this photograph is slightly magnified.

The daytime photograph above is a northeastern view of the project area from Photo Point 11, approximately 3.5 miles from the project area. The project area is slightly visible, as is the cut of the BLM pit, located directly south of the project.

Photo Point 12 (Nighttime)

The nighttime photograph above is a northeastern view of the project area from Photo Point 12 on Highway 395, at the northeastern end of Lake Leavitt. This location is approximately 5 miles southwest of the project area. As seen in the photo, project light is detectable only as a small dot, contrasted with the California Correctional Center (seen on the left) which is an intense source of light that dominates the landscape.

Photo Point 12 (Daytime)



The daytime photograph above is a magnified northeastern view of the project area from Photo Point 12, approximately 5 miles from the project area. The project area is slightly visible, as is the cut of the BLM pit, located directly south of the project.

3.3 Conclusions

Hat Creek Construction is proposing to increase the operating hours of the Ward Lake Pit from 12 to 24 hours per day for a limited number of operating days per year to respond to Caltrans nighttime operations requirements. This temporal change will generate a new source of nighttime light in the area. The light generated by the temporal change would not have a significant effect on long-range scenic views. U.S. Highway 395 in Lassen County is not designated as a state scenic highway. The geologic structure and vegetation of the area are visually appealing; however, numerous anthropogenic features along the highway currently produce significant night lighting. The California Correctional Center, located approximately 4 miles west of the project area, has a significant effect on the nighttime visual character of the area because it produces a lot of intense light. In contrast, light from the project area is dull and nearly undetectable from long-range views due to the prison lighting.

Much of the land from which project lighting would be visible is owned and administered by the State of California or Federal land management agencies for the purpose of resource management. These areas do not have residences; thus, there would be no impact to inhabitants. Additionally, most of the privately and locally owned land in the area from which light would be able to be detected from the proposed project already experience a significant visual impact from nighttime light produced by the California Correctional Center. The towns of Litchfield and Standish receive a significant amount of light from the California Correctional Center, but they are shielded from the light of the proposed project by topographic features.

Nighttime light produced by the proposed project will have an effect on close-range views for approximately 2.3 miles of Center Road (A27). As seen in photographs from Photo Points 5

and 6 (above), the light from the project area is visible; however, it appears as a single, dull dot of light, not a significant radiating source.

There are a total of eight residences on Ward Lake Road. Of these, five residences are not screened from the site by topography and will be impacted by nighttime operations. See Figure 7. The five residences closest to the site along Ward Lake Road (adjacent to the project area) will be able to detect light from the project. These residents on Ward Lake Road adjacent to the mine site will likely observe a significant impact on the visual character of the area.

4.0 REFERENCES

Goodchild, M. F. and D. M. Mark. 1987. The fractal nature of geographic phenomena. *Annals of Association of American Geographers*. 77 (2): 265-278.

Hutchinson, M.F. 1988. *Calculation of hydrologically sound digital elevation models*. Paper presented at Third International Symposium on Spatial Data Handling at Sydney, Australia.

-----. 1989. A new procedure for gridding elevation and stream line data with automatic removal of spurious pits. *Journal of Hydrology* 106: 211-232.

-----. 1993. Development of a continent-wide DEM with applications to terrain and climate analysis. In *Environmental Modeling with GIS*, ed. M. F. Goodchild et al., 392–399. New York: Oxford University Press.

-----. 1996. *A locally adaptive approach to the interpolation of digital elevation models*. In Proceedings, Third International Conference/Workshop on Integrating GIS and Environmental Modeling. Santa Barbara, CA: National Center for Geographic Information and Analysis. Available at : http://www.ncgia.ucsb.edu/conf/SANTA_FE_CD-ROM/sf_papers/hutchinson_michael_dem/local.html

----- and Dowling, T. I. 1991. A continental hydrological assessment of a new grid-based digital elevation model of Australia. *Hydrological Processes* 5: 45-58.

Wahba, G. 1990. *Spline models for Observational data*. Paper presented at CBMS-NSF Regional Conference Series in Applied Mathematics. Philadelphia: Soc. Ind. Appl. Maths.

Figures

Approximate Project Area

Approximate Prison Location

N

VESTRA

0 1.5 3 6 Miles

FIGURE 1
SITE VICINITY
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\Visual\71305_SiteVicinity.mxd

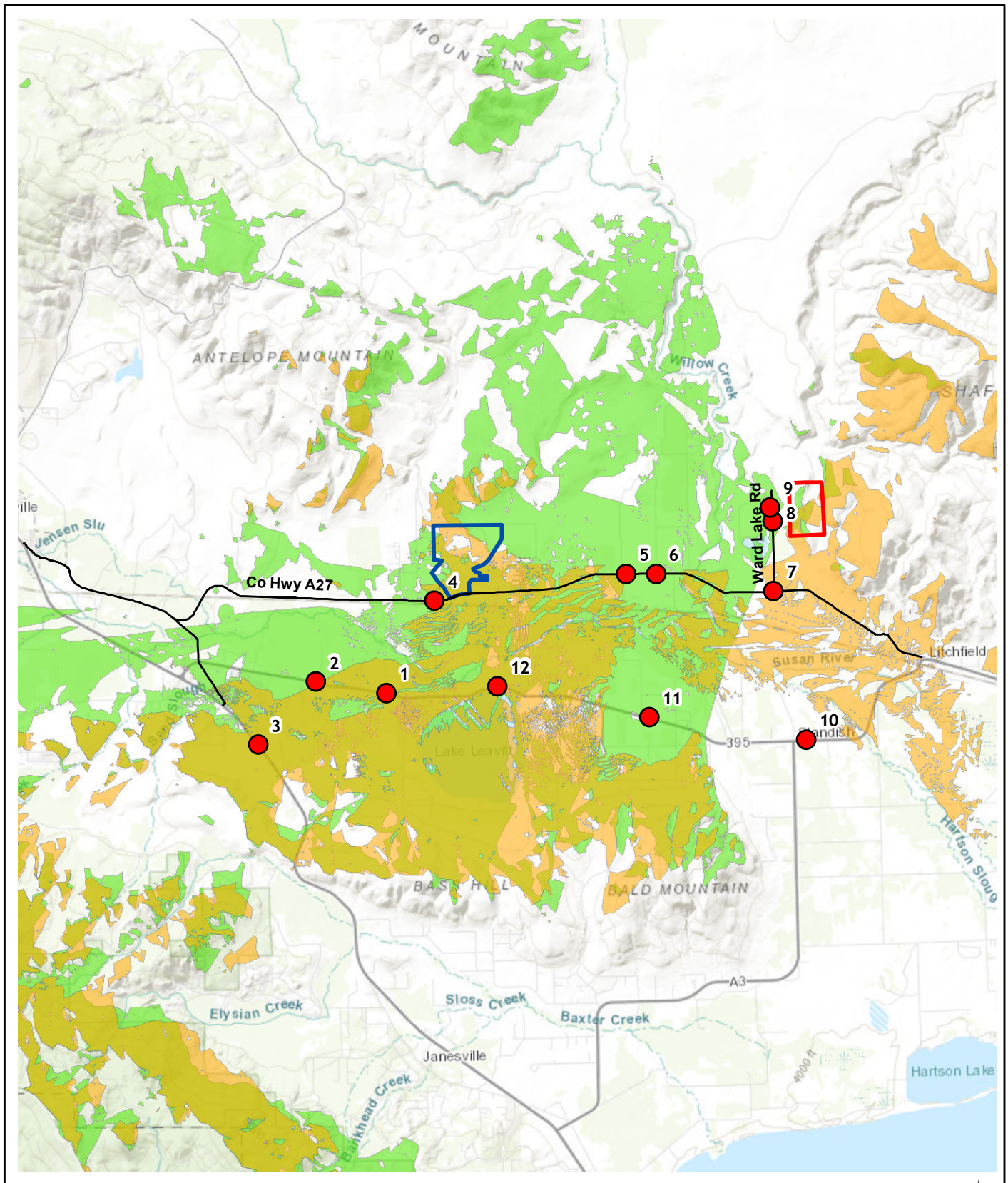
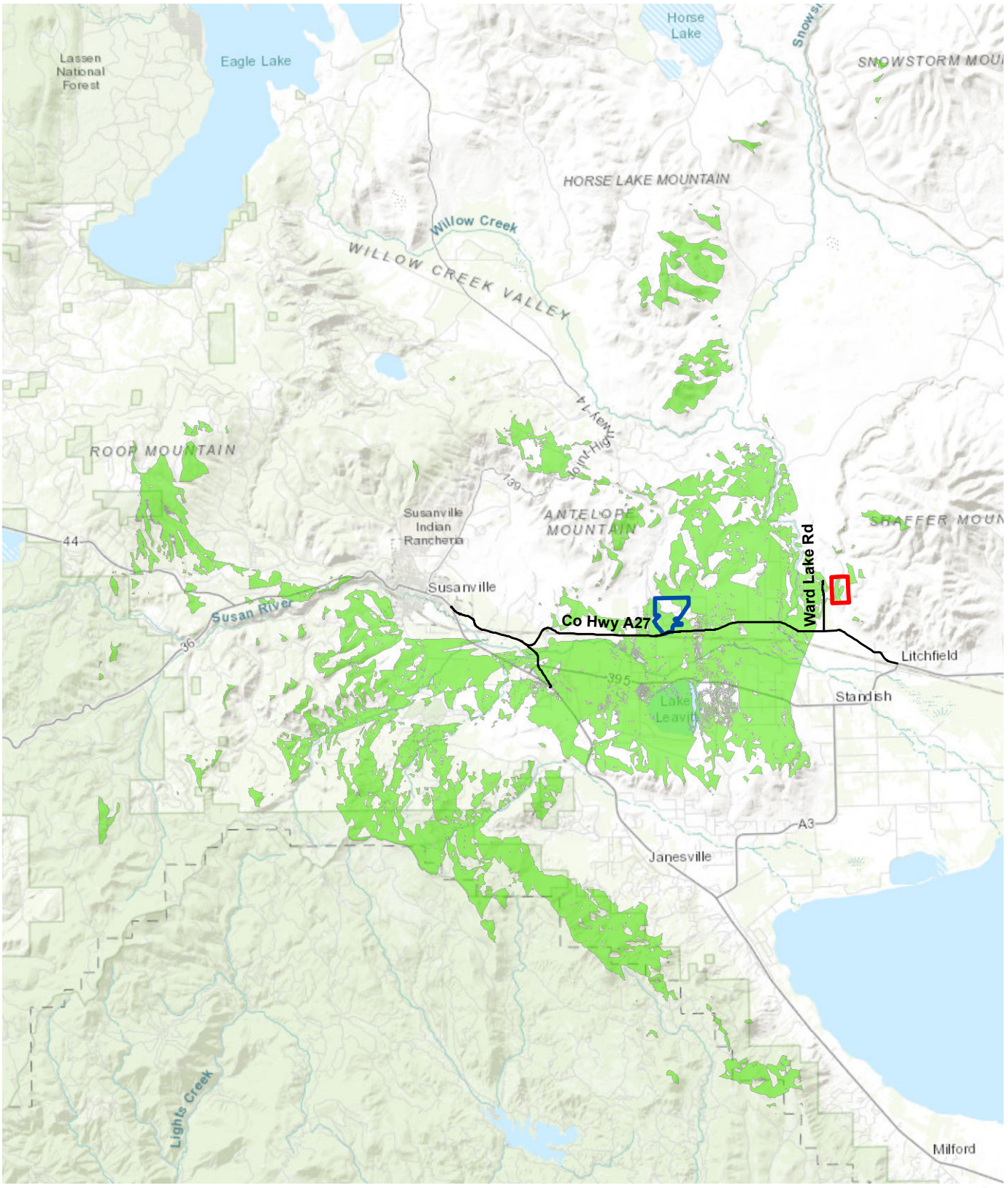


FIGURE 2
PHOTO POINT LOCATIONS
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\Visual\71305_PhotoPoints.mxd



Approximate Project Area

Approximate Prison Location

Estimated Areas Where Project Light May Be Visible (55,741 acres)

VESTRA

0 2 4 8 Miles

FIGURE 3
VIEWSHED ANALYSIS
WARD LAKE PIT ONLY
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\Visual\71305_Viewshed.mxd

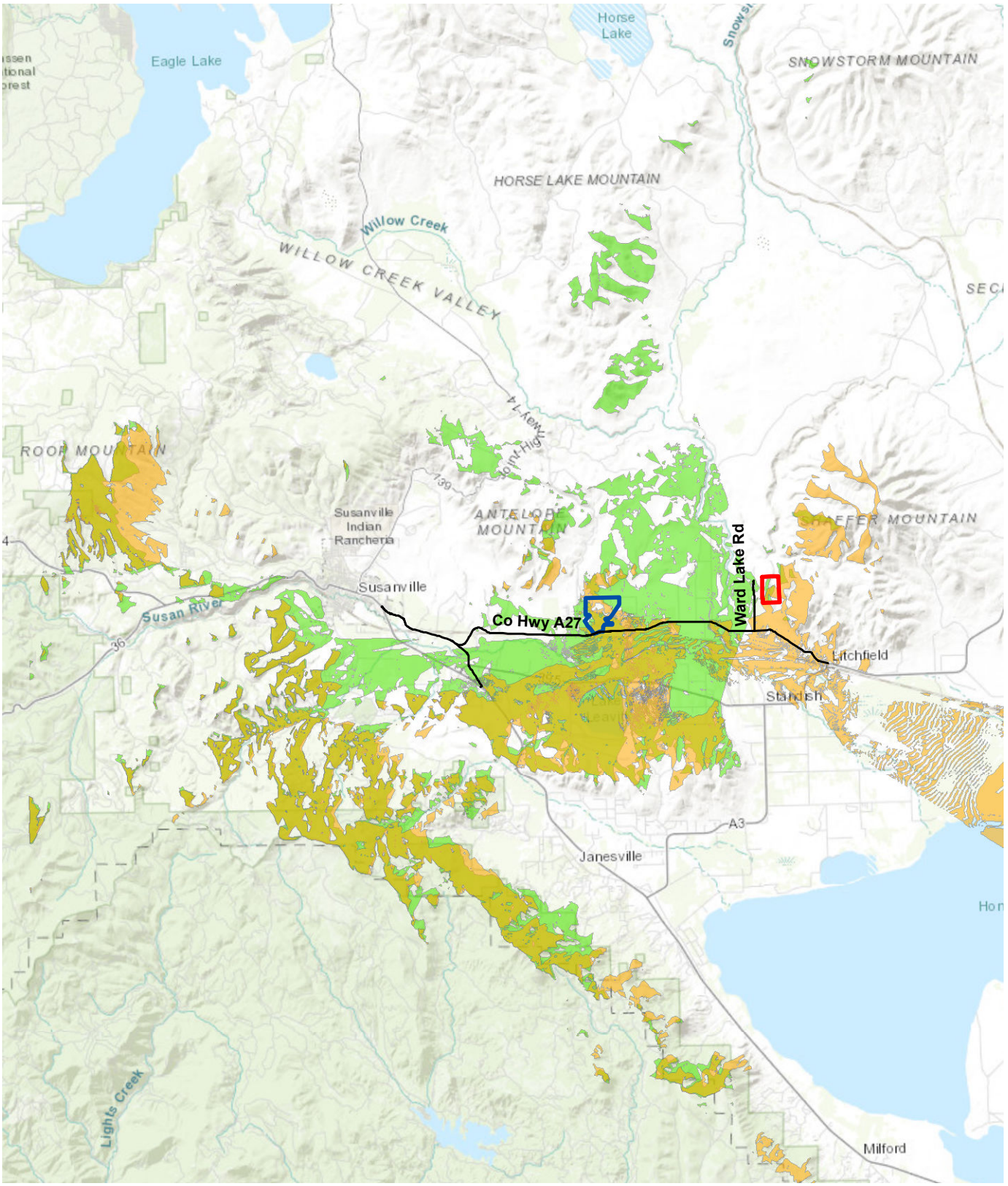
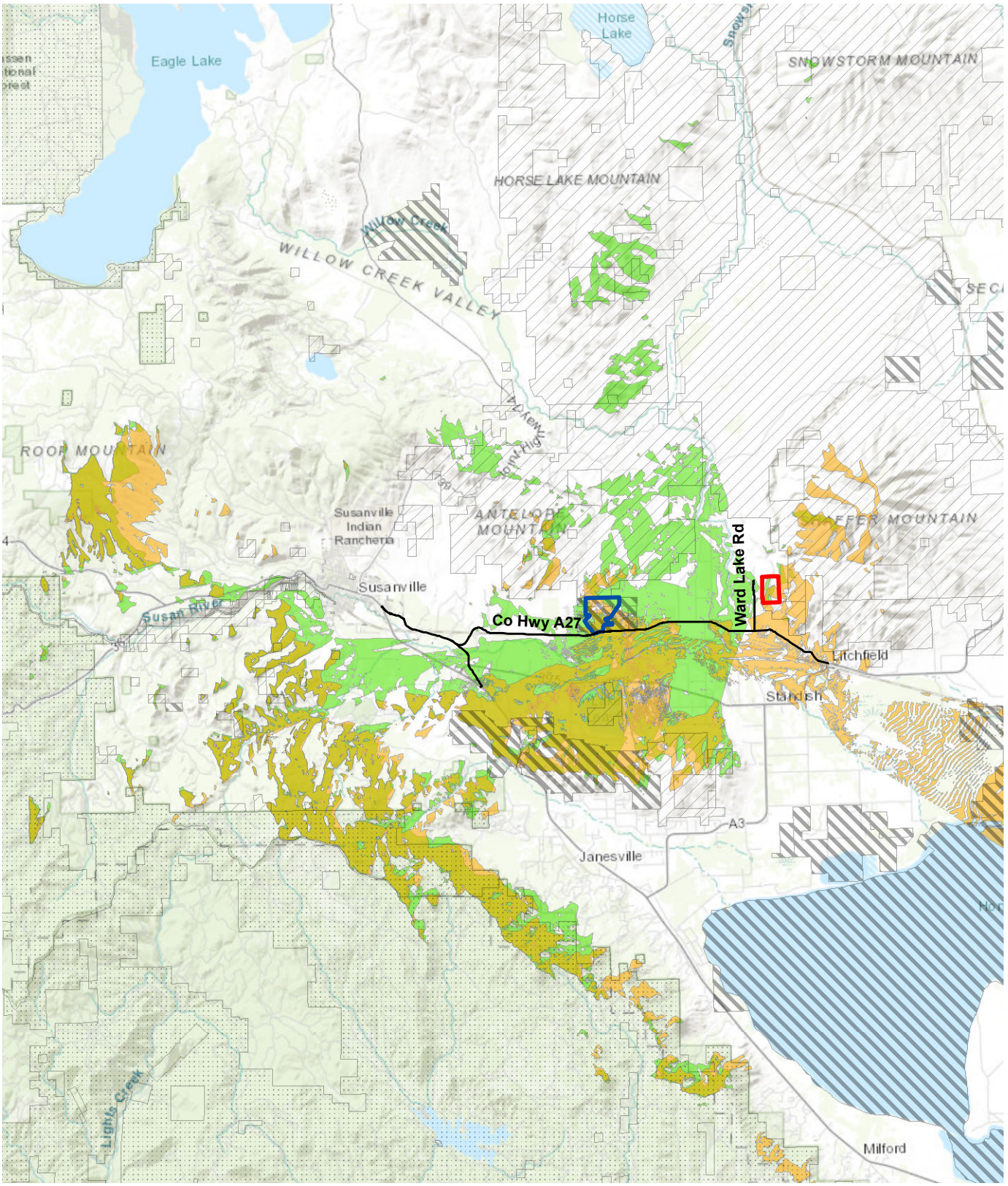


FIGURE 4
VIEWSHED ANALYSIS
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\Visual\71305_Viewshed_Prison.mxd



Bureau of Land Management

US Forest Service

State of California

Estimated Areas Where Prison Light May Be Visible (82,034 acres)

Estimated Areas Where Project Light May Be Visible (55,741 acres)

Approximate Project Area

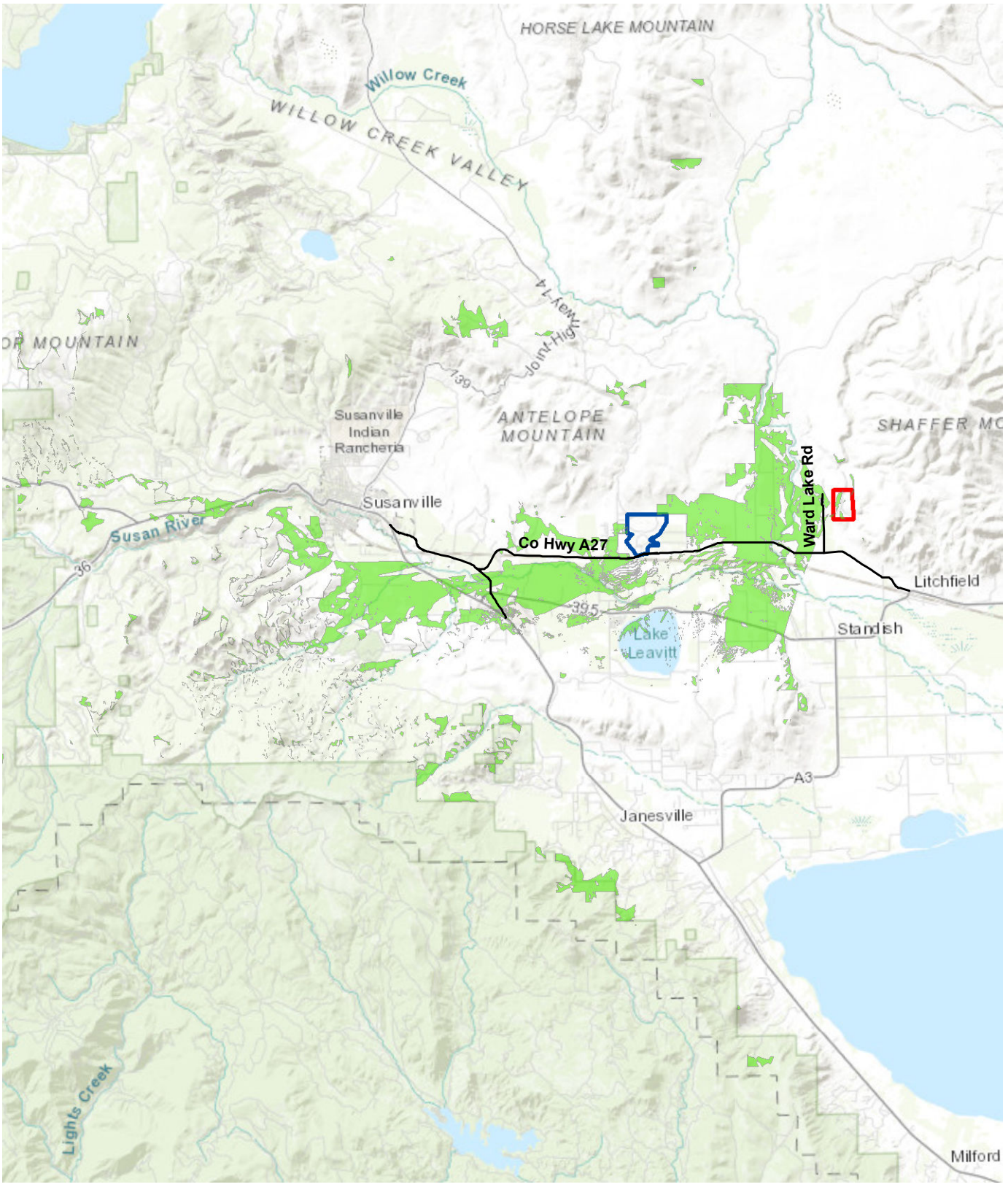
Approximate Prison Location

0 2 4 8 Miles

VESTRA

FIGURE 5
VIEWSHED ANALYSIS
LAND OWNERSHIP
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\Visual\71305_Vis_SMA.mxd



Estimated Areas Where Light May Be Visible (17,072 acres)

Approximate Project Area

Approximate Prison Location

VESTRA

0 1.75 3.5 7 Miles

FIGURE 6
AREAS AFFECTED BY PROJECT
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\Visual\71305_Vis_ProjectOnly.mxd

FIGURE 7
RESIDENCES ON WARD LAKE ROAD
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\Visual\71305_Residences.mxd

Appendix F

Health Risk Assessment

Ward Lake Pit
Health Risk Assessment Technical Report

Prepared for:

VESTRA Resources, Inc.
5300 Aviation Drive
Redding, California 96002

Prepared by:

RCH Group
11060 White Rock Road
Rancho Cordova, California 95670

February 12, 2019

1.0 INTRODUCTION

This document presents results of a health risk assessment (HRA) associated with the Ward Lake Pit near Susanville, California. This HRA focuses on health impacts on existing residences and schools from generators and haul truck diesel particulate matter (DPM) emissions associated with the proposed project. This HRA was prepared based on the California Office of Environmental Health Hazard Assessment (OEHHA)'s *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*.[1] This HRA was conducted to determine the health impacts, in terms of excess cancer risk and non-cancer hazards, using the significance levels identified within the State CEQA Guidelines, Appendix G and by the Bay Area Air Quality Management District's *CEQA Air Quality Guidelines*[2] in accordance with Lassen County Air Pollution Control District (Lassen County APCD). The Lassen County APCD is a local air district governing the Lassen County Region which is part of the Northeastern Plateau Air Basin. The Lassen County APCD requires permits for proposed construction, alteration or replacement of equipment or facilities which may cause the issuance of air contaminants. The proposed project maintains a permit to operate (PTO-18-140: expiration date March 31, 2019) for onsite equipment such as the five diesel generators (two generators associated with the crushing plant, one generator associated with the hot mix asphalt plant, one generator associated with the portable plant, and one generator associated with the wash plant).

The supporting methodology, assumptions, and detailed results used in this HRA are provided in **Attachment A: Health Risk Assessment Methodology and Assumptions**. For existing residents, this HRA indicates less-than-significant exposures to the health impacts from the proposed project activities associated with diesel generators and haul trucks.

2.0 PROJECT OVERVIEW

Surface mining operation is presently permitted for the mining of rock, crushing, screening, washing, material stockpiling, fuel storage; operation of a cement plant (12,000 cubic-yard annual limit) and asphalt plant; and the use of settling ponds scales, an office and a truck shop. Grading, excavating, and blasting are prohibited onsite between January 1 and March 31 annually, except in a state of emergency. However, other plant operations are permitted throughout the year.

The Use Permit Amendment (proposed project) includes changes in currently permitted operations at the Project Site that will allow the applicant to provide materials for emergency projects and construction projects that could require continuous 24-hour operations. In addition, in order to respond to emergency projects, the annual removal volume of the mine

[1] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, February 2015, http://oehha.ca.gov/air/hot_spots/hotspots2015.html

[2] Bay Area Air Quality Management District. *CEQA Air Quality Guidelines*, May 2012, http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_Final_May%202012.ashx?la=en

could exceed 100,000 tons. However, the project includes extending the life of the mine by 10 years (from 2021 to 2030) to allow increased extraction of materials from the site.

The baseline truck trips for the project include an average of 16 one-way trips per day. Typical operations would occur 12 hours per day (6 am to 7 pm), Monday through Saturday. Peak traffic volumes of up to 350 one-way truck trips per day also occur during daytime hours during peak operational periods. Truck traffic distribution includes 40 percent of trucks heading east on Center Road and 60 Percent heading west on Center Road.

Under the project, average and maximum truck volumes would remain the same, but 24-hour operations would be allowed. During 24-hour operations, all trucks would be routed west on Center Road during the nighttime hours (7 pm to 6 am). Trucks would turn west on Center Road and use Leavitt Lane to access Highway 395. Twenty-four hour operations are anticipated to occur approximately 30 to 45 days per year.

3.0 ANALYSIS METHODOLGY

This HRA addresses DPM emissions from generators and haul trucks associated with the proposed project and resultant health impacts on existing residences and school. Regulatory models used to estimate health impacts include:

- California Air Resources Board's (CARB) EMFAC2014[3] emissions inventory model. EMFAC2014 is the latest emission inventory model that calculates emission inventories and emission rates for motor vehicles operating on roads in California. This model reflects CARB's current understanding of how vehicles travel and how much they emit. EMFAC2014 can be used to show how California motor vehicle emissions have changed over time and are projected to change in the future.
- AERMOD (American Meteorological Society/US Environmental Protection Agency (USEPA) Regulatory Model, Version 18081) is an atmospheric dispersion model which can simulate point, area, volume, and line emissions sources and has the capability to include simple, intermediate, and complex terrain along with meteorological conditions and multiple receptor locations.[4,5] AERMOD is commonly executed to yield 1-hour maximum and annual average concentrations (in $\mu g/m^3$) at each receptor.
- USEPA AP-42, Compilation of Air Pollutant Emission Factors, has been published since 1972 as the primary compilation of USEPA's emission factor information. It contains emission factors and process information for more than 200 air pollution source categories. A source category is a specific industry sector or group of similar emitting

[3] California Air Resources Board, EMFAC2014 User's Guide, April 30, 2014, http://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol1-users-guide-052015.pdf

[4] US Environmental Protection Agency, Preferred/Recommended Models, *AERMOD Modeling System*, https://www3.epa.gov/ttn/scram/dispersion_prefrec.htm#aermod

[5] Title 40 CFR Part 51, *Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions; Final Rule,* http://www.epa.gov/ttn/scram/guidance/guide/appw_05.pdf

sources. The emission factors have been developed and compiled from source test data, material balance studies, and engineering estimates.[6]

Sensitive Receptors

Land uses such as residences, schools, children's daycare centers, hospitals, and convalescent homes are considered to be more sensitive than the general public to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. The CARB has identified the following people as most likely to be affected by air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes, and those with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive population groups.

Residential areas (i.e., apartments, house, and condominiums) are considered more sensitive to air quality conditions than commercial and industrial areas, because people generally spend longer periods of time at their residences, resulting in greater exposure to ambient air quality conditions. Recreational uses are also considered sensitive, due to the greater exposure to ambient air quality conditions and because the presence of pollution detracts from the recreational experience.

The Project Site is surrounded by open grazing lands. Immediate adjacent to and south of the site, a smaller aggregate mine is located on Bureau of Land Management (BLM)-administered land. Other BLM land is located to the east and south and the Wells Ranch is located directly to the north. Six homes are located on parcels from 10 to 80 acres in size to the west and south along Ward Lake Road. The nearest residence is approximately 875 feet from the western property line of the Project Site. Shaffer Elementary School is located 2.4 miles to the southeast of the Project Site.

Impact Evaluation

This HRA was conducted following methodologies in OEHHA's *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*.[7] This was accomplished by applying the estimated concentrations at the receptors analyzed to the established cancer risk estimates and acceptable reference concentrations for non-cancer health effects.

Recent OEHHA's revisions to its *Guidance Manual* were primarily designed to ensure that the greater sensitivity of children to cancer and other health risks is reflected in HRA. For example, OEHHA now recommends that risks be analyzed separately for multiple age groups, focusing especially on young children and teenagers, rather than the past practice of analyzing risks to the general population, without distinction by age. OEHHA also now recommends that statistical "age sensitivity factors" be incorporated into a HRA, and that children's relatively high breathing rates be accounted for. On the other hand, the *Guidance Manual* revisions also

[6] US Environmental Protection Agency, AP 42, Compilation of Air Pollutant Emission Factors, Fifth Edition, Volume I Chapter 3: Stationary Internal Combustion Source, https://www3.epa.gov/ttn/chief/ap42/ch03/index.html

[7] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, February 2015, http://oehha.ca.gov/air/hot_spots/hotspots2015.html

include some changes that would reduce calculated health risks. For example, under the former guidance, OEHHA recommended that residential cancer risks be assessed by assuming 70 years of exposure at a residential receptor; under the *Guidance Manual*, this assumption is lessened to 30 years. **Attachment A: Health Risk Assessment Methodology and Assumptions** provides additional assumptions used within the health impact evaluation.

4.0 IMPACT ANALYSIS AND MITIGATION

This HRA addresses the DPM emissions from diesel generators and haul trucks associated with the proposed project. The significance of potential impacts was determined based on State CEQA Guidelines, Appendix G. Using Appendix G evaluation thresholds, the proposed project would be considered to have significant health impacts if it were to expose sensitive receptors to substantial pollutant concentrations. The thresholds of significance applied to assess project-level health impacts are:

- Exposure of persons by siting a new source or a new sensitive receptor to substantial levels of TAC resulting in (a) a cancer risk level greater than 10 in one million or (b) a noncancerous risk (chronic or acute) hazard index greater than 1.0. For this threshold, sensitive receptors include residential uses, schools, parks, daycare centers, nursing homes, and medical centers.

IMPACT: *Would the proposed project expose sensitive receptors to substantial concentrations of toxic air contaminants (TAC)?* **Less than Significant Impact**

The proposed project would constitute an emission source of DPM due to operations associated with generators and haul trucks. Studies have 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.

Health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. Individual cancer risk is the likelihood that a person exposed to air toxic concentrations over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. The maximally exposed individual (MEI) represents the worst–case risk estimate, based on a theoretical person continuously exposed for a lifetime at the point of highest compound concentration in the air. This is a highly conservative assumption, since most people do not remain at home all day and on average residents change residences every 11 to 12 years. In addition, this assumption assumes that residents are experiencing outdoor concentrations for the entire exposure period.

This HRA analyzes the incremental cancer risks to sensitive receptors in the vicinity of the proposed project, using emission rates (in pounds per hour) from USEPAs AP-42, Compilation of Air Pollutant Emission Factors, and vender specifications. DPM emission rates were input into the USEPA's AERMOD atmospheric dispersion model to calculate ambient air concentrations at receptors in the proposed project vicinity. This HRA is intended to provide a worst–case estimate of the increased exposure by employing a standard emission estimation program, an accepted pollutant dispersion model, approved toxicity factors, and conservative exposure parameters.

In accordance with OEHHA *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments,* this HRA was accomplished by applying the highest estimated concentrations of TAC at the receptors analyzed to the established cancer potency factors and acceptable reference concentrations for non-cancer health effects. Increased cancer risks were calculated using the modeled DPM concentrations and OEHHA-recommended methodologies for both a child exposure (3rd trimester through 2 years of age) and adult exposure. The cancer risk calculations were based on applying the OEHHA-recommended age sensitivity factors and breathing rates, as well as fraction of time at home and an exposure duration of 30 years, to the DPM concentration exposures. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing air pollutants. The supporting methodology and assumptions used in this HRA are provided in **Attachment A: Health Risk Assessment Methodology and Assumptions**.

These conservative methodologies overestimate both non-carcinogenic and carcinogenic health risk, possibly by an order of magnitude or more. Therefore, for carcinogenic risks, the actual probabilities of cancer formation in the populations of concern due to exposure to carcinogenic pollutants are likely to be lower than the risks derived using the HRA methodology. The extrapolation of toxicity data in animals to humans, the estimation of concentration prediction methods within dispersion models; and the variability in lifestyles, fitness and other confounding factors of the human population also contribute to the overestimation of health impacts. Therefore, the results of this HRA are highly overstated.

Health Impacts

The following describes the HRA results associated with existing receptors due to proposed project activities. The maximum cancer risk from proposed project emissions for a residential-adult receptor would be 0.70 per million and for a residential-child receptor would be 8.13 per million. As shown in **Table 1**, the total maximum cancer risk from proposed project emissions for a residential receptor would be 8.22 per million.[8] The maximum concentrations would occur at a residential receptor (also known as the maximum exposed individual or MEI) along Ward Lake Road to the southwest of the proposed project. The maximum cancer risk from proposed project emissions for a school-child receptor would be 0.25 per million

Table 1: Estimated Health Impacts

Source	Cancer Risk	Hazard Impact (acute/chronic)
Generators and Haul Trucks	8.22	0.03/<0.01
Total Proposed Project	**8.22**	**0.03/<0.01**
Significance Threshold	10	1.0
Potentially Significant (Yes or No)?	No	No

[8] This theoretical individual would be born in 2021 (the start year of the proposed project) and subsequently be exposed to the full extended operational period. Individuals born after 2021 would be exposed to shorter operational duration and thus, result in a lower risk and health impacts.

A vast majority of the health impacts are due to the generators and much less is due to the haul trucks, as the haul trucks emissions occur over a 30 mile route and are thus not near the receptors for much of its trip duration. Thus, the cancer risk due to proposed project activities are below the significance threshold of 10 per million and thus, would be less than significant.

According to the PTO-18-140, the five diesel generators are required to be removed and/or replaced with Lassen County APCD-approved engines within specific dates ranging from July 2020 to January 2025. These requirements were incorporated into this HRA.

Non-Cancer Health Hazard

Both acute (short-term) and chronic (long-term) adverse health impacts unrelated to cancer are measured against a hazard index (HI), which is defined as the ratio of the predicted incremental DPM exposure concentration from the proposed project to a reference exposure level (REL) that could cause adverse health effects. The REL are published by OEHHA based on epidemiological research. The ratio (referred to as the Hazard Quotient [HQ]) of each non-carcinogenic substance that affects a certain organ system is added to produce an overall HI for that organ system. The overall HI is calculated for each organ system. The impact is considered to be significant if the overall HI for the highest-impacted organ system is greater than 1.0.

There is no acute REL for DPM. However, diesel exhaust does contain acrolein, formaldehyde and other compounds, which do have an acute REL. Based on DPM speciation data, acrolein emissions are approximately 1.3 percent of the total DPM emissions.[9] The acute REL for acrolein was established by the California OEHHA[10] as 2.5 $\mu g/m^3$. In total, acrolein emissions represent over 90 percent of the acute health impacts from diesel engines.

The acute HI would be 0.03, based on a project-related maximum 1-hour diesel concentration of 5.99 $\mu g/m^3$, respectively (per dispersion modeling analysis) and acrolein speciation of 1.3 percent for DPM or 5.99 $\mu g/m^3$/2.5 $\mu g/m^3$ times 1.3 percent, which is 0.03. The acute HI would be below the significance threshold of 1 and the impact of the proposed project would therefore be less than significant.

The chronic reference exposure level for DPM was established by the California OEHHA[11] as 5 $\mu g/m^3$. Thus, the proposed project-related annual concentration of DPM cannot exceed 5.0 $\mu g/m^3$; resulting in a chronic acute HI of greater than 1.0 (i.e., DPM annual concentration/5.0 $\mu g/m^3$).

The chronic HI would be less than 0.01, based on a proposed project-related maximum annual diesel concentration of 0.02 $\mu g/m^3$ (per dispersion modeling analysis) or 0.02 $\mu g/m^3$/5.0 $\mu g/m^3$, which is less than 0.01. The chronic HI would be below the significance threshold of 1 and the impact of the proposed project would therefore be less than significant.

---

[9] California Air Resources Board Speciation Profile 818 for Off-Road Diesel Emissions (Building Construction - Diesel)

[10] California Office of Environmental Health Hazards Assessment - Acute, 8-hour, and Chronic Reference Exposure Levels, June 2014, http://www.oehha.ca.gov/air/allrels.html

[11] California Office of Environmental Health Hazards Assessment - Acute, 8-hour, and Chronic Reference Exposure Levels, June 2014, http://www.oehha.ca.gov/air/allrels.html

Attachment A

Health Risk Assessment Methodology and Assumptions

A health risk assessment (HRA) is accomplished in four steps: 1) hazards identification, 2) exposure assessment, 3) toxicity assessment, and 4) risk characterization. These steps cover the estimation of air emissions, the estimation of the air concentrations resulting from a dispersion analysis, the incorporation of the toxicity of the pollutants emitted, and the characterization of the risk based on exposure parameters such as breathing rate, age adjustment factors, and exposure duration; each depending on receptor type (i.e., residence, school, daycare centers, hospitals, senior care facilities, recreational areas, adult, infant, child).

This HRA was conducted in accordance with technical guidelines developed by federal, state, and regional agencies, including U.S. Environmental Protection Agency (USEPA), California Environmental Protection Agency (CalEPA), and California Office of Environmental Health Hazard Assessment (OEHHA) *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*.[1] This HRA addresses the diesel particulate matter (DPM) emissions from generators and haul trucks.

According to CalEPA, a HRA should not be interpreted as the expected rates of cancer or other potential human health effects, but rather as estimates of potential risk or likelihood of adverse effects based on current knowledge, under a number of highly conservative assumptions and the best assessment tools currently available.

TERMS AND DEFINITIONS

As the practice of conducting a HRA is particularly complex and involves concepts that are not altogether familiar to most people, several terms and definitions are provided that are considered essential to the understanding of the approach, methodology and results:

Acute effect – a health effect (non-cancer) produced within a short period of time (few minutes to several days) following an exposure to toxic air contaminants (TAC).

Cancer risk – the probability of an individual contracting cancer from a lifetime (i.e., 70 year) exposure to TAC such as DPM in the ambient air.

Chronic effect – a health effect (non-cancer) produced from a continuous exposure occurring over an extended period of time (weeks, months, years).

Hazard Index (HI) – the unitless ratio of an exposure level over the acceptable reference dose. The HI can be applied to multiple compounds in an additive manner.

---

[1] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, March 6, 2015, http://oehha.ca.gov/air/hot_spots/hotspots2015.html.

Hazard Quotient (HQ) – the unitless ratio of an exposure level over the acceptable reference dose. The HQ is applied to individual compounds.

Toxic Air Contaminants – any air pollutant that is capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). The current California list of TAC lists approximately 200 compounds, including particulate emissions from diesel-fueled engines.

Human Health Effects - comprise disorders such as eye watering, respiratory or heart ailments, and other (i.e., non-cancer) related diseases.

Health Risk Assessment – an analysis designed to predict the generation and dispersion of TAC in the outdoor environment, evaluate the potential for exposure of human populations, and to assess and quantify both the individual and population-wide health risks associated with those levels of exposure.

Incremental – under CEQA, the net difference (or change) in conditions or impacts when comparing the baseline to future year project conditions.

Maximum exposed individual (MEI) – an individual assumed to be located at the point where the highest concentrations of TAC, and therefore, health risks are predicted to occur.

Non-cancer risks – health risks such as eye watering, respiratory or heart ailments, and other non-cancer related diseases.

Receptors – the locations where potential health impacts or risks are predicted (i.e., schools, residences, and recreational sites).

LIMITATIONS AND UNCERTAINTIES

There are a number of important limitations and uncertainties commonly associated with a HRA due to the wide variability of human exposures to TAC, the extended timeframes over which the exposures are evaluated, and the inability to verify the results. Limitations and uncertainties associated with the HRA and identified by the CalEPA include: (a.) lack of reliable monitoring data; (b.) extrapolation of toxicity data in animals to humans; (c.) estimation errors in calculating TAC emissions; (d.) concentration prediction errors with dispersion models; and (e.) the variability in lifestyles, fitness and other confounding factors of the human population. This HRA was performed using the best available data and methodologies, notwithstanding the following uncertainties:

- There are uncertainties associated with the estimation of emissions from project activities. Where project-specific data, such as emission factors, are not available, default assumptions in emission models were used.

- The limitations of the air dispersion model provide a source of uncertainty in the estimation of exposure concentrations. According to USEPA, errors due to the limitation of the algorithms implemented in the air dispersion model in the highest estimated concentrations of +/- 10 percent to 40 percent are typical.[2]
- The source parameters used to model emission sources add uncertainty. For all emission sources, the source parameters used source-specific, recommended as defaults, or expected to produce more conservative results. Discrepancies might exist in actual emissions characteristics of an emission source and its representation in the dispersion model.
- The exposure duration estimates do not take into account that people do not usually reside at the same location for 30 years and that other exposures (i.e., school children) are also of much shorter durations than was assumed in this HRA. This exposure duration is a highly conservative assumption, since most people do not remain at home all day and on average residents change residences every 11 to 12 years. In addition, this assumption adopts that residents are experiencing outdoor concentrations for the entire exposure period.
- For the risk and hazards calculations as well as the cumulative health impact, numerous assumptions must be made in order to estimate human exposure to pollutants. These assumptions include parameters such as breathing rates, exposure time and frequency, exposure duration, and human activity patterns. While a mean value derived from scientifically defensible studies is the best estimate of central tendency, most of the exposure variables used in this HRA are high-end estimates. The combination of several high-end estimates used as exposure parameters may substantially overestimate pollutant intake. The excess lifetime cancer risks calculated in this HRA are therefore likely to be higher than may be required to be protective of public health.
- The Cal/EPA cancer potency factor for DPM was used to estimate cancer risks associated with exposure to DPM emissions from construction activities. However, the cancer potency factor derived by Cal/EPA for DPM is highly uncertain in both the estimation of response and dose. In the past, due to inadequate animal test data and epidemiology data on diesel exhaust, the International Agency for Research on Cancer (IARC), a branch of the World Health Organization, had classified DPM as Probably Carcinogenic to Humans (Group 2); the USEPA had also concluded that the existing data did not

[2] United States Environmental Protection Agency, *Guideline on Air Quality Models (Revised), 40 Code of Federal Regulations, Part 51, Appendix W,* November 2005, https://www3.epa.gov/scram001/guidance/guide/appw_05.pdf

provide an adequate basis for quantitative risk assessment.[3] However, based on two recent scientific studies,[4] IARC recently re-classified DPM as Carcinogenic to Humans to Group 1,[5] which means that the agency has determined that there is "sufficient evidence of carcinogenicity" of a substance in humans and represents the strongest weight-of-evidence rating in IARC's carcinogen classification scheme. This determination by the IARC may provide additional impetus for the USEPA to identify a quantitative dose-response relationship between exposure to DPM and cancer.

In summary, the estimated health impacts are based primarily on a series of conservative assumptions related to predicted environmental concentrations, exposure, and chemical toxicity. The use of conservative assumptions tends to produce upper-bound estimates of risk. USEPA acknowledges this uncertainty by stating: "the methods used [to estimate risk] are conservative, meaning that the real risks from the source may be lower than the calculations, but it is unlikely that they will be higher." The USEPA notes that the conservative assumptions used in a HRA are intended to assure that the estimated risks do not underestimate the actual risks posed by a site and that the estimated risks do not necessarily represent actual risks experienced by populations at or near a site.[6]

HAZARDS IDENTIFICATION

California Air Resources Board (CARB) has developed a list of TAC, where a TAC is "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health (California Health and Safety Code Section 39655). All USEPA hazardous air pollutants are TAC. CARB administers the Air Toxics "Hot Spots" program under Assembly Bill 2588 "Hot Spots" Information and Assessment Act, which requires periodic local review of facilities which emit TAC. Local air agencies periodically must prioritize stationary sources of TAC and prepare health risk assessments for high-priority sources.

Diesel exhaust is a complex mixture of numerous individual gaseous and particulate compounds emitted from diesel-fueled combustion engines. Diesel particulate matter is formed primarily through the incomplete combustion of diesel fuel. DPM is removed from the

---

[3] United States Environmental Protection Agency, *Health Assessment Document for Diesel Engine Exhaust*, May 2002, https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=29060

[4] Attfield MD, Schleiff PL, Lubin JH, Blair A, Stewart PA, Vermeulen R, Coble JB, Silverman DT, *The Diesel Exhaust in Miners Study: A Nested Case-Control Study of Lung Cancer and Diesel Exhaust*, June 2012, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3369553/

[5] International Agency for Research on Cancer, *Diesel Engine Exhaust Carcinogenic*, June 2012, https://www.iarc.fr/en/media-centre/pr/2012/pdfs/pr213_E.pdf

[6] United States Environmental Protection Agency, *Risk Assessment Guidance for Superfund Human Health Risk Assessment*, December 1989, https://www.epa.gov/sites/production/files/2015-09/documents/rags_a.pdf

atmosphere through physical processes including atmospheric fall-out and washout by rain. Humans can be exposed to airborne DPM by deposition on water, soil, and vegetation; although the main pathway of exposure is inhalation. Cal/EPA has concluded that potential cancer risk from inhalation exposure to whole diesel exhaust outweigh the multi-pathway cancer risk from the speciated components.

In August 1998, the CARB identified DPM as an air toxic. CARB developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel- Fueled Engines and Vehicles* and *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines* and approved these documents on September 28, 2000.[7,8] The documents represent proposals to reduce DPM emissions, with the goal of reducing emissions and the associated health risk by 75 percent in 2010 and by 85 percent in 2020. The program aimed to require the use of state-of-the-art catalyzed DPM filters and ultra-low-sulfur diesel fuel.

In 2001, CARB assessed the state-wide health risks from exposure to diesel exhaust and to other toxic air contaminants. It is difficult to distinguish the health risks of diesel emissions from those of other air toxics, since diesel exhaust contains approximately 40 different TAC. The CARB study detected diesel exhaust by using ambient air carbon soot measurements as a surrogate for diesel emissions. The study reported that the state-wide cancer risk from exposure to diesel exhaust was about 540 per million population as compared to a total risk for exposure to all ambient air toxics of 760 per million. This estimate, which accounts for about 70 percent of the total risk from TAC, included both urban and rural areas in the state. The estimate can also be considered an average worst-case for the state, since it assumes constant exposure to outdoor concentrations of diesel exhaust and does not account for expected lower concentrations indoors, where most of time is spent. Based on 2012 estimates of California statewide exposure, DPM is estimated to increase statewide cancer risk by 520 cancers per million residents exposed over a lifetime.[9]

Exposure to DPM results in a greater incidence of chronic non-cancer health effects, such as cough, labored breathing, chest tightness, wheezing, and bronchitis. Individuals particularly vulnerable to DPM are children, whose lung tissue is still developing, the elderly and people with illnesses who may have other serious health problems that can be aggravated by exposure to DPM. In general, children are more vulnerable than adults to air pollutants because they have higher inhalation rates, narrower airways, and less mature immune systems. In addition,

---

[7] California Air Resources Board, *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, October 2000, http://www.arb.ca.gov/diesel/documents/rrpfinal.pdf

[8] California Air Resources Board, *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines*, October 2000, https://www.arb.ca.gov/diesel/documents/rmgFinal.pdf

[9] California Air Resources Board, *Summary: Diesel Particulate Matter Health Impacts*, April 12, 2016, https://www.arb.ca.gov/research/diesel/diesel-health_summ.htm

children with allergies may have an enhanced allergic response when exposed to diesel exhaust).

EXPOSURE ASSESSMENT

Dispersion is the process by which atmospheric pollutants disseminate due to wind and vertical stability. The results of a dispersion analysis are used to assess pollutant concentrations at or near an emission source. The results of an analysis allow predicted concentrations of pollutants to be compared directly to air quality standards and other criteria such as health risks based on modeled concentrations.

A rising pollutant plume reacts with the environment in several ways before it levels off. First, the plume's own turbulence interacts with atmospheric turbulence to entrain ambient air. This mixing process reduces and eventually eliminates the density and momentum differences that cause the plume to rise. Second, the wind transports the plume during its rise and entrainment process. Higher winds mix the plume more rapidly, resulting in a lower final rise. Third, the plume interacts with the vertical temperature stratification of the atmosphere, rising as a result of buoyancy in the unstable-to-neutrally stratified mixed layer. However, after the plume encounters the mixing lid and the stably stratified air above, its vertical motion is dampened.

Molecules of gas or small particles injected into the atmosphere will separate from each other as they are acted on by turbulent eddies. The Gaussian mathematical model such as AERMOD simulates the dispersion of the gas or particles within the atmosphere. The formulation of the Gaussian model is based on the following assumptions:

- The predictions are not time-dependent (all conditions remain unchanged with time)
- The wind speed and direction are uniform, both horizontally and vertically, throughout the region of concern
- The rate of diffusion is not a function of position
- Diffusion in the direction of the transporting wind is negligible when compared to the transport flow

Dispersion Modeling Approach

Air dispersion modeling was performed to estimate the downwind dispersion of DPM exhaust emissions resulting from construction activities. The following sections present the fundamental components of an air dispersion modeling analysis including air dispersion model selection and options, receptor locations, meteorological data, and source exhaust parameters.

Model Selection and Options

AERMOD (Version 18081)[10] was used for the dispersion analysis. AERMOD is the USEPA preferred atmospheric dispersion modeling system for general industrial sources. The model can simulate point, area, volume, and line sources. AERMOD is the appropriate model for this analysis based on the coverage of simple, intermediate, and complex terrain. It also predicts both short-term and long-term (annual) average concentrations. The model was executed using the regulatory default options (stack-tip downwash, buoyancy-induced dispersion, and final plume rise), default wind speed profile categories, default potential temperature gradients, and assuming no pollutant decay.

The selection of the appropriate dispersion coefficients depends on the land use within three kilometers (km) of the project site. The types of land use were based on the classification method defined by Auer (1978); using pertinent United States Geological Survey (USGS) 1:24,000 scale (7.5 minute) topographic maps of the area. If the Auer land use types of heavy industrial, light-to-moderate industrial, commercial, and compact residential account for 50 percent or more of the total area, the USEPA *Guideline on Air Quality Models* recommends using urban dispersion coefficients; otherwise, the appropriate rural coefficients can be used. Based on observation of the area surrounding the project site, rural (urban is only designated within dense city centers such as downtown San Francisco) dispersion coefficients were applied within AERMOD.

Receptor Locations

Some receptors are considered more sensitive to air pollutants than others, because of preexisting health problems, proximity to the emissions source, or duration of exposure to air pollutants. Land uses such as primary and secondary schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because the very young, the old, and the infirm are more susceptible to respiratory infections and other air quality-related health problems than the general public. Residential areas are also considered sensitive to poor air quality because people in residential areas are often at home for extended periods. Recreational land uses are moderately sensitive to air pollution because vigorous exercise associated with recreation places having a high demand on respiratory system function.

Sensitive receptors were placed at existing residences to estimate health impacts due to proposed project construction on existing receptors. The Project Site is surrounded by open grazing lands. Immediate adjacent to and south of the site, a smaller aggregate mine is located on Bureau of Land management (BLM)-administered land. Other BLM land is located to the east and south and the Wells Ranch is located directly to the north. Six homes are located on parcels from 10

[10] United States Environmental Protection Agency, AERMOD Modeling System, https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models

to 80 acres in size to the west and south along Ward Lake Road. The nearest residence is approximately 875 feet from the western property line of the Project Site. Shaffer Elementary School is located 2.4 miles to the southeast of the Project Site. **Figure 1** displays the location of the sensitive receptors used in this HRA. Receptors were placed at a height of 1.8 meters (typical breathing height). Terrain elevations for receptor locations were used based on available USGS information for the area.

Meteorological Data

Hourly meteorological data from Alturas Municipal Airport, located approximately 100 miles to the north the proposed project, were used in the dispersion modeling analysis.[11] Meteorological data from 2009 through 2013 were used.[12] **Figure 2** displays the annual wind rose. Wind directions are predominately from the west or south with a high frequency of calm wind speed conditions (over 40 percent), as shown in **Figure 3**. The average annual wind speed is 5.44 miles per hour.

Source Release Characteristics

The proposed project maintains a permit to operate (PTO-18-140: expiration date March 31, 2019) for onsite equipment such as the five diesel generators (two generators associated with the crushing plant, one generator associated with the hot mix asphalt plant, one generator associated with the portable plant, and one generator associated with the wash plant). According to PTO-18-140, the generators are 749 horsepower (hp), 750 hp, 755 hp, 475 hp, and 469 hp, respectively. The release height of the generators was assumed to be 3.05 meters (10 feet), while the exhaust temperature, exit diameter, exhaust flow rate were based on manufacturer specifications.[13] According to the PTO-18-140, the five diesel generators are required to be removed and/or replaced with Lassen County APCD-approved engines within specific dates ranging from July 2020 to January 2025. These requirements were incorporated into this HRA. **Figure 4** displays the Project Site including the location of the crushing plant, hot mix asphalt plant, and other processing units.

---

[11] Redding is located approximately 110 miles to the west of the Project Site. However, the meteorological conditions at Redding would not be representative of the Project Site given the elevation and proximity to mountainous terrain. The Project Site is at 4,365 feet in elevation, Alturas is at 4,375 feet, while Redding is at 500 feet. Redding's wind rose exhibit a south-north wind direction familiar to wide valley flow. Therefore, the Alturas is the most representative meteorological data readily available.

[12] California Air Resources Board, Air Quality Planning and Science Division, Meteorological Files, October 5, 2015, https://www.arb.ca.gov/toxics/harp/metfiles2.htm

[13] Caterpillar 3412 Generator Specification Sheets, https://www.cat.com/en_US/articles/configurations/ep-genset-ratings/3516b1.html and Caterpillar 3406 Generator Specification Sheets, https://www.cat.com/en_IN/articles/configurations/ep-genset-ratings/3406c.html

FIGURE 1
HEALTH RISK ASSESSMENT RECEPTORS

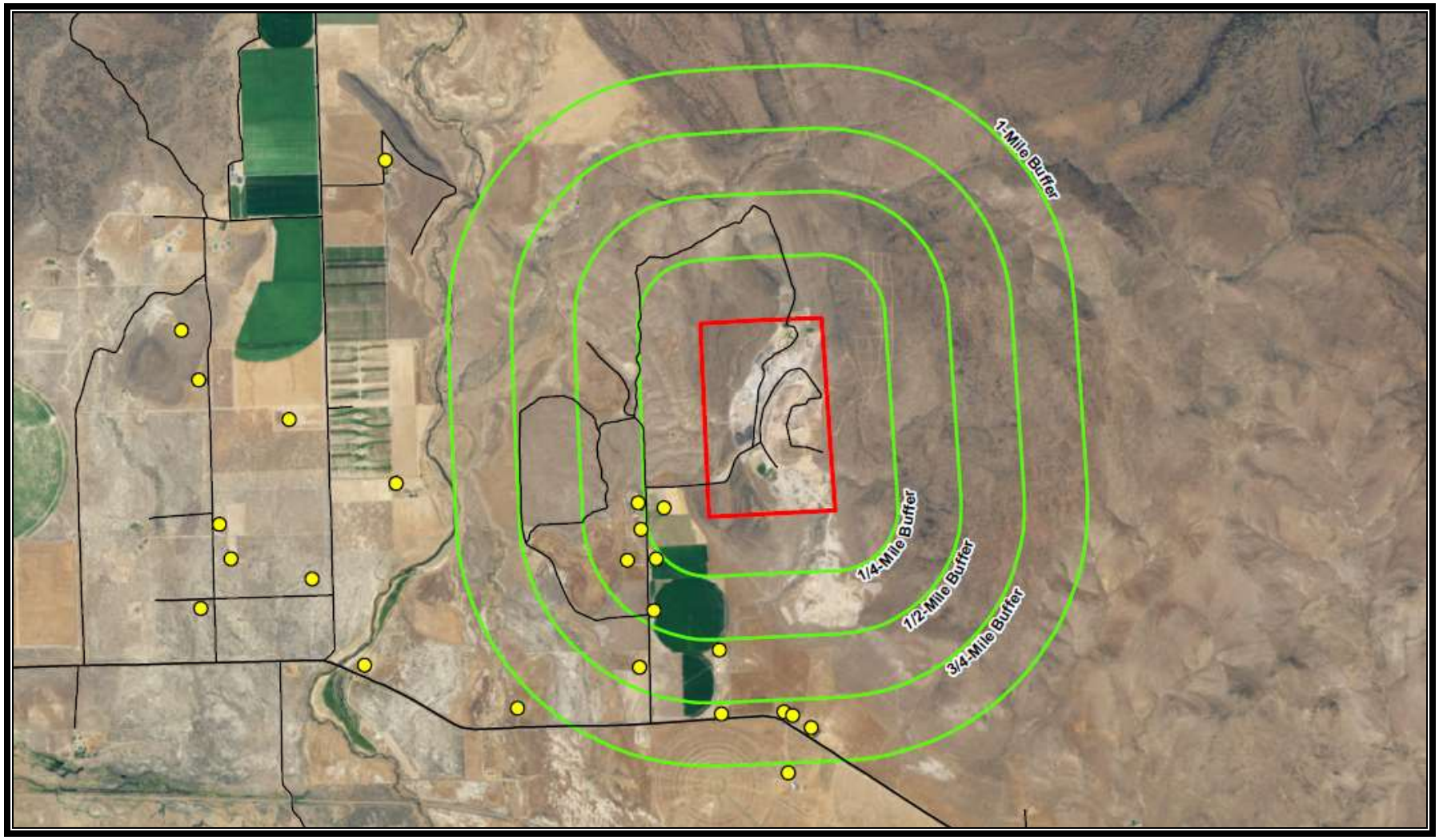


FIGURE 2
ANNUAL WINDROSE

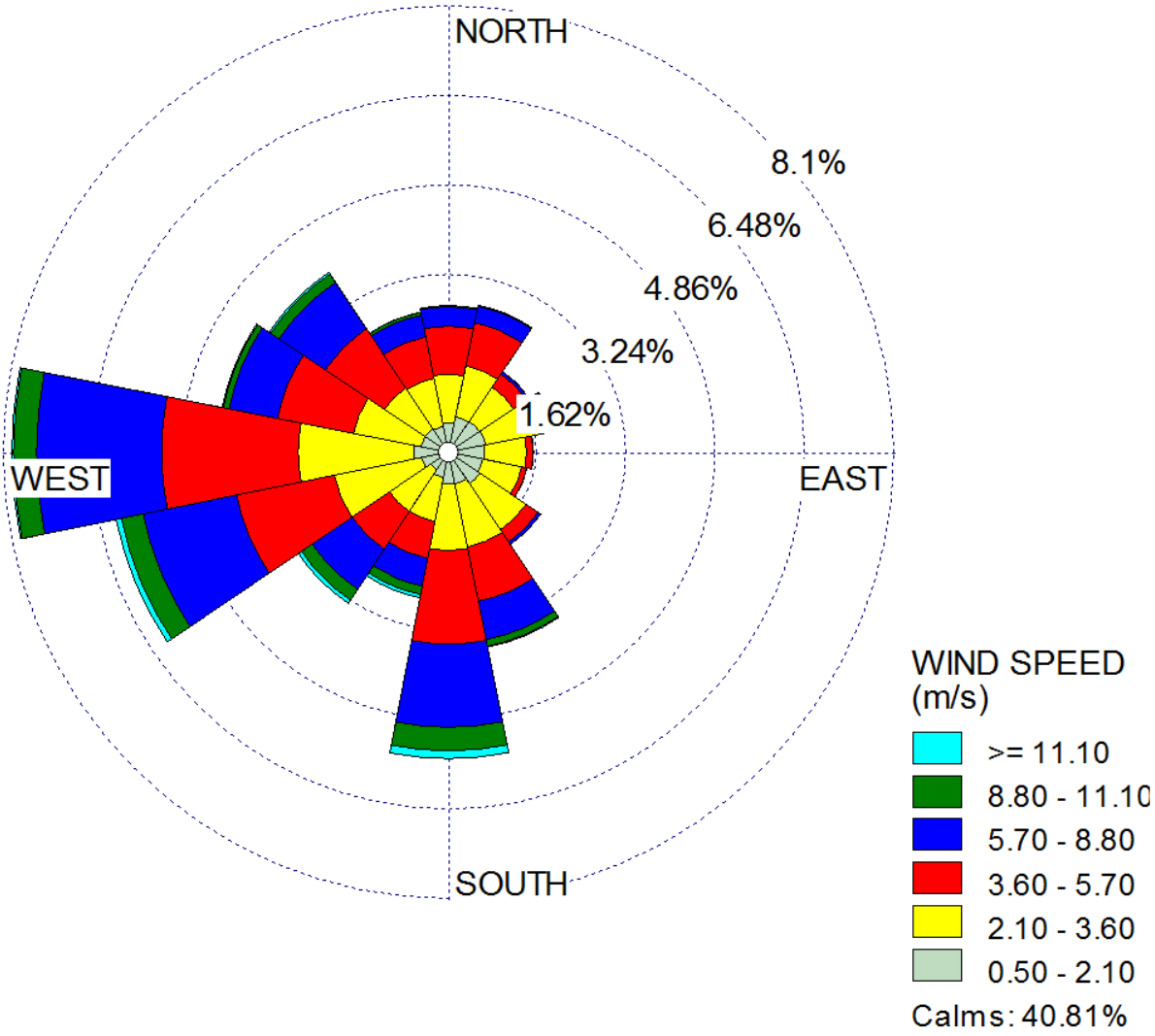


FIGURE 3
ANNUAL WIND SPEED DISTRIBUTION

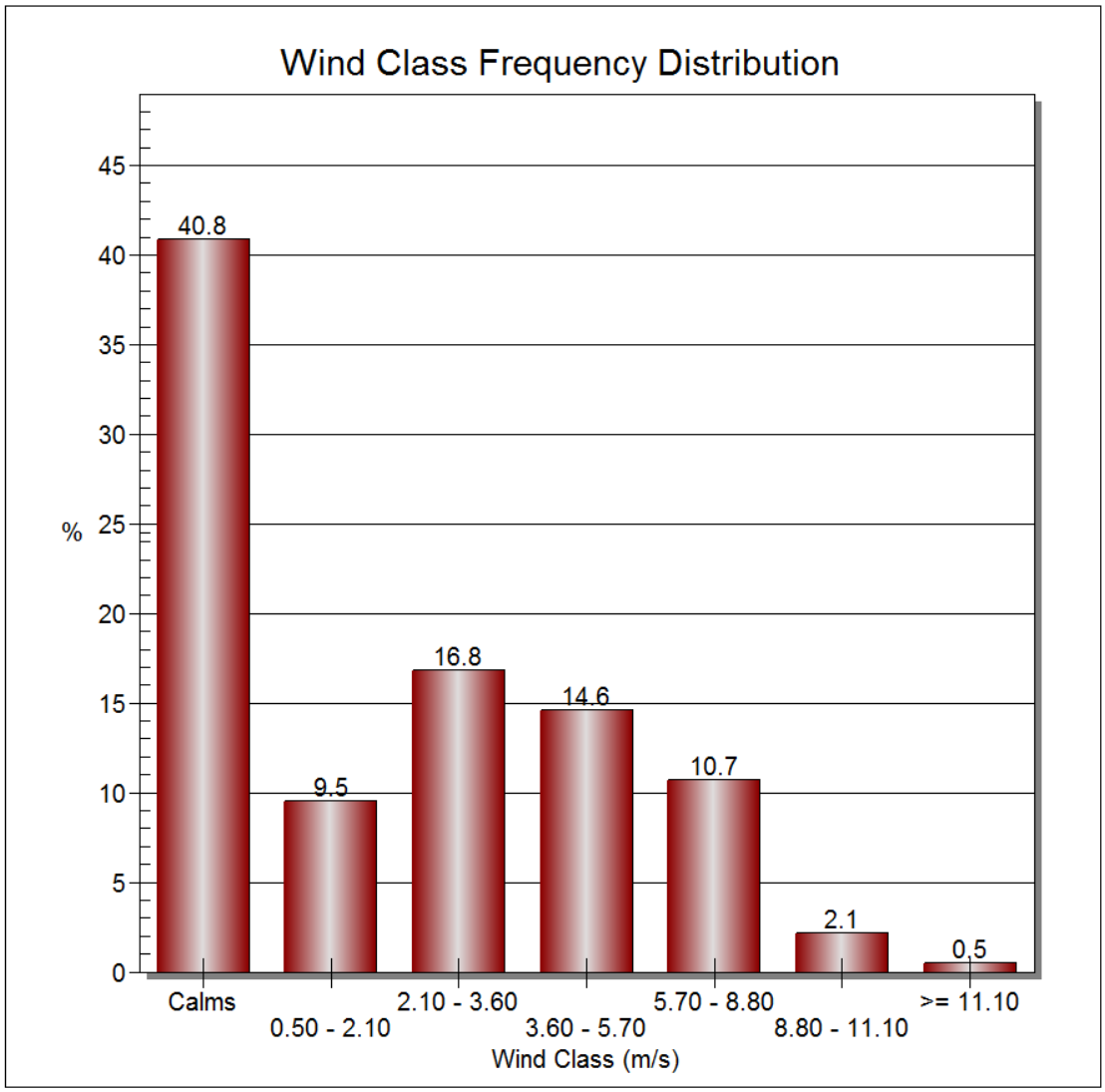


FIGURE 3
PROJECT SITE LAYOUT

Prior to these specific dates, the emission rates associated with the generators were based on information from USEPAs AP-42, Compilation of Air Pollutant Emission Factors[14] and after these specific dates, the emission rates associated with the generators were based on information from vender specifications.[15]

Haul trucks were treated as a line source (i.e., volume sources placed at regular intervals) located along an access road. The haul trucks were assigned a release height of 3.05 meters and an initial vertical dimension of 4.15 meters, which accounts for dispersion from the movement of vehicles.[16]

The baseline truck trips for the project include an average of 16 one-way trips per day. Typical operations would occur 12 hours per day (6 am to 7 pm), Monday through Saturday. Peak traffic volumes of up to 350 one-way truck trips per day also occur during daytime hours during peak operational periods. Truck traffic distribution includes 40 percent of trucks heading east on Center Road and 60 Percent heading west on Center Road.

Under the project, average and maximum truck volumes would remain the same, but 24-hour operations would be allowed. During 24-hour operations, all trucks would be routed west on Center Road during the nighttime hours (7 pm to 6 am). Trucks would turn west on Center Road and use Leavitt Lane to access Highway 395. Twenty-four hour operations are anticipated to occur approximately 30 to 45 days per year.

Haul truck emissions were computed using the CARB's emission factor model, EMFAC2014[17], to estimate on-road emissions (approximately 60 miles round trip). Emissions associated with haul trucks were calculated by combining the activity information with emissions factors, in grams per mile and grams per idle hour, derived using the CARB EMFAC emissions model. Emissions calculations were based on **Equation 1**. The EMFAC emissions factors are summarized on **Table 1** by analysis year. Particulate matter emissions also include brake and tire wear

---

[14] US Environmental Protection Agency, AP 42, Compilation of Air Pollutant Emission Factors, Fifth Edition, Volume I Chapter 3: Stationary Internal Combustion Source, https://www3.epa.gov/ttn/chief/ap42/ch03/index.html

[15] Caterpillar 3412 Generator Specification Sheets, https://www.cat.com/en_US/articles/configurations/ep-genset-ratings/3516b1.html and Caterpillar 3406 Generator Specification Sheets, https://www.cat.com/en_IN/articles/configurations/ep-genset-ratings/3406c.html

[16] While haul truck emissions contribute substantially to overall project emissions, they are spread over many miles. Hence, the portion of trucking emissions that would impact one receptor is much smaller than the emissions that the generator activity at the project site would impact a receptor near the site.

[17] California Air Resources Board, EMFAC2014 User's Guide, April 30, 2014, http://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol1-users-guide-052015.pdf

Equation 1

*Emission Rate (tons/year) = EMFAC Emission Factor (gram/mile) * trips per day * miles per trip * days/year * (453.59/2000 tons/gram)*

Table 1: Exhaust Emission Factors (g/mile) for Haul Trucks

Year	ROG	CO	NOx	CO2	PM10	PM2.5	SO2
2021	0.09	0.30	3.15	1,218	0.02	0.02	0.01
2022	0.08	0.29	2.87	1,213	0.01	0.01	0.01
2023	0.05	0.25	1.37	1,212	0.004	0.003	0.01
2024	0.05	0.25	1.38	1,208	0.004	0.003	0.01
2025	0.05	0.25	1.39	1,204	0.004	0.003	0.01
2026	0.05	0.25	1.40	1,200	0.004	0.003	0.01
2027	0.05	0.26	1.39	1,196	0.004	0.003	0.01
2028	0.05	0.26	1.38	1,192	0.004	0.003	0.01
2029	0.05	0.26	1.37	1,188	0.004	0.003	0.01
2030	0.05	0.26	1.36	1,183	0.003	0.003	0.01

Source: CARB EMFAC2014 Emissions Model.

Terrain elevations for emission source locations were used based on available USGS DEM for the area. AERMAP (Version 11103)[18] was used to develop the terrain elevations.

EXPOSURE PARAMETERS

This HRA was conducted following methodologies in OEHHA's *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*.[19] This was accomplished by applying the estimated concentrations at the receptors analyzed to the established cancer risk estimates and acceptable reference concentrations for non-cancer health effects.

OEHHA's revisions to its *Guidance Manual* were primarily designed to ensure that the greater sensitivity of children to cancer and other health risks is reflected in HRAs. For example, OEHHA now recommends that risks be analyzed separately for multiple age groups, focusing especially on young children and teenagers, rather than the past practice of analyzing risks to the general population, without distinction by age. OEHHA also now recommends that statistical "age sensitivity factors" be incorporated into a HRA, and that children's relatively high breathing rates be accounted for. On the other hand, the *Guidance Manual* revisions also include some changes that would reduce calculated health risks. For example, under the former guidance, OEHHA recommended that residential cancer risks be assessed by assuming 70 years

[18] United States Environmental Protection Agency, AERMAP. Accessed July 20, 2018 at https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models

[19] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, March 6, 2015, http://oehha.ca.gov/air/hot_spots/hotspots2015.html

of exposure at a residential receptor; under the *Guidance Manual*, this assumption is lessened to 30 years.

OEHHA has developed exposure factors (e.g., daily breathing rates) for six age groups including the last trimester to birth, birth to 2 years, 2 to 9 years, 2 to 16 years, 16 to 30 years, and 16 to 70 years. These age bins allow for more refined exposure information to be used when estimating exposure and the potential for developing cancer over a lifetime. This means that exposure variates are needed for the third trimester, ages zero to less than two, ages two to less than nine, ages two to less than 16, ages 16 to less than 30, and ages 16 to 70. Residential receptors utilize the 95th percentile breathing rate values. The breathing rates are age-specific and are 1,090 liters per kilogram-day for ages less than 2 years, 745 liters per kilogram-day for ages 2 to 16 years, 335 liters per kilogram-day for ages 16 to 30 years, and 290 liters per kilogram-day for ages 30 to 70 years. A school child breathing rate is 520 liters per kilogram-day and an off-site worker breathing rate is 230 liters per kilogram-day.

OEHHA developed age sensitivity factors (ASF) to take into account the increased sensitivity to carcinogens during early-in-life exposures. OEHHA recommends that cancer risks be weighted by a factor of 10 for exposures that occur from the third trimester of pregnancy to 2 years of age, and by a factor of 3 for exposures from 2 years through 15 years of age.

Based on OEHHA recommendations, the cancer risk to residential receptors assumes exposure occurs 24 hours per day for 350 days per year while accounting for a percentage of time at home. OEHHA evaluated information from activity pattern databases to estimate the fraction of time at home (FAH) during the day. This information was used to adjust exposure duration and cancer risk based on the assumption that a person is not present at home continuously for 24 hours and therefore exposure to emissions is not occurring when a person is away from their home. In general, the FAH factors are age-specific and are 0.85 for ages less than 2 years, 0.72 for ages 2 to 16 years, and 0.73 for ages 30 to 70 years.

OEHHA has decreased the exposure duration currently being used for estimating cancer risk at the maximum exposed individual resident from 70 years to 30 years. This is based on studies showing that 30 years is a reasonable estimate of the 90th to 95th percentile of residency duration in the population. Additionally, OEHHA recommends using the 9 and 70-year exposure duration to represent the potential impacts over the range of residency periods.

Given the exposure durations of less than 24 hours, sensitive recreational receptors were evaluated for acute impacts only. Based on OEHHA recommendations, for children at school sites, exposure is assumed to occur 10 hours per day for 180 days (or 36 weeks) per year. Cancer risk estimates for children at school sites are calculated based on 9 year exposure duration. School sites also include teachers and other adult staff which are treated as off-site workers.

RISK CHARACTERIZATION

Cancer risk is defined as the lifetime probability of developing cancer from exposure to carcinogenic substances. Cancer risks are expressed as the chance in one million of getting cancer (i.e., number of cancer cases among one million people exposed). The cancer risks are assumed to occur exclusively through the inhalation pathway. The cancer risk can be estimated by using the cancer potency factor (milligrams per kilogram of body weight per day [mg/kg-day]), the 30-year annual average concentration (microgram per cubic meter [$\mu g/m^3$]), and the lifetime exposure adjustment.

Following guidelines established by OEHHA, the incremental cancer risks attributable to the proposed project were calculated by applying exposure parameters to modeled DPM concentrations in order to determine the inhalation dose (mg/kg-day) or the amount of pollutants inhaled per body weight mass per day. The cancer risks occur exclusively through the inhalation pathway; therefore, the cancer risks can be estimated from the following equation:

$$\text{Dose-inh} = \frac{C_{air} * \{DBR\} * A * ASF * FAH * EF * ED * 10^{-6}}{AT}$$

where:

Dose-inh	= Dose of the toxic substance through inhalation in mg/kg-day
10^{-6}	= Micrograms to milligrams conversion, Liters to cubic meters conversion
C_{air}	= Concentration in air in microgram (μg)/cubic meter (m^3)
{DBR}	= Daily breathing rate in liter (L)/kg body weight – day
A	= Inhalation absorption factor, 1.0
ASF	= Age Sensitivity Factor
EF	= Exposure frequency (days/year)
ED	= Exposure duration (years)
FAH	= Fraction of Time at Home
AT	= Averaging time period over which exposure is averaged in days (25,550 days for a 70 year cancer risk)

To determine incremental cancer risk, the estimated inhalation dose attributed to the proposed project was multiplied by the cancer potency slope factor (cancer risk per mg/kg-day). The cancer potency slope factor is the upper bound on the increased cancer risk from a lifetime exposure to a pollutant. These slope factors are based on epidemiological studies and are

different values for different pollutants. This allows the estimated inhalation dose to be equated to a cancer risk.

Non-cancer adverse health impacts, acute (short-term) and chronic (long-term), are measured against a hazard index (HI), which is defined as the ratio of the predicted incremental exposure concentration from the proposed project to a published reference exposure level (REL) that could cause adverse health effects as established by OEHHA. The ratio (referred to as the Hazard Quotient [HQ]) of each non-carcinogenic substance that affects a certain organ system is added to produce an overall HI for that organ system. The overall HI is calculated for each organ system. If the overall HI for the highest-impacted organ system is greater than one, then the impact is considered to be significant.

The HI is an expression used for the potential for non-cancer health effects. The relationship for the non-cancer health effects is given by the annual concentration (in $\mu g/m^3$) and the REL (in $\mu g/m^3$). The acute hazard index was determined using the "simple" concurrent maximum approach, which tends to be conservative (i.e., overpredicts).

The relationship for the non-cancer health effects is given by the following equation:

$$HI = C/REL$$

Where:

HI = Hazard index; an expression of the potential for non-cancer health effects.

C = Annual average concentration ($\mu g/m^3$) during the 70 year exposure period.

REL = Concentration at which no adverse health effects are anticipated.

The chronic REL for DPM was established by the California OEHHA as 5 $\mu g/m^3$.[20] There is no acute REL for DPM. However, diesel exhaust does contain acrolein and other compounds, which do have an acute REL. DPM speciation table (based on profile 4674 within the USEPA Speciate 4.2)[21] was used to assess the acute impacts. Acrolein emissions are approximately 1.3 percent of the total diesel fuel emissions. The acute REL for acrolein was established by the California OEHHA as 2.5 $\mu g/m^3$.[22]

[20] Office of Environmental Health Hazards Assessment - Acute, 8-hour, and Chronic Reference Exposure Levels, June 2014, http://www.oehha.ca.gov/air/allrels.html

[21] Provides for a speciation faction of 1.3 percent of acrolein per DPM emission rate

[22] Office of Environmental Health Hazards Assessment - Acute, 8-hour, and Chronic Reference Exposure Levels, June 2014, http://www.oehha.ca.gov/air/allrels.html

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
2.5	Acute Reference Exposure Level (ug/m3) for Acrolien	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	30<70 Years
0.85	fraction of time at home	0<2 Years
0.72	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project: Ward Lake Pit
Date: February 12, 2019
Receptor: Existing Residence

Exposure Year	Calender Year	Maximum 1-Hour Acrolien Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2021	5.99	0.02	1,090	10.0	0.85	3.32
2	2022	0.07	0.02	1,090	10.0	0.85	3.03
3	2023	0.05	0.02	745	4.75	0.72	0.73
4	2024	0.05	0.02	745	3.00	0.72	0.41
5	2025	0.03	0.01	745	3.00	0.72	0.28
6	2026	0.01	0.004	745	3.00	0.72	0.09
7	2027	0.01	0.004	745	3.00	0.72	0.09
8	2028	0.01	0.004	745	3.00	0.72	0.09
9	2029	0.01	0.004	745	3.00	0.72	0.09
10	2030	0.01	0.004	745	3.00	0.72	0.09
11	2031			745	3.00	0.72	
12	2032			745	3.00	0.72	
13	2033			745	3.00	0.72	
14	2034			745	3.00	0.72	
15	2035			745	3.00	0.72	
16	2036			745	3.00	0.72	
17	2037			335	1.70	0.73	
18	2038			335	1.00	0.73	
19	2039			335	1.00	0.73	
20	2040			335	1.00	0.73	
21	2041			335	1.00	0.73	
22	2042			335	1.00	0.73	
23	2043			335	1.00	0.73	
24	2044			335	1.00	0.73	
25	2045			335	1.00	0.73	
26	2046			335	1.00	0.73	
27	2047			335	1.00	0.73	
28	2048			335	1.00	0.73	
29	2049			335	1.00	0.73	
30	2050			335	1.00	0.73	

0.02	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
2.40	Acute Hazard Impact
1	Significance Threshold
Yes	Significant?
8.13	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.70	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
8.22	30-Year Exposure Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
2.5	Acute Reference Exposure Level (ug/m3) for Acrolien
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
180	days per year
25,550	days per lifetime
581	98th Percentile Daily Breathing Rates (L 2<16 Years

Project: Ward Lake Pit
Date: February 12, 2019
Receptor: Existing School

Exposure Year	Calender Year	Maximum 1-Hour Acrolien Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk
1	2021	0.03	0.005	581	3.00	0.83	0.05
2	2022	0.03	0.004	581	3.00	0.83	0.05
3	2023	0.03	0.004	581	3.00	0.83	0.04
4	2024	0.02	0.003	581	3.00	0.83	0.04
5	2025	0.02	0.002	581	3.00	0.83	0.02
6	2026	0.01	0.001	581	3.00	0.83	0.01
7	2027	0.01	0.001	581	3.00	0.83	0.01
8	2028	0.01	0.001	581	3.00	0.83	0.01
9	2029	0.01	0.001	581	3.00	0.83	0.01
10	2030	0.01	0.001	581	3.00	0.83	0.01

0.01	Acute Hazard Impact
1	Significance Threshold
No	Significant?
0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.25	Cancer Risk
10	Significance Threshold
No	Significant?

DIESEL GENERATOR SET

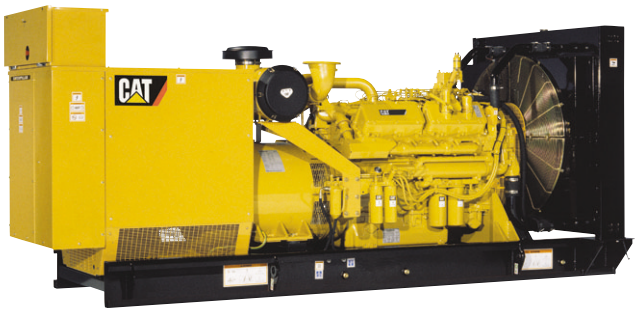


Image shown may not reflect actual package.

PRIME
591 ekW 739 kVA
60 Hz 1800 rpm 480 Volts

Caterpillar is leading the power generation marketplace with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost-effectiveness.

FEATURES

FUEL/EMISSIONS STRATEGY
- Low Fuel consumption

UL 2200 / CSA - Optional
- UL 2200 listed packages
- CSA Certified

Certain restrictions may apply. Consult with your Cat® Dealer.

FULL RANGE OF ATTACHMENTS
- Wide range of bolt-on system expansion attachments, factory designed and tested
- Flexible packaging options for easy and cost effective installation

SINGLE-SOURCE SUPPLIER
- Fully prototype tested with certified torsional vibration analysis available

WORLDWIDE PRODUCT SUPPORT
- Cat dealers provide extensive post sale support including maintenance and repair agreements
- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- The Cat® S•O•S℠ program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

CAT® 3412C TA DIESEL ENGINE
- Reliable, rugged, durable design
- Field-proven in thousands of applications worldwide
- Four-stroke-cycle diesel engine combines consistent performance and excellent fuel economy with minimum weight

CAT GENERATOR
- Designed to match the performance and output characteristics of Cat diesel engines
- Single point access to accessory connections
- UL 1446 recognized Class H insulation

CAT EMCP 4 CONTROL PANELS
- Simple user friendly interface and navigation
- Scalable system to meet a wide range of customer needs
- Integrated Control System and Communications Gateway

PRIME 591 ekW 739 kVA

60 Hz 1800 rpm 480 Volts

FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	• Air cleaner	
Cooling	• Package mounted radiator	
Exhaust	• Exhaust flange outlet	[ ] Exhaust mufflers (except Tier 4)
Fuel	• Primary fuel filter with integral water separator • Secondary fuel filters • Fuel priming pump	
Generator	• Matched to the performance and output characteristics of Cat engines • Load adjustment module provides engine relief upon load impact and improves laod acceptance and recovery time • IP23 protection	[ ] Oversize and premium generators [ ] Permanent magnet excitation (PMG) [ ] Internal excited (IE) [ ] Anti-condensation space heaters
Power Termination	• Bus bar	[ ] Circuit breakers, UL listed [ ] Circuit breakers, IEC compliant
Control Panel	• EMCP 4 Genset Controller	[ ] EMCP 4.2 [ ] EMCP 4.3 [ ] EMCP 4.4 [ ] Generator temperature monitoring and protection [ ] Load share module [ ] Digital I/O module [ ] Remote monitoring software
Mounting		[ ] Rubber vibration isolators
Starting/Charging		[ ] Battery chargers [ ] Oversize batteries [ ] Jacket water heater [ ] Heavy duty starting system [ ] Charging alternator [ ] Air starting motor with control and silencer (3500 & C175 models only)
General	• Paint - Caterpillar Yellow except rails and radiators gloss black	The following options are based on regional and product configuration: [ ] Seismic Certification per Applicable Building Codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, CBC 2007 [ ] EU Certificate of Conformance (CE) [ ] UL 2200 package [ ] CSA Certification [ ] EEC Declaration of Conformity [ ] Enclosures- sound attenuated, weather protective [ ] Automatic transfer switches (ATS) [ ] Integral & sub-base fuel tanks [ ] Integral & sub-base UL listed dual wall fuel tanks

PRIME 591 ekW 739 kVA

60 Hz 1800 rpm 480 Volts

SPECIFICATIONS

CAT GENERATOR

Frame size..... 594
Excitation..... Self Excitation
Pitch..... 0.7333
Number of poles..... 4
Number of bearings..... Single bearing
Number of Leads..... 012
Insulation..... UL 1446 Recognized Class H with tropicalization and antiabrasion
- Consult your Caterpillar dealer for available voltages

IP Rating..... Drip Proof IP22
Alignment..... Pilot Shaft
Overspeed capability..... 150
Wave form Deviation (Line to Line)..... Less than 5% deviation
Voltage regulation..... Less than +/- 1/2% (steady state)
Less than +/- 1% (no load to full load)

CAT DIESEL ENGINE

3412C TA, V-12, 4-Stroke Water-cooled Diesel
Bore..... 137.20 mm (5.4 in)
Stroke..... 152.40 mm (6.0 in)
Displacement..... 27.02 L (1648.86 in^3)
Compression Ratio..... 14.5:1
Aspiration..... TA
Fuel System..... Pump and Lines
Governor Type..... PEEC - Cat Electronic

CAT EMCP 4 SERIES CONTROLS

EMCP 4 controls including:
- Run / Auto / Stop Control
- Speed and Voltage Adjust
- Engine Cycle Crank
- 24-volt DC operation
- Environmental sealed front face
- Text alarm/event descriptions

Digital indication for:
- RPM
- DC volts
- Operating hours
- Oil pressure (psi, kPa or bar)
- Coolant temperature
- Volts (L-L & L-N), frequency (Hz)
- Amps (per phase & average)
- ekW, kVA, kVAR, kW-hr, %kW, PF

Warning/shutdown with common LED indication of:
- Low oil pressure
- High coolant temperature
- Overspeed
- Emergency stop
- Failure to start (overcrank)
- Low coolant temperature
- Low coolant level

Programmable protective relaying functions:
- Generator phase sequence
- Over/Under voltage (27/59)
- Over/Under Frequency (81 o/u)
- Reverse Power (kW) (32)
- Reverse reactive power (kVAr) (32RV)
- Overcurrent (50/51)

Communications:
- Six digital inputs (4.2 only)
- Four relay outputs (Form A)
- Two relay outputs (Form C)
- Two digital outputs
- Customer data link (Modbus RTU)
- Accessory module data link
- Serial annunciator module data link
- Emergency stop pushbutton

Compatible with the following:
- Digital I/O module
- Local Annunciator
- Remote CAN annunciator
- Remote serial annunciator

PRIME 591 ekW 739 kVA

60 Hz 1800 rpm 480 Volts

TECHNICAL DATA

Open Generator Set - - 1800 rpm/60 Hz/480 Volts	DM7378	
Package Performance		
Genset Power rating with fan	591 ekW	
Genset Power rating @ 0.8 pf	738.75 kVA	
Fuel Consumption		
100% load with fan	159.8 L/hr	42.2 Gal/hr
75% load with fan	124.3 L/hr	32.8 Gal/hr
50% load with fan	89.4 L/hr	23.6 Gal/hr
Cooling System[1]		
Air flow restriction (system)	0.12 kPa	0.48 in. water
Air flow (max @ rated speed for radiator arrangement)	1266 m^3/min	44708 cfm
Engine coolant capacity	57.0 L	15.1 gal
Radiator coolant capacity	84.0 L	22.2 gal
Engine Coolant capacity with radiator/exp. tank	141.0 L	37.2 gal
Exhaust System		
Combustion air inlet flow rate	45.7 m^3/min	1613.9 cfm
Exhaust stack gas temperature	537.7 ° C	999.9 ° F
Exhaust gas flow rate	132.2 m^3/min	4668.6 cfm
Exhaust flange size (internal diameter)	203.2 mm	8.0 in
Exhaust system backpressure (maximum allowable)	6.7 kPa	26.9 in. water
Heat rejection		
Heat rejection to coolant (total)	370 kW	21042 Btu/min
Heat rejection to exhaust (total)	595 kW	33838 Btu/min
Heat rejection to atmosphere from engine	89 kW	5061 Btu/min
Heat rejection to atmosphere from generator	31.8 kW	1808.5 Btu/min
Alternator[2]		
Motor starting capability @ 30% voltage dip	1480 skVA	
Frame	594	
Temperature Rise	105 ° C	189 ° F
Lube System		
Sump refill with filter	69.0 L	18.2 gal
Emissions[3]		
NOx g/hp-hr	8.92 g/hp-hr	
CO g/hp-hr	.66 g/hp-hr	
HC g/hp-hr	.06 g/hp-hr	
PM g/hp-hr	.078 g/hp-hr	

[1] For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.

[2] UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40ºC ambient per NEMA MG1-32.

[3] Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77ºF, 28.42 in HG and number 2 diesel fuel with 35º API and LHV of 18,390 btu/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.

RATING DEFINITIONS AND CONDITIONS

Applicable Codes and Standards: AS1359, CSA C22.2 No 100-04, UL142, UL489, UL601, UL869, UL2200, NFPA 37, NFPA 70, NFPA 99, NFPA 110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-22, NEMA MG 1-33, 72/23/EEC, 98/37/EC, 2004/108/EC

Prime - Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year.

Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions.

Fuel Rates are based on fuel oil of 35° API (16° C or 60° F) gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.).

Additional Ratings may be available for specific customer requirements. Consult your Cat representative for details.

PRIME 591 ekW 739 kVA

60 Hz 1800 rpm 480 Volts

DIMENSIONS

Package Dimensions		
Length	**4485.0 mm**	**176.57 in**
Width	**1798.1 mm**	**70.79 in**
Height	**1986.7 mm**	**78.22 in**

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #2923107).

Performance No.: DM7378

Feature Code: 412DEAA

Gen. Arr. Number: 1492437

Source: European Sourced

February 27 2013 21358076

www.Cat-ElectricPower.com

2013 Caterpillar
All rights reserved.

Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication.

CAT, CATERPILLAR, their respective logos, "Caterpillar Yellow," the "Power Edge" trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

DIESEL GENERATOR SET

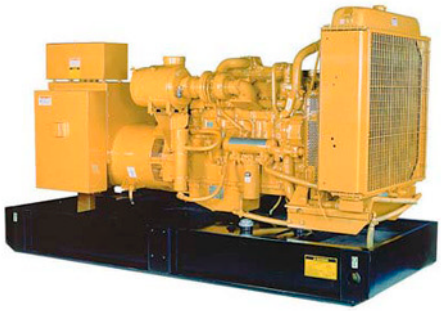


Image shown may not reflect actual package.

PRIME
365 ekW 456 kVA
60 Hz 1800 rpm 480 Volts

Caterpillar is leading the power generation marketplace with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost-effectiveness.

FEATURES

FUEL/EMISSIONS STRATEGY
- Low Fuel consumption

UL 2200
- UL 2200 listed packages available. Certain restrictions may apply. Consult with your Cat® Dealer.

FULL RANGE OF ATTACHMENTS
- Wide range of bolt-on system expansion attachments, factory designed and tested
- Flexible packaging options for easy and cost effective installation

COMPLETE, READY-TO-RUN SYSTEM
- Fully configured generator set
- Full range of attachments and options available

ENCLOSURES (optional)
- Weather protective and sound attenuated

SINGLE-SOURCE SUPPLIER
- Fully prototype tested with certified torsional vibration analysis available

WORLDWIDE PRODUCT SUPPORT
- Cat dealers provide extensive post sale support including maintenance and repair agreements
- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- The Cat® S•O•S℠ program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

CAT® 3406C TA DIESEL ENGINE
- High efficiency, four-stroke-cycle engine designed for thousands of trouble-free hours of operation
- Field-proven in thousands of applications

CAT GENERATOR
- Matched to the performance and output characteristics of Cat engines
- Load adjustment module provides engine relief upon load impact and improves load acceptance and recovery time
- UL 1446 Recognized Class H insulation

CAT EMCP 4 CONTROL PANELS
- Simple user friendly interface and navigation
- Scalable system to meet a wide range of customer needs
- Integrated Control System and Communications Gateway•

PRIME 365 ekW 456 kVA

60 Hz 1800 rpm 480 Volts

FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	• Light duty air cleaner	[ ] Regular duty canister style, single stage with service indicator [ ] Dual element [ ] Heavy-duty and Muffler [ ] Air Inlet Shut-off
Cooling	• Coolant drain line with valve • Fan and belt guards • Radiator with guard • Coolant drain line with valve • Fan and belt guards • Cat® Extended Life Coolant* • Coolant level sight gauge	[ ] Low coolant level shutdown [ ] Duct flange
Exhaust	• Stainless steel exhaust flex • ANSI style outlet flange, gasket, bolts and mating weld flange; shipped loose	[ ] 10 DBA Industrial muffler [ ] 25 DBA Residential muffler [ ] Critical muffler [ ] Flexible fitting [ ] Elbow kit [ ] Throughwall Installation kit [ ] Manifold and Turbo Guard
Fuel	• Fuel priming pump • Fuel pressure gauge • Primary and secondary fuel filters • Flexible fuel lines	[ ] Water separator [ ] Fuel level switch [ ] Flexible fuel lines [ ] Manual or auto fuel pumps [ ] Single wall tank bases
Generator	• Three phase sensing • Class H insulation • VR6 3-phase sensing voltage regulator with load adjustment module • IP23 Protection • Circuit Breaker IEC, 3-pole • Segregated L.V. (AC/DC) wiring panel	[ ] Anti-condensation heater [ ] Permanent Magnet excitation [ ] RFI Filter [ ] Coastal Protection [ ] Terminal strip connection [ ] Oversize generator [ ] Circuit breaker, UL and IEC Listed, 3 & 4-pole with shunt trip [ ] Multiple breaker capability [ ] Digital Voltage Regulator
Governor	• Hydra-mechanical (3% speed regulation)	[ ] Electronic isochronous governor [ ] Load sharing module
Control Panels	• EMCP 4.1 • User Interface panel (UIP) - rear mount (standard) • Emergency Stop Pushbutton	[ ] EMCP 4.2 [ ] Local & remote annunciator modules [ ] Load share module [ ] Discrete I/O module [ ] Generator temperature monitoring & protection
Lube	• Lubricating oil and filter • Oil drain line with valve piped to edge of base • Fumes disposal piped to front of radiator	[ ] Manual sump pump [ ] Oil temperature sensor
Mounting	• Narrow integral fuel tank base (950L) • Linear vibration isolators between base and engine-generator	[ ] Narrow base [ ] Wide Base [ ] Lifting arch [ ] Oil field skid base
Starting/Charging	• 45 amp charging alternator • 24 volt starting motor • Batteries with rack and cables • Safety shutoff protection	[ ] Battery chargers (5 or 10 amp) [ ] Oversize batteries [ ] Battery disconnect switch [ ] Ether starting aid [ ] Jacket water heater
General		[ ] Enclosures - sound attenuated, weather protective [ ] EU Certificate of Conformance (CE)

PRIME 365 ekW 456 kVA

60 Hz 1800 rpm 480 Volts

SPECIFICATIONS

CAT GENERATOR

Frame size..... LC6114D
Excitation..... Self Excitation
Pitch..... 0.6667
Number of poles..... 4
Number of bearings..... Single bearing
Number of Leads..... 012
Insulation..... UL 1446 Recognized Class H with tropicalization and antiabrasion
- Consult your Caterpillar dealer for available voltages
IP Rating..... IP23
Alignment..... Pilot Shaft
Overspeed capability..... 125
Wave form Deviation (Line to Line)..... 002.00
Voltage regulator..... Three phase sensing
Voltage regulation..... Less than +/- 1/2% (steady state)
Less than +/- 1% (no load to full load)
Telephone influence factor..... Less than 50
Harmonic Distortion..... Less than 5%

CAT DIESEL ENGINE

3406C TA, I-6, 4-Stroke Water-cooled Diesel
Bore..... 137.20 mm (5.4 in)
Stroke..... 165.10 mm (6.5 in)
Displacement..... 14.64 L (893.39 in^3)
Compression Ratio..... 14.6:1
Aspiration..... TA
Governor Type..... Hydra-mechanical

CAT EMCP 4 SERIES CONTROLS

EMCP 4 controls including:
- Run / Auto / Stop Control
- Speed and Voltage Adjust
- Engine Cycle Crank
- 24-volt DC operation
- Environmental sealed front face
- Text alarm/event descriptions

Digital indication for:
- RPM
- DC volts
- Operating hours
- Oil pressure (psi, kPa or bar)
- Coolant temperature
- Volts (L-L & L-N), frequency (Hz)
- Amps (per phase & average)
- ekW, kVA, kVAR, kW-hr, %kW, PF (4.2 only)

Warning/shutdown with common LED indication of:
- Low oil pressure
- High coolant temperature
- Overspeed
- Emergency stop
- Failure to start (overcrank)
- Low coolant temperature
- Low coolant level

Programmable protective relaying functions:
- Generator phase sequence
- Over/Under voltage (27/59)
- Over/Under Frequency (81 o/u)
- Reverse Power (kW) (32) (4.2 only)
- Reverse reactive power (kVAr) (32RV)
- Overcurrent (50/51)

Communications:
- Four digital inputs (4.1)
- Six digital inputs (4.2 only)
- Four relay outputs (Form A)
- Two relay outputs (Form C)
- Two digital outputs
- Customer data link (Modbus RTU) (4.2 only)
- Accessory module data link (4.2 only)
- Serial annunciator module data link (4.2 only)
- Emergency stop pushbutton

Compatible with the following:
- Digital I/O module
- Local Annunciator
- Remote CAN annunciator
- Remote serial annunciator

PRIME 365 ekW 456 kVA

60 Hz 1800 rpm 480 Volts

TECHNICAL DATA

Open Generator Set - - 1800 rpm/60 Hz/480 Volts	DM2274	
Low Fuel Consumption		
Generator Set Package Performance		
Genset Power rating @ 0.8 pf	456.25 kVA	
Genset Power rating with fan	365 ekW	
Fuel Consumption		
100% load with fan	98.4 L/hr	26.0 Gal/hr
75% load with fan	72.5 L/hr	19.2 Gal/hr
50% load with fan	50.6 L/hr	13.4 Gal/hr
Cooling System[1]		
Air flow restriction (system)	0.12 kPa	0.48 in. water
Air flow (max @ rated speed for radiator arrangement)	684 m³/min	24155 cfm
Engine Coolant capacity with radiator/exp. tank	57.8 L	15.3 gal
Engine coolant capacity	20.8 L	5.5 gal
Radiator coolant capacity	37.0 L	9.8 gal
Inlet Air		
Combustion air inlet flow rate	30.2 m³/min	1066.5 cfm
Exhaust System		
Exhaust stack gas temperature	540.1 ° C	1004.2 ° F
Exhaust gas flow rate	86.9 m³/min	3068.8 cfm
Heat rejection to aftercooler	48 kW	2730 Btu/min
Exhaust flange size (internal diameter)	152.4 mm	6.0 in
Exhaust system backpressure (maximum allowable)	6.7 kPa	26.9 in. water
Heat rejection		
Heat rejection to coolant (total)	225 kW	12796 Btu/min
Heat rejection to exhaust (total)	346 kW	19677 Btu/min
Heat rejection to atmosphere from engine	81 kW	4606 Btu/min
Heat rejection to atmosphere from generator	22.5 kW	1279.6 Btu/min
Alternator[2]		
Motor starting capability @ 30% voltage dip	1089 skVA	
Frame	LC6114D	
Temperature Rise	80 ° C	144 ° F
Lube System		
Sump refill with filter	38.0 L	10.0 gal
Emissions[3]		
NOx g/hp-hr	6.17 g/hp-hr	
CO g/hp-hr	.92 g/hp-hr	
HC g/hp-hr	.05 g/hp-hr	
PM g/hp-hr	.106 g/hp-hr	

[1] For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.

[2] UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40°C ambient per NEMA MG1-32.

[3] Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77°F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 btu/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.

RATING DEFINITIONS AND CONDITIONS

Meets or Exceeds International Specifications: AS1359, CSA, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-22, NEMA MG 1-33, UL508A, 72/23/EEC, 98/37/EC, 2004/108/EC

Prime - Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year. Prime power in accordance with ISO3046. Prime ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the alarm temperature.

Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions.

Fuel rates are based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Cat representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

PRIME 365 ekW 456 kVA

60 Hz 1800 rpm 480 Volts

DIMENSIONS

Package Dimensions		
Length	**4264.3 mm**	**167.89 in**
Width	**1110.0 mm**	**43.7 in**
Height	**2150.0 mm**	**84.65 in**
Weight	**3454 kg**	**7,615 lb**

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #3202728).

Performance No.: DM2274

Feature Code: 406DER8

Gen. Arr. Number: 2351207

Source: U.S. Sourced

June 10 2011

17789111

www.Cat-ElectricPower.com

© 2011 Caterpillar
All rights reserved.

Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication.

CAT, CATERPILLAR, their respective logos, "Caterpillar Yellow," the "Power Edge" trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

District-Approved Emissions for Diesel Generators

Pollutants	EF (lb/hp-hr)	HP	Annual Emissions (tons)	Daily Emissions (lbs)
NOx	0.02	749	31.2	354
CO	1.46E-03	749	2.31	26.2
SOx	0.01	749	19.2	218
PM10/PM2.5	1.72E-04	749	0.27	3.09
CO2	1.16	749	1,840	20,852
TOC (ROG)	1.32E-04	749	0.21	2.38

Pollutants	EF (lb/hp-hr)	HP	Annual Emissions (tons)	Daily Emissions (lbs)
NOx	0.02	750	31.2	354
CO	1.46E-03	750	2.31	26.2
SOx	0.01	750	19.3	218
PM10/PM2.5	1.72E-04	750	0.27	3.10
CO2	1.16	750	1,842	20,880
TOC (ROG)	1.32E-04	750	0.21	2.38

Pollutants	EF (lb/hp-hr)	HP	Annual Emissions (tons)	Daily Emissions (lbs)
NOx	0.02	755	31.4	356
CO	1.46E-03	755	2.33	26.4
SOx	0.01	755	19.4	220
PM10/PM2.5	1.72E-04	755	0.27	3.12
CO2	1.16	755	1,855	21,019
TOC (ROG)	1.32E-04	755	0.21	2.40

Pollutants	EF (lb/hp-hr)	HP	Annual Emissions (tons)	Daily Emissions (lbs)
NOx	0.01	475	13.7	155
CO	2.03E-03	475	2.04	23.1
SOx	2.05E-03	475	2.06	23.4
PM10/PM2.5	2.34E-04	475	0.24	2.66
CO2	1.15	475	1,157	13,110
TOC (ROG)	1.10E-04	475	0.11	1.26

Pollutants	EF (lb/hp-hr)	HP	Annual Emissions (tons)	Daily Emissions (lbs)
NOx	0.01	469	13.5	153
CO	2.03E-03	469	2.02	22.8
SOx	2.05E-03	469	2.04	23.1
PM10/PM2.5	2.34E-04	469	0.23	2.63
CO2	1.15	469	1,143	12,954
TOC (ROG)	1.10E-04	469	0.11	1.24

Existing Emissions for Diesel Generators

Pollutants	EF (lb/hp-hr)	HP	Annual Emissions (tons)	Daily Emissions (lbs)
NOx	0.024	749	38.1	431
CO	0.0055	749	8.72	98.9
SOx	0.012135	749	19.2	218
PM10/PM2.5	0.0007	749	1.11	12.6
CO2	1.16	749	1,840	20,852
TOC (ROG)	7.05E-04	749	1.12	12.7

Pollutants	EF (lb/hp-hr)	HP	Annual Emissions (tons)	Daily Emissions (lbs)
NOx	0.024	750	38.1	432
CO	0.0055	750	8.74	99.0
SOx	0.012135	750	19.3	218
PM10/PM2.5	0.0007	750	1.11	12.6
CO2	1.16	750	1,842	20,880
TOC (ROG)	7.05E-04	750	1.12	12.7

Pollutants	EF (lb/hp-hr)	HP	Annual Emissions (tons)	Daily Emissions (lbs)
NOx	0.024	755	38.4	435
CO	0.0055	755	8.79	99.7
SOx	0.012135	755	19.4	220
PM10/PM2.5	0.0007	755	1.12	12.7
CO2	1.16	755	1,855	21,019
TOC (ROG)	7.05E-04	755	1.13	12.8

Pollutants	EF (lb/hp-hr)	HP	Annual Emissions (tons)	Daily Emissions (lbs)
NOx	0.031	475	31.2	353
CO	6.68E-03	475	6.72	76.2
SOx	2.05E-03	475	2.06	23.4
PM10/PM2.5	2.20E-03	475	2.21	25.1
CO2	1.15	475	1,157	13,110
TOC (ROG)	2.47E-03	475	2.48	28.2

Pollutants	EF (lb/hp-hr)	HP	Annual Emissions (tons)	Daily Emissions (lbs)
NOx	0.031	469	30.8	349
CO	6.68E-03	469	6.64	75.2
SOx	2.05E-03	469	2.04	23.1
PM10/PM2.5	2.20E-03	469	2.19	24.8
CO2	1.15	469	1,143	12,954
TOC (ROG)	2.47E-03	469	2.46	27.8

Appendix G

Wildlife Survey Report

WILDLIFE SURVEY REPORT

WARD LAKE MINE
PROPOSED CHANGES TO USE PERMIT OPERATING HOURS
LASSEN COUNTY, CALIFORNIA

Prepared for

TLT Enterprises, LLC

Prepared by

VESTRA Resources, Inc.
5300 Aviation Drive
Redding, California 96002

JUNE 2018

PURPOSE

Currently, the pit is permitted to operate from 0600 until 1900 hours, six days per week, on a year-round basis. Nighttime work is currently limited to minor indoor activities. An amendment to the Plan of Operations proposes an expansion to 24-hour operations, six days per week, during specific projects requiring nighttime work. This is anticipated to be less than fifty days per operating season. Nighttime operations will include the use of trucks, a batch plant, a crusher, and loaders. Additional lighting will be required. No grading, blasting, or excavation is allowed during nighttime hours. No habitat will be removed, as no additional ground disturbance is proposed.

The site was surveyed during nighttime and daytime hours using pedestrian field-surveying methods and temporary installation of a game camera with the purpose of assessing potential impacts of additional nighttime noise and light to biological resources. This report serves to present survey findings, describe habitat types that occur within the project area, determine special-status plant and animal species that have the potential to occur in the project area, and discuss mitigation measures to avoid potential impacts to those species and their habitat.

PROJECT DESCRIPTION

Site Characteristics

The Ward Lake Pit is located approximately three miles east of Ward Lake, off of Ward Lake Road, in Lassen County. The quarry is located in Section 32, Township 30 North, Range 14 East, MDBM. The latitude and longitude at the center of the project are 40.414478° and -120.417222°. The general site location is shown on Figure 1.

Most of the project parcel is currently developed for industrial purposes associated with the pit operation and is considered barren. The subject parcel is 442 total acres and project operations occur on 240 acres of the property. The total area of disturbed land is 68.5 acres. The dominant habitat type identified through the California Wildlife Habitat Relationships (CWHR) classification is sagebrush (Mayer and Laudenslayer, 1988).

Sagebrush habitat is usually large, open, and often discontinuous, and stands are usually dominated by big sagebrush (*Artemisia tridentata*). This habitat occurs over a range of middle and high elevations. Sagebrush is often mixed with other similar shrub species, such as rabbitbrush (*Chrysothamnus* spp.), horsebrush (*Tetradymia* spp.), and bitterbrush (*Purshia* spp.). In some places, the stand may have an understory of perennial grasses and forbs. Sagebrush habitat borders the pit operations area along the northern, western, and eastern boundaries.

Previous Mitigation Considerations

An Environmental Impact Report (EIR) was prepared in 1997 for an expansion of the Ward Lake Pit. The EIR focused on potential effects on deer and antelope herds. The project area falls within Deer Hunt Zone X5a, which is a zone within the greater Deer Assessment Unit (DAU) 2 – northeastern California; and the project is within Pronghorn Hunt Zone 4 – Lassen. The project area is on the edge of California Department of Fish and Wildlife (CDFW)-

FIGURE 1
GENERAL SITE LOCATION
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\71305_GeneralSiteLocation.mxd

designated critical winter-range habitat for mule deer and winter-range habitat for pronghorn antelope. Mule deer numbers have increased since the 1997 EIR. In 1996, the population for DAU 2 was estimated to be 25,000; in 2017, the estimated population was 29,289 (CDFG et al. 1998; CDFW 2017). More specific to the project location, the mule deer population within Hunt Zone X5a has increased, with an estimated 544 animals in 2013 and 942 in 2017.

Operating period was an issue during the 1997 expansion because the area surrounding the pit is important wintering habitat for mule deer and pronghorn antelope (Figure 2 and Figure 3). At the time, it was recommended that seasonal operating restrictions be imposed between December and March; however, the Lassen County Board of Supervisors overrode this mitigation, stating that it was infeasible and undesirable and, instead, allowed limited site operations from January 1 to March 31. No blasting, grading, or excavation is allowed during this period. Mule deer population estimates in the region have not shown a significant impact from year-round operations.

The 1997 EIR also addressed effects to Swainson's hawk and golden eagle. Potential effects of the project on these species were discounted because it only involved the removal of 40 acres of foraging habitat, but no nesting habitat removal. These effects to foraging habitat are mitigated through the required reclamation practices. The proposal to increase the operating hours at the Ward Lake Pit will not remove any suitable habitat and will have no further significant effect on Swainson's hawk and golden eagle. Effects to other wildlife species were not discussed in detail but were deemed to be significant, although mitigatable, through the required reclamation practices.

BIOLOGICAL SURVEY

Pre-Survey Information

An assessment of special-status species was conducted for the proposed use permit amendment to examine potential effects on species not addressed in the original Environmental Impact Report (EIR) including the effects of nighttime operations on potentially occurring species. Special-status species considered in this assessment meet one of the following criteria:

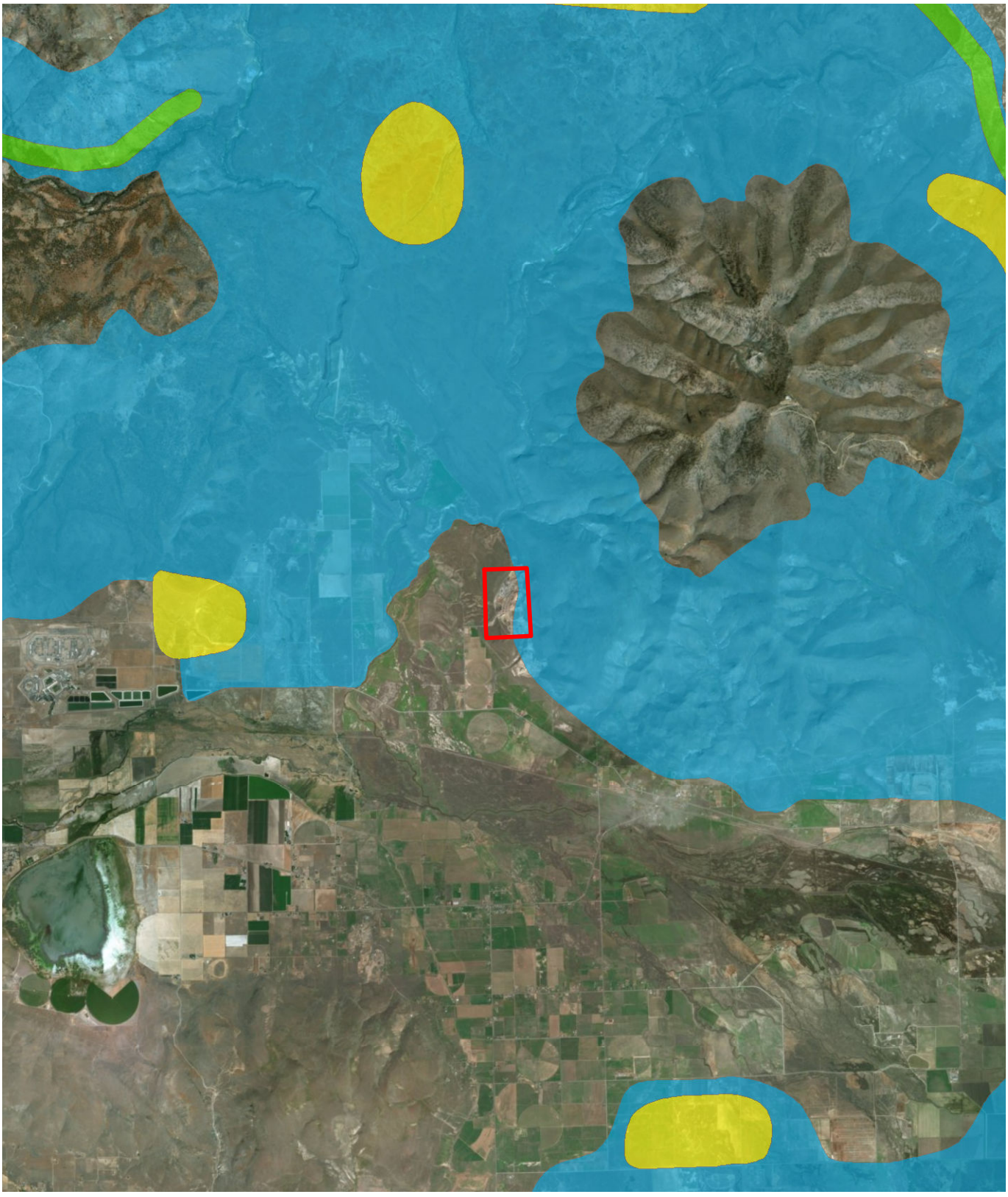
- Listed, proposed for listing, or candidates for listing as threatened or endangered under the Federal ESA (50 Code of Federal Regulations [CFR] Part 17.12 [listed plants], 50 CFR Part 17.11 [listed animals], 67 Federal Register [FR] 40657 [candidate species]);
- Listed or proposed for listing by the State of California as threatened or endangered under the California ESA (CDFW, 2017a);
- Identified by the CDFW as fully protected species, including fish and wildlife that do not have State or Federal threatened or endangered status but may still be threatened with extinction (CDFW, 2017b);
- California Species of Special Concern: vertebrate species that have been designated as "species of special concern" by the CDFW because declining population levels, limited range, and/or continuing threats have made them vulnerable to extinction (CDFW, 2017b).

VESTRA

SOURCE: NAIP 2016 AERIAL PHOTOGRAPH; CDFW BIOS

FIGURE 2
MULE DEER HABITAT
WARD LAKE PIT
HAT CREEK CONSTRUCTION
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\WildlifeReport\71305_DeerHabitat.mxd



VESTRA

SOURCE: NAIP 2016 AERIAL PHOTOGRAPH; CDFW BIOS

FIGURE 3
PRONGHORN ANTELOPE HABITAT
WARD LAKE PIT
HAT CREEK CONSTRUCTION
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\WildlifeReport\71305_PronghornHabitat.mxd

Six plant species, ranked 1B or 2B on the list of California rare plants, are recorded in the California Natural Diversity Database (CNDDB) within five miles (Figure 4). These species include: western seablite (*Suaeda occidentalis);* ornate dalea (*Dalea ornata*); playa phacelia (*Phacelia inundata*); spiny milkwort (*Polygala subspinosa*); winged dock (*Rumex venosus*); and Susanville beardtongue (*Penstemon sudans*). Plant species were not considered in this survey because no spatial expansion is being proposed; thus, plant habitat will not be affected. There are no records of federally or California-listed Threatened or Endangered plant species within five miles of the project area.

A total of 19 wildlife species were evaluated for the potential to occupy habitat within the project area. The CNDDB lists six special-status wildlife species that meet the evaluation criteria of this analysis as occurring within five miles of the project area (Figure 4). Thirteen other wildlife species, which were not listed in the CNDDB, were evaluated for potential habitation in the project area based on a literature review and a CWHR analysis (2014). Potential for occurrence was based on habitat requirements and proximity to known recorded occurrences of a species. Evaluated species, their habitat requirements, conservation status, and potential for occurrence within the project area are provided in Table 1.

Special-status wildlife species that have the potential to occur within the project area include:

- Golden eagle (*Aquila chrysaetos*)
- Northern harrier (*Circus cyaneus*)
- Swainson's hawk (*Buteo swainsoni*)
- Greater sage-grouse (*Centrocercus urophasianus*)
- Burrowing owl (*Athene cunicularia*)
- Long-eared owl (*Asio otus*)
- Short-eared owl (*Asio flammeus*)
- Loggerhead shrike (*Lanius ludovicianus*)
- Gray wolf (*Canis lupus*)
- American badger (*Taxidea taxus*)
- Pallid bat *(Antrozous pallidus)*
- Townsend's big-eared bat *(Corynorhinus townsendii)*
- Pygmy rabbit (*Brachylagus idahoensis*)
- White-tailed jackrabbit (*Lepus townsendii townsendii*)

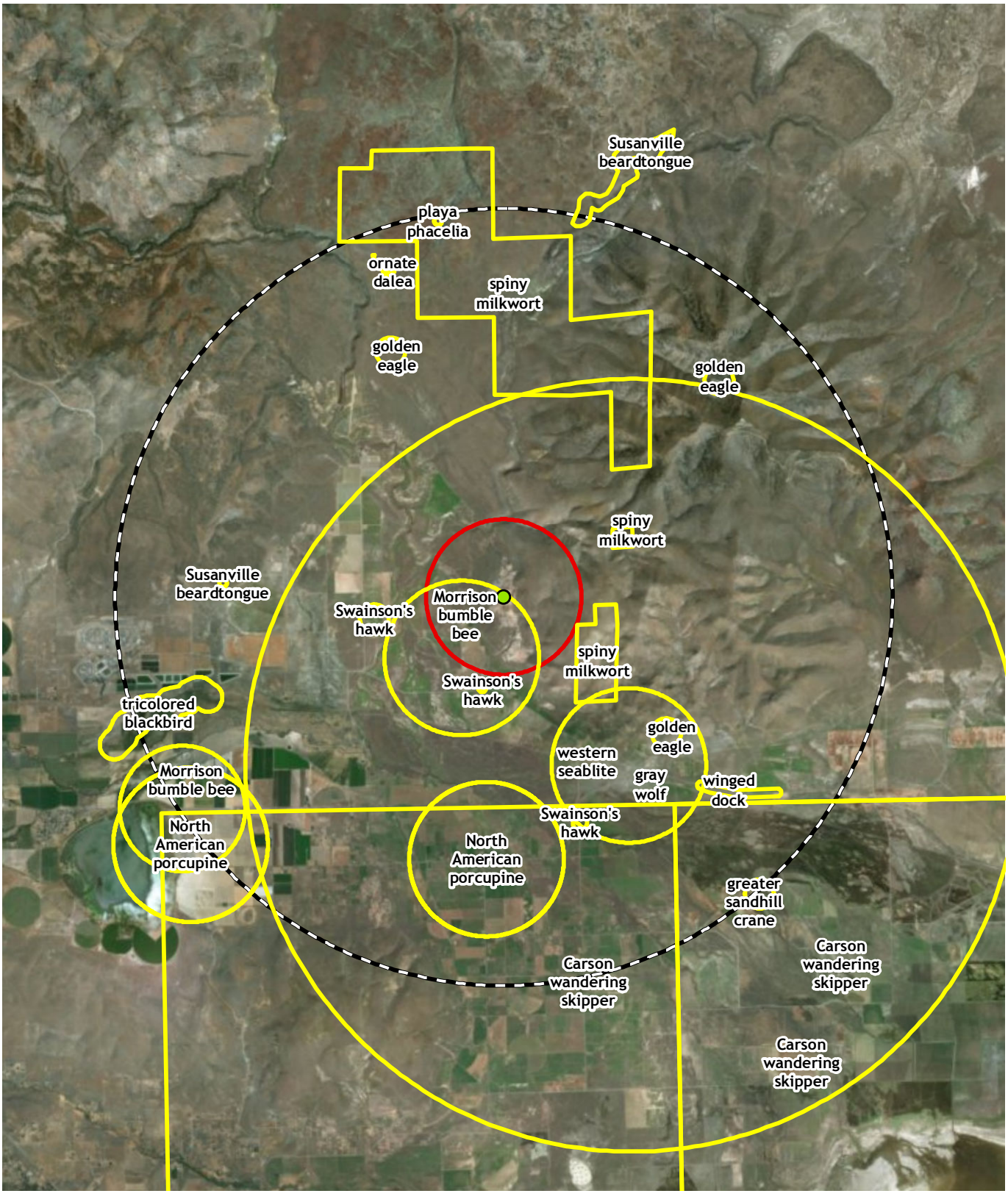
Table 1
POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES

Common and Scientific Names	Status Fed/State	Preferred Habitats	Known and Potential Occurrence in Project Area
Invertebrates			
Carson wandering skipper	FT/--	Alkaline desert seeps dominated by saltgrass	No potential for occurrence due to lack of suitable habitat
Amphibians			
Foothill yellow-legged frog *Rana boylii*	--/CSC	Slow-moving, gravelly streams and rivers with sunny banks in forests and chaparral	No potential for occurrence due to lack of gravelly streams or waterbodies
Birds			
Tricolored blackbird *Agelaius tricolor*	--/CE	Nest near fresh water in adjacent vegetation, especially near marshes. Forage in grasslands and croplands	No potential for occurrence due to lack of suitable habitat

Table 1
POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES

Common and Scientific Names	Status Fed/State	Preferred Habitats	Known and Potential Occurrence in Project Area
Golden eagle *Aquila chrysaetos*	--/CFP	Needs open terrain for hunting – grassland, desert, savannah, shrub. Nests on cliffs and in large trees	Potential for occurrence due to suitable foraging habitat
Northern harrier *Circus cyaneus*	--/CSC	Grasslands, fields, and marshes	Potential for occurrence due to suitable foraging habitat
Swainson's hawk *Buteo swainsoni*	--/CT	Large, open grasslands in riparian systems	Potential for occurrence due to some suitable foraging habitat
Greater sandhill crane *Grus canadensis tabida*	--/CT	Shortgrass plains, grain fields and open wetlands for foraging. Nests in wetlands	No potential for occurrence due to lack of suitable habitat
Greater sage-grouse *Centrocercus urophasianus*	--/CSC	Open, continuous sagebrush communities	Potential for occurrence due to suitable habitat
Burrowing owl *Athene cunicularia*	--/CSC	Open, dry grassland, desert, and shrub	Potential for occurrence due to suitable habitat
Long-eared owl *Asio otus*	--/CSC	Roost in dense vegetation and forage in open grasslands or shrublands	Potential for occurrence due to suitable foraging habitat
Short-eared owl *Asio flammeus*	--/CSC	Large, open areas with low vegetation including prairie, grassland, shrub steppe, agricultural areas	Potential for occurrence due to suitable habitat
Loggerhead shrike *Lanius ludovicianus*	--/CSC	Open areas with short vegetation and well-spaced shrubs or low trees	Potential for occurrence due to suitable habitat
Mammals			
Pallid bat *Antrozous pallidus*	--/CSC	Forages over many habitats; roosts in buildings, trees, rocky outcrops and crevices in mines and caves; also in oak and pine forested areas, usually near a source of water	Potential for occurrence due to suitable habitat
Townsend's big-eared bat *Corynorhinus townsendii*	--/CSC	Found in all but subalpine and alpine habitats. Requires mines, caves, rock piles, and lava tubes for roosting	Potential for occurrence due to suitable habitat
Gray wolf *Canis lupus*	FE/CE	Highly variable	No records in project vicinity in 93 years; has been located recently in other areas of Lassen County
North American wolverine *Gulo gulo luscus*	PFT/CT	Arctic, boreal, and alpine habitats. South of the Canadian border, restricted to high mountain environments near the treeline	No potential for occurrence due to lack of suitable habitat
American badger *Taxidea taxus*	--/CSC	Dry, open stages of shrub and forest with friable soils	Potential for occurrence due to suitable habitat
Pygmy rabbit *Brachylagus idahoensis*	--/CSC	Sagebrush, bitterbrush, and pinyon-juniper	Potential for occurrence due to suitable habitat
White-tailed jackrabbit *Lepus townsendii townsendii*	--/CSC	Sagebrush, subalpine conifer, juniper, alpine dwarf-shrub, and perennial grassland	Potential for occurrence due to suitable habitat

Key: Federally Endangered (FE), Proposed Federally Endangered (PFE); Federally Threatened (FT); Proposed Federally Threatened (PFT); California Endangered (CE); California Threatened (CT); California Fully Protected (CFP); California Species of Special Concern by DFG (CSC)



SOURCE: NAIP 2016 AERIAL PHOTOGRAPH; CNDDB DECEMBER 2017

FIGURE 4
CNDDB OCCURRENCES
WARD LAKE PIT
HAT CREEK CONSTRUCTION
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\WildlifeReport\71305_CNDDB.mxd

Field Methods

An observation-based pedestrian survey was conducted on April 24, 2018, and April 25, 2018, in order to assess potential impacts of nighttime mining work on wildlife. This survey was conducted under weather conditions satisfactory for nighttime observation; minimal cloud cover, low wind, and 68 percent illumination from moonlight provided clear visibility and audibility.

The site was surveyed from 1830 to 2300 hours and from 0430 to 0900 hours. Sunset and sunrise occurred at 1930 and 0610, respectively. From 1900 until 2200, a two-person night crew conducted light work inside of the closed shop which did not produce significant amounts of light or noise. The daytime crew arrived at 0600 and noise-producing mining activities began at 0730.

The project area was surveyed through visual and auditory observations following 0.75 mile transects lying generally north-south within the project area. Transects were walked with pauses for visual and auditory observation at points 0.15 to 0.25 miles apart. Observation points along transects were more frequent when a site feature (i.e. berm or stockpile) presented a barrier to the surveyor's perception and when an animal's behavior required further observation. Transects and surveying points can be seen on Figure 5.

A game camera was deployed concurrently with transect surveying to obtain additional documentation of wildlife activity within project boundaries. The camera was placed within the settling pond area located at the northern end of the project area (Figure 5). This site was selected due to its close proximity to open grazing land that lies to the north of the project site. The camera was mounted and programmed to capture photographs based on motion-detection with a thirty-second delay in between captures.

Survey Results

Mammalian species observed within or adjacent to the project site:

- Striped skunk (*Mephitis mephitis*)
- Cottontail rabbit (*Sylbilagus bachmani*)

Game camera data was reviewed for wildlife footage. At 2140 hours, a striped skunk was photographed entering the settling pond area (Figure 6). It is unlikely that nighttime activities will substantially impact striped skunks at the location of the sighting; the skunk was observed approximately 240 meters from the nearest noise or light-producing equipment and adjacent to open grazing land that provides abundant suitable habitat outside of the project boundaries.

VESTRA

SOURCE: USDA NAIP 2016 AERIAL PHOTOGRAPH

FIGURE 5
CURRENT LAND USE
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\WildlifeReport\71305_CurrentLandUse.mxd

Figure 6
Striped Skunk

Amphibian species observed within or adjacent to the project site:

- Sierran treefrog (*Pseudacris sierrae*)
- American bullfrog (*Lithobates catesbeianus*)

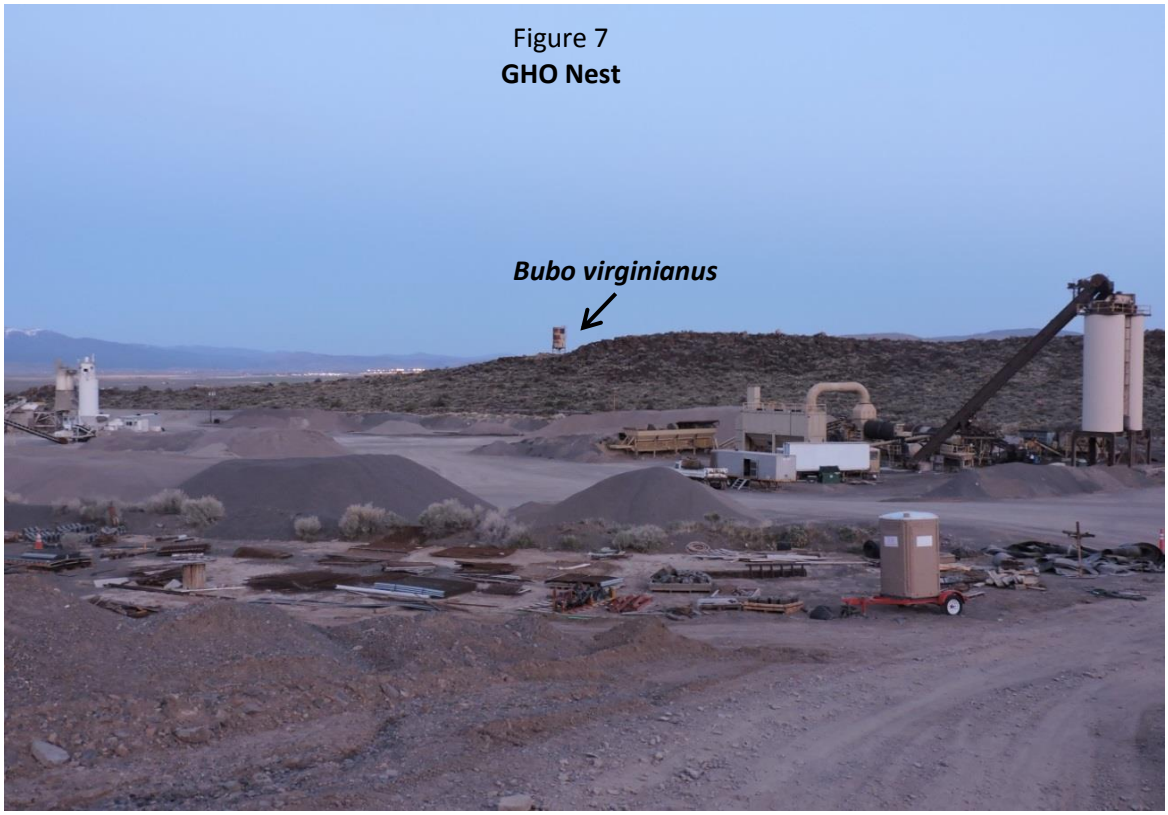
Amphibians were observed at dusk and through the night in the northern and southern settling ponds. It was apparent by the number of frog calls that a larger population inhabits the southern settling ponds. Sierran treefrog populations are considered to have a stable conservation status. American bullfrogs are a non-native invasive species in western North America.

Bird species observed within or adjacent to the project area:

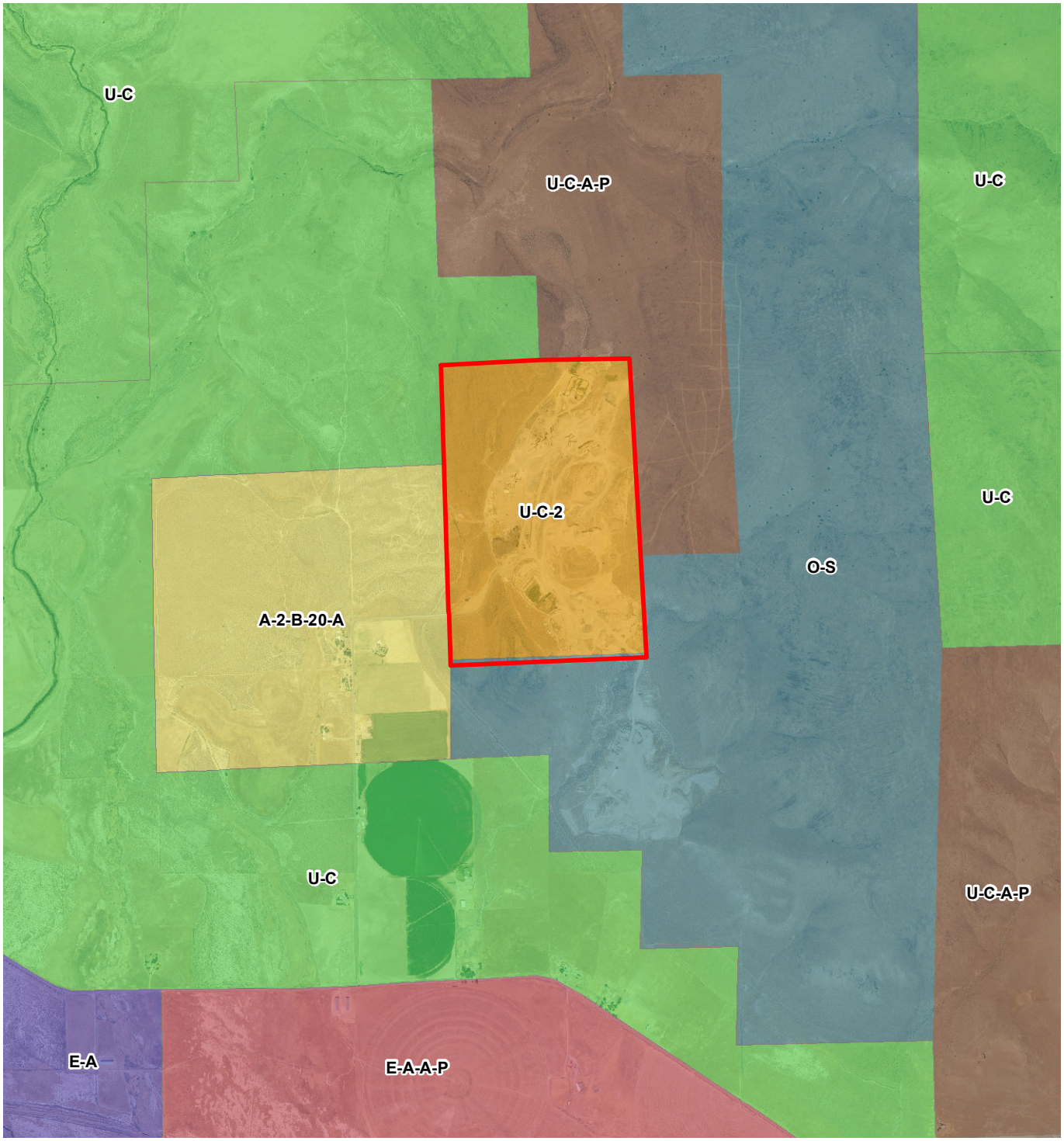
- Mourning Dove (*Zenaida macroura*)
- Black-Billed Magpie (*Pica hudsonia*)
- California Quail (*Callipepla californica*)
- Canada Goose (*Branta candensis*)
- Mallard (*Anas platyrhynchos*)
- Rock Wren (*Salpinctes obsoletus*)
- House Wren (*Troglodytes aedon*)
- Yellow-Rumped Warbler (*Setophaga coronata*)
- Red-Winged Blackbird (*Agelaius phoeniceus*)
- Great Horned Owl (*Bubo virginianus*)
- Killdeer (*Charadrius vociferus*)
- House Sparrow (*Passer domesticus*)
- Turkey Vulture (*Cathartes aura*)
- Barn Swallow (*Hirundo rustica*)
- Western Wood-Pewee *(Contopus sordidulus)*

A pair of great horned owls (GHO) was nesting in an abandoned water tower located to the west of the shop and concrete plant (Figure 7). Presence of the owls was confirmed through auditory and visual observations of adults, though no juvenile calls were detected. The pair of owls was heard calling from the water tower at dusk. The visual observation occurred in the employee parking and shop area at 2300 hours. Proximity to the work area does not appear to impact the owls' nesting behavior as they have occupied the water tower during daytime mining activities and appear to tolerate associated noise levels. Minimizing disturbance in the area of the water tower should be considered during night work per Fish and Game Code §§ 3503, 3513, and 3800. The owls likely forage onsite near the settling ponds and in gullies that are utilized by cottontail rabbits (*Sylbilagus bachmani*) as well as other prey species. Upland conservation (U-C) land west of the site is open land for grazing and non-commercial recreation and provides foraging habitat outside of the Ward Lake Pit project area (Figure 8).

Figure 7
GHO Nest



A western wood-pewee was observed flying within the asphalt plant and the crusher areas to collect nesting material at 0715 (Figure 9). The bird was observed for ten minutes to attempt to locate a nest. The nest was not located; however, the bird made several trips offsite to open grazing land abutting the eastern project boundary. Western wood-pewees build nests out of grasses, plant fibers, and bark and commonly select tree branches between just above ground level to more than 80 feet above the ground (Kaufman 1996). No activity was observed onsite after 0745.



Approximate Project Boundary

A-2-B-20-A (Agricultural Residential District/Building Site Combining

E-A (Exclusive Agricultural

E-A-A-P (Exclusive Agricultural/Agricultural

O-S (Open Space

U-C (Upland Conservation

U-C-2 (Upland Conservation/Resource

U-C-A-P (Upland Conservation District/Agricultural Preserve Combining

N

VESTRA

0 1,000 2,000 4,000 Feet

SOURCE: USDA NAIP 2016 AERIAL PHOTOGRAPH

FIGURE 8
ZONING
WARD LAKE PIT
LASSEN COUNTY, CALIFORNIA

P:\GIS\71305\WardLakeExpansion\WildlifeReport\71305_Zoning.mxd

Figure 9
Western Wood-Pewee

Contopus sordidulus with nesting material

Two nests were observed in willow trees next to one of the settling ponds (Figure 10). Three mourning doves flushed from the willow trees upon closer inspection of the area, indicating their utilization of the nests. Mourning doves typically tolerate areas with heavy human activity. The doves were observed throughout the site and did not appear to be disturbed by daytime mining activities. It is unlikely that these nests will be impacted by light or noises generated by nighttime work because nests are located approximately 200 meters from the nearest noise-generating equipment onsite. Minimizing disturbance in the area of the settling ponds should be considered per the Federal Migratory Bird Treaty Act, 16 USC § 703-711 and Fish and Game Code §§ 3503.

Many house sparrows, including males with breeding plumage, were active in work areas early in the morning (Figure 11). Between the hours of 0700 to 0800, the birds called from equipment such as the crusher, the concrete plant, and pieces of equipment staged in the boneyard. No sparrow activity was observed within the project area past 0730. It is possible that mining activities occurring between dawn and 0730 could cause house sparrows to avoid the project area. The upland conservation (U-C) land and the open space (O-S) land surrounding the project area provide suitable breeding habitat that will not be impacted by 24-hour operations. House sparrows are not a species covered by the Federal Migratory Bird Treaty Act, 16 USC § 703-711.

Figure 10
Mourning Dove Nest

A large number of tree swallows was active near the settling ponds located at the southern end of the project area. Tree swallows typically forage for flying insects near water (Kaufman 1996). Nesting normally occurs close to water or in nearby brushy areas. It is likely that the willow trees that surround the settling pond provide perching and nesting habitat. Proximity to the work area does not appear to impact the swallows' behavior as they have occupied the settling pond area during daytime mining activities and appear to tolerate associated noise and traffic levels. Dust should be managed, vehicle idling should be minimized, and willow trees should not be disturbed near the southern settling pond area in order to avoid substantial impacts to Tree swallow nesting and breeding behavior per the Federal Migratory Bird Treaty Act, 16 USC § 703-711 and Fish and Game Code §§ 3503.

Figure 11
House Sparrow

Male Passer domesticus with breeding plumage

Special-Status Species

Of the 19 special-status species evaluated, 14 were determined to have a potential to occur, while the rest were determined to have no potential to occur. Species determined to have potential to occur within or in close proximity to the project area were considered during the nighttime site survey and are discussed below.

Birds

Golden Eagle

Aquila chrysaetos

California Fully Protected

The golden eagle is listed by the State of California as Fully Protected, which prohibits take or possession of the species. This species is an uncommon resident throughout California and a migrant in the Central Valley during the winter. These birds typically hunt over the open terrain of grasslands, deserts, savannah, shrub, and early successional forests. They nest on cliffs of variable heights and in large trees in open habitats. There is little data on Golden eagle abundance in California and the data that does exist does not show strong trends. Threats to this bird include loss of foraging areas and nesting habitat, and historical pesticide poisoning.

Potential foraging habitat was identified surrounding access roads and the quarry; however, no golden eagles were observed during nighttime site surveys. No project impacts to golden eagles

are anticipated. Golden eagles are diurnal foragers, thus expanding the operating period to night hours (i.e. 24 hours per day) will not disturb foraging birds. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in the loss of foraging area for this species.

Northern Harrier
Circus cyaneus
State Species of Special Concern
The northern harrier is listed by the State of California as a Species of Special Concern. This species is a common winter resident and occurs in greater numbers in California during migration and winter, as many populations travel farther north to breed. Some populations remain in California and the historic breeding range extended from the Modoc Plateau south to San Diego. Breeding in California has greatly declined due to loss of suitable wetland habitats. Although most suitable habitat has been destroyed or degraded, the Central Valley supports the majority of nesting in California. Northern harriers inhabit a variety of open habitats that provide vegetative cover including grasslands, coastal ponds/sloughs, coastal marshes, coastal wetlands, salt marshes, and sagebrush areas.

Potential foraging habitat was located in the sagebrush within the project area, though no northern harriers were observed during the site survey. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of foraging area for this species. Northern harriers are diurnal foragers, thus expanding the operating period to night hours (i.e. 24 hours per day) will not disturb foraging birds. No project impacts to northern harriers are anticipated.

Swainson's Hawk
Buteo swainsoni
State Threatened
The Swainson's hawk was listed as a threatened species in 1983. This species breeds in the western United States and Canada and winters in isolated areas in California, Mexico, and Central and South America, though only a small number have been documented to overwinter in California (Herzog 1996). Historically found throughout California except in the Sierra Nevada, North Coast Ranges and Klamath Mountains, loss of suitable habitat has now restricted breeding areas to the Great Basin and the Central Valley. Nesting Swainson's hawks require large open areas of grassland for foraging adjacent to riparian forests or corridors, juniper-sage flats, or oak savannah for nesting. The main cause of the decline of this species in California is the significant loss and degradation of open areas, such as agricultural lands and grasslands, due to urban development.

There are no records of Swainson's hawks within the project area in the CNDDB, but there are three records of nesting hawks within five miles of the project area. All records are located in irrigated farmland. There is no irrigated agricultural habitat suitable for nesting within the project area, but the project area does contain suitable foraging habitat. Therefore, the survey focused on impacts to foraging behavior. No Swainson's hawks were observed during the site survey.

No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of foraging area for this species. Swainson's hawks are diurnal foragers,

thus expanding the operating period to night hours (i.e. 24 hours per day) will not disturb foraging birds. Any birds nesting in nearby irrigated farmland habitat will not be affected by increased project operations due to the lack of nighttime bird activity and distance from the project area. No project impacts to Swainson's hawks are anticipated.

Greater Sage-Grouse
Centrocercus urophasianus
State Species of Special Concern
The greater sage-grouse is listed by the State of California as a Species of Special Concern. The species was considered for listing under the ESA as Endangered or Threatened in 2015, but the U.S. Fish and Wildlife Service (USFWS) found that listing was not warranted. This species is a permanent resident in northeastern California and ranges from the Oregon border along the east side of the Cascade Range and Sierra Nevada to northern Inyo County. Lassen and Mono Counties have the most stable populations in California. Greater sage-grouse inhabit open areas with a combination of sagebrush, perennial grassland and wet meadow.

Large, continuous tracts of sagebrush habitat are required for reproduction; the cover of sage brush is essential to mating and nesting behaviors. Male sage grouse perform mating displays by strutting and emitting guttural popping noises; these displays take place before dawn in open areas between sage brush shrubs (Rodewald 2015). Female sage grouse utilize sage brush for protective cover while nesting and foraging. Declining population numbers are due mostly to habitat loss from development and overgrazing, and impacts of non-native invasive species.

There are no records of greater sage-grouse within five miles of the project area in the CNDDB; the closest record is 58 miles to the north. Although there are no nearby records, the survey focused on greater sage-grouse because the project site is within the species' range and there is suitable habitat within the project area. No greater sage-grouse, nests, or signs of a lek were observed during site surveys. No mating displays were visible or audible during the dawn site survey. Large stretches of sagebrush, zoned as upland conservation district/agricultural preserve combining district (U-C-A-P), exist to the north of the project area that provide suitable nesting and foraging habitat for any birds in the area. No project impacts to greater sage-grouse are anticipated.

Burrowing Owl
Athene cunicularia
State Species of Special Concern
The burrowing owl is listed by the State of California as a Species of Special Concern. This species is a permanent resident in the central valley and southern California. These birds inhabit northeastern California during the summer breeding season. Burrowing owl habitat typically consists of open grasslands and shrubland with perches for hunting and burrows for nesting. Nesting usually occurs in vacant mammal burrows, but where burrows are scarce, these owls may use human structures or dig their own burrows in soft soil. This species exhibits strong site fidelity. These owls forage at all hours of the day and night. Populations are still stable but have been declining, mostly due to habitat loss from agriculture and development and poisoning of ground squirrels.

There are no records of burrowing owls within five miles of the project area in the CNDDB. Although there are no nearby records, the survey considered burrowing owls because the project

site is within the species' range and there is suitable habitat within the project area. No active burrows or burrowing owls were observed during site surveys. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of habitat for this species.

Expanding the project operating period to night hours (i.e. 24 hours per day) will cause additional disturbance in the form of light and noise. Burrowing owls forage at all hours of the day; thus, any owls foraging in the area will likely avoid the project area due to the disturbance. There is currently no known nesting site located in or near the project area, and any potentially nesting birds will likely avoid the area because of ongoing project activities. No project impacts to burrowing owls are anticipated. The upland conservation (U-C) land and the open space (O-S) land surrounding the project area provide suitable alternative foraging habitat that is not impacted by mining activities.

Long-Eared Owl
Asio otus
State Species of Special Concern
The long-eared owl is listed by the State of California as a Species of Special Concern. This species is a permanent resident throughout California, except the central valley and southern California. Long-eared owls roost and nest in dense vegetation, typically live oak thickets and other dense tree stands, especially in riparian areas. These owls hunt in open grasslands and shrublands. This species does not build their own nests; nesting usually occurs in old bird and squirrel nests. These are nocturnal owls that forage during nighttime hours. Resident populations have been slowly declining since the 1940s due mainly to habitat loss and fragmentation.

There are no records of long-eared owls within five miles of the project area in the CNDDB. Although there are no nearby records, the settling pond areas support a thick grove of willow trees that were identified as potential nesting and foraging habitat and were a focus of the site survey. No long-eared owls were observed nesting or foraging within the project area during nighttime site surveys.

No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of habitat for this species. Expanding the project operating period to nighttime hours will cause additional disturbance in the form of light and noise. Long-eared owls are nocturnal foragers, thus any owls foraging in the area will likely avoid the project area due to the additional nighttime disturbance. The upland conservation (U-C) land and the open space (O-S) land surrounding the project area provide suitable foraging habitat that is not impacted by mining activities. No project impacts to long-eared owls are anticipated.

Short-Eared Owl
Asio flammeus
State Species of Special Concern
The short-eared owl is listed by the State of California as a Species of Special Concern. This species is a permanent resident in northeastern California and a widespread winter migrant in the central valley and western Sierra Nevada. Short-eared owls roost on the ground in dense, low vegetation, typically tall grasses, brush, or wetlands. Nests are made on dry ground concealed in vegetation. These owls hunt in open areas including annual and perennial grasslands,

shrublands, marshes, and agricultural fields; grasslands are most preferred. Short-eared owls are active mostly at twilight and nighttime hours, but are often active during the day in the breeding season. There is not much available data on short-eared owl populations, but populations appear to be declining over most of the range because of habitat loss and fragmentation and overgrazing.

There are no records of short-eared owls within five miles of the project area in the CNDDB. Although there are no nearby records, the nighttime survey considered short-eared owls because there is some potential suitable habitat within the project area and surrounding areas. No short-eared owls were observed. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of habitat for this species.

Expanding the project operating period to night hours (i.e. 24 hours per day) will cause additional disturbance in the form of light and noise. Short-eared owls are mostly crepuscular and nocturnal foragers, thus any owls foraging in the area will likely avoid the project area due to the additional nighttime disturbance. The upland conservation (U-C) land and the open space (O-S) land surrounding the project area provides suitable alternative foraging habitat that is not impacted by mining activities. No project impacts to short-eared owls are anticipated.

Loggerhead Shrike
Lanius ludovicianus
State Species of Special Concern
The loggerhead shrike is listed by the State of California as a Species of Special Concern. This species is a permanent resident and winter migrant in lowland and foothill areas throughout California. This species typically inhabits open areas with scattered shrubs, trees and perches, including agricultural fields, pastures, orchards, scrublands, and riparian areas. These birds roost and nest in shrubs or small trees. Loggerhead shrikes are diurnally active. Populations in the Pacific states have remained fairly stable, but numbers have declined elsewhere in their range. Declines are likely due to increased use of pesticides.

There are no records of loggerhead shrikes within five miles of the project area in the CNDDB. Although there are no nearby records, there is suitable habitat within the open shrubland in the project area and surrounding areas. The nighttime site survey focused on the potential foraging and nesting habitat before dusk and after dawn; however, no loggerhead shrikes were observed during the site survey. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of habitat for this species. These birds are diurnal foragers, thus expanding the operating period to night hours (i.e. 24 hours per day) will not disturb foraging birds. No nests or nesting behavior was observed in or near the project area; nesting birds will likely avoid the area because of ongoing project activities. No project impacts to loggerhead shrikes are anticipated.

<u>Mammals</u>
Gray Wolf
Canis lupus
Federally Endangered; California Endangered
The gray wolf was listed as endangered on March 9, 1978 (USDI FWS 1978). Gray wolves are habitat generalists and can potentially occur in a wide range of habitats including temperate forest, mountains, tundra, taiga, and grasslands, so long as there is suitable prey. Prey species

primarily include ungulates, such as moose, caribou, deer, and elk, but they will also take smaller prey, such as beaver and small mammals, and will readily scavenge.

This species is highly territorial and defends territories in packs. Territory size is a function of prey density and can range from 25 to 1,500 square miles. Both male and female wolves disperse at equal rate and equal distances, sometimes more than 600 miles. Gray wolves once ranged throughout the northern hemisphere, but widespread trapping and extermination efforts severely reduced their distribution and caused dramatic population declines. Current threats to the gray wolf include continued conflict with humans, primarily resulting from livestock depredation, and habitat loss, degradation and fragmentation due to land development.

No gray wolves, tracks, or signs of wolf activity were observed onsite during this survey. The last recorded observation of gray wolf in the project vicinity was in 1924 near Litchfield, California. However, it has a large home range and range expansion is documented. An expansion could result in wolves reinhabiting the area at some point. CDFW has collected evidence (GPS tracking collar and remote trail camera images in 2016) that suggests that a small number of wolves have traveled into Lassen County (CDFW, 2017).

Due to the small project footprint relative to the large home range size of the gray wolf, the proposed project will not alter an amount of habitat significant enough to have any impact on the species. Further, gray wolves are highly mobile and capable of avoiding project-related disturbance. Therefore, the proposed action will have no effect on the gray wolf.

American Badger
Taxidea taxus
State Species of Special Concern
The American badger is listed by the State of California as a Species of Special Concern. These animals are permanent residents throughout most of California, except for the far northern North Coast area. Suitable habitat for this species is characterized by herbaceous, shrub, and open stages of most habitats with dry, friable soils. Dry, friable soils, often sandy, are required because badgers eat mostly fossorial (i.e. occurring underground) rodents, and they also take cover and reproduce in burrows. Badgers are active both day and night, and they may undergo periods of torpor in the winter. Populations are considered to be fairly stable but have declined due to historical trapping, conversion of habitat to intensive agriculture, and rodent poisoning.

There are no records of American badgers within five miles of the project area in the CNDDB; however, the survey considered this species because suitable shrubland habitat was identified within the project area and surrounding areas. No American badgers were observed onsite during nighttime surveying. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of habitat for this species.

Expanding the project operating period to night hours (i.e. 24 hours per day) will cause additional disturbance in the form of light and noise. American badgers are active during day and night, thus any badgers in surrounding areas will likely avoid the project area due to the additional nighttime disturbance. The upland conservation (U-C) land and the open space (O-S) land surrounding the project area provides suitable alternative foraging habitat that is not impacted by mining activities. No project impacts to American badgers are anticipated.

Pallid Bat
Antrozous pallidus
State Species of Special Concern
The pallid bat is listed by the State of California as a Species of Special Concern. These are crevice-roosting bats of arid and semi-arid regions across much of the American west. They are a locally common species of low elevations. This species is not known to migrate long distances and they likely hibernate close to summer roosts. They are found in a variety of habitats such as grasslands, shrublands, and woodlands, but are most common in open, dry regions with rocky outcroppings or sparsely vegetated grasslands. Water must be available close by to all sites. They typically will use three different types of roosts: A day roost, which can be a warm, horizontal opening such as in attics, shutters or crevices; the night roost is in the open, but with foliage nearby; and the hibernation roost mentioned above, which is often in buildings, caves, or cracks in rocks (Brylski et al., 1998). These bats are very sensitive to roosting site disturbance.

There are no records of pallid bats within five miles of the project area in the CNDDB; however, there is suitable habitat onsite including interspersed shrubland within the project area, rock crevices in the quarry, and rock outcroppings along the access roads. The site survey considered the possible habitat and no bats were observed. This site has been operating since 1980, so use of this habitat has most likely been excluded due to project activities. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of suitable habitat for this species.

Expanding the project operating period to night hours (i.e. 24 hours per day) will cause additional disturbance in the form of light and noise. Pallid bats are nocturnally active, thus any bats in surrounding areas will likely avoid the project area due to the additional nighttime disturbance. No project impacts to pallid bats are anticipated.

Townsend's Big-Eared Bat
Corynorhinus townsendii
State Species of Special Concern
The Townsend's big-eared bat is listed by the State of California as a Species of Special Concern. This species has a broad range in western North America and is found throughout California. Townsend's big-eared bats occur in a variety of habitats, but they are most commonly associated with desert scrub, mixed conifer forest, and pinon-juniper or pine forest habitat, especially those with a mesic condition. Within these communities, they are specifically associated with limestone caves, mines, lava tubes, or buildings (Brylski et al., 1998). They forage in dense foliage and feed almost exclusively on moths.

There are no CNDDB records of these bats within five miles of the project area. This species was considered during the site survey because the bats may use the project area for foraging, as there is some suitable habitat within the project area, though the lack of water makes it low quality. No bats were observed during the nighttime site survey. They are not likely to use the site for roosting or hibernation as there is no required cave habitat available. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of any suitable habitat for this species.

Expanding the project-operating period to night hours (i.e. 24 hours per day) will cause additional disturbance in the form of light and noise. Townsend's big-eared bats are nocturnally active, thus any bats in surrounding areas will likely avoid the project area due to the additional nighttime disturbance. No project impacts to Townsend's big-eared bats are anticipated.

Pygmy Rabbit
Brachylagus idahoensis
State Species of Special Concern
The pygmy rabbit is listed by the State of California as a Species of Special Concern. In California, this species is uncommon in the Great Basin areas of Modoc, Lassen, and Mono Counties. These rabbits can be found in sagebrush, bitterbrush, and pinyon-juniper habitats, and they prefer big sagebrush because it makes up the majority of their winter diet. Pygmy rabbits dig burrow for food storage and reproduction. This species is crepuscular and sometimes active during the day. Populations exhibit patchy distributions and are extremely varied across the species range. Because the species is dependent on big sagebrush, it is vulnerable to habitat loss and fragmentation from habitat conversion and fire.

There are no CNDDB records of these rabbits within five miles of the project area. No pygmy rabbits were observed during the site survey. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of habitat for this species. These animals are mostly active during twilight hours, thus they likely already avoid the area due to current project operations (0600 hours to 1800 hours). Consequently, expanding the operating period to night hours (i.e. 24 hours per day) will likely not affect this species and no project impacts to pygmy rabbits are anticipated.

White-Tailed Jackrabbit
Lepus townsendii townsendii
State Species of Special Concern
The white-tailed jackrabbit is listed by the State of California as a Species of Special Concern. This species is an uncommon, permanent resident of northeastern California and the upper eastern slopes of the Sierra Nevada. These rabbits prefer open areas with scattered shrubs, including sagebrush, subalpine conifer, juniper, alpine dwarf-shrub, and perennial grassland, but are also found in wet meadow habitat and early successional stages of conifer forests. These animals move seasonally from higher to lower elevations in winter. Sagebrush is an important part of the winter diet. This species is primarily nocturnal and sometimes crepuscular. There is little available data on the status of populations in California, but evidence indicates sharp declines. It is thought that white-tailed jackrabbits may now be absent from large tracts of its previous range. Overgrazing is thought to be the main cause of habitat fragmentation.

There are no CNDDB records of these rabbits within five miles of the project area; however, they were considered during the nighttime site survey because there is suitable sagebrush habitat for this species. No white-tailed jackrabbits were observed during the site survey. No spatial expansion is being proposed and ongoing extraction activities within the project area will not result in a loss of habitat for this species.

Expanding the project operating period to night hours (i.e. 24 hours per day) will cause additional disturbance in the form of light and noise to any rabbits in the project area. White-tailed jackrabbits are mostly nocturnally active, thus any rabbits in surrounding areas will likely

avoid the project area due to the additional nighttime disturbance. The upland conservation (U-C) land and the open space (O-S) land surrounding the project area provide suitable alternative foraging habitat that will not be impacted by mining activities. No project impacts to white-tailed jackrabbits are anticipated.

POTENTIAL EFFECTS

The proposed Use Permit amendment would expand operating hours of the project from 12 hours per day (0600 hours to 1800 hours) to 24 hours per day for a limited number of days per year. This temporal expansion will create additional noise and light disturbance during night hours due to traffic and limited mining operations. Based on the description of the proposed expansion and the biology of the species that may occur around the project area, the project is not likely to adversely affect special-status species or their habitat.

Direct Effects

Direct effects of the proposed project are those immediate impacts resulting from proposed project. Potential direct effects of the proposed project to special-status wildlife species are the creation of additional noise and light disturbance during night hours (0600 hours to 1800 hours). The proposed amendment does not involve spatial expansion of the project, thus there will be no further vegetation removal outside of current disturbed land.

Direct Effects to Birds

The proposed project will result in additional (i.e. all day) noise and vibration generated by heavy equipment operation and lighting which will be required for nighttime work. This may disturb foraging and nesting birds; however, the project is already operational during daylight hours and birds in the project area are likely acclimated to above-average noise levels. In response to noise and light disturbances, foraging birds will avoid the site by changing flight patterns while project work occurs. Noise and light disturbances occurring 24 hours per day during the nesting season will likely cause breeding birds to utilize alternative habitat that surrounds the project area. No significant effects to birds are expected as a result of the temporal expansion of the project.

Direct Effects to Mammals

The proposed project will result in additional (i.e. all day) noise and vibration generated by heavy equipment operation and bright lighting which will be required for nighttime work. This additional noise may disturb mammals in the project area; however, the project is already operational during daylight hours and mammals in the area are likely acclimated to above-average noise levels. It is possible, though, that the additional noise could cause mammals to vacate and avoid the project area. Two California Species of Special Concern bat species have the potential to utilize the area for foraging and roosting. Because bats are nocturnal animals, noise and light during nighttime hours will likely cause foraging bats to avoid the project area. Rock crevices in the quarry could serve as potential roosting habitat; however, roosting bats were not found onsite and likely do not utilize this habitat due to current year-round operations. No significant effects to mammals are expected as a result of the temporal expansion of the project.

Indirect Effects

Indirect effects are those that are caused by or will result from the proposed action and are expected to occur later in time. Effects could be both short- and/or long-term in nature.

The expansion of operating hours will result in an increase in human presence onsite for the duration of project activities, which could potentially result in increased disturbance or stress to special-status wildlife. After the completion of the project, reclamation activities will restore the project site to a more natural setting, which will provide valuable habitat for wildlife.

Cumulative Effects

Cumulative effects include the total impact on a resource due to past, present, and future activities. The Ward Lake Pit has been in operation since 1980 for rock, sand, and gravel removal and processing operations. The project area is zoned as an upland conservation/resource management district (U-C-2) by Lassen County, so this consistent land disturbance is anticipated.

Previous use has changed the topography and vegetation of the site, thus changing available habitat within the area on an annual basis. The proposed project amendment would continue ground disturbance within the current project area, but would ultimately enhance the brush communities on the site, including sagebrush, bitterbrush, and rabbit brush, following conclusion of the project and site reclamation. Many of the surrounding parcels are zoned as open space (O-S) or upland conservation (U-C) district, so reclamation of the site will create contiguous habitat.

The proposed expansion of hours of operation to limited 24-hour operation will yield an increase in nighttime traffic volume on Ward Lake Road and County Road 27. No additional roadways will be constructed. Additional truck trips will cause increased traffic noise and lighting, which may cause a disturbance to nocturnally active species. Though animals will likely be deterred by the noise and lights and will utilize alternative habitat, there is potential for cumulative impacts to wildlife populations due to direct mortality on roadways. The risk of direct mortality to mule deer and pronghorn is increased with higher activity in winter months. These impacts can be addressed through mitigation measures.

Potential Mitigation Measures

The temporal expansion of the project from 12 hours per day to 24 hours per day will not have significant adverse effects on special-status wildlife or their habitat. However, in the spirit of responsible stewardship, the applicant may choose to employ the following as additional mitigation:

1. **Habitat enhancement.** This option would involve enhancing habitat on the project parcel or nearby parcels to provide additional cover and foraging opportunities for wildlife species.

2. **Sound and light shields.** This option would involve the installation of screens, aprons, or berms as a method to minimize light and noise, including noise from vibrations, within the site. This can prevent the potential effects to local wildlife species.
3. **Signage on Roadways.** This option would educate drivers about the potential for wildlife encounters on roads during nighttime hours, and, if feasible, can reduce the speed limit during nighttime hours. Signage can be permanent or seasonal. This measure can prevent direct mortalities to nocturnal wildlife.

The potential impacts to species observed on the Ward Lake Pit project and potential measures for avoidance and mitigation of such impacts site have been discussed herein as they pertain to State and Federal wildlife protection laws and regulations. No special-status animal species were observed during dusk, at nighttime, or near dawn. Direct disturbance should be avoided if an animal is observed onsite during nighttime operations.

REFERENCES

Brylski, P.V., Collins, P.W., Pierson, E.D., Rainey, W.E., and Kucera, T.E. 1998. Terrestrial mammal species of special concern in California. California Department of Fish and Game. The Resources Agency, ed. Sacramento, CA.

California Department of Fish and Game, Bureau of Land Management, and the United States Forest Service. 1998. Report to the Commission, An Assessment of Mule and Black-tailed Deer and Habitats and Populations in California.

California Department of Fish and Wildlife. 2017. California's Deer Population Estimates <https://www.wildlife.ca.gov/Conservation/Mammals/Deer/Population>.

California Department of Fish and Wildlife. April 2017a. State and Federally Listed Endangered and Threatened Animals of California. State of California. The Natural Resources Agency. Department of Fish and Wildlife, Biogeographic Data Branch, California Natural Diversity Database. 14 pp.

California Department of Fish and Wildlife. April 2017b. Special Animals List. State of California. The Natural Resources Agency. Department of Fish and Wildlife, California Natural Diversity Database. 65 pp.

California Department of Fish and Wildlife. California Interagency Wildlife Task Group. 2014. CWHR Version 9.0. Sacramento, California.

California Department of Fish and Wildlife. July 5, 2017. CDFW Confirms Presence of Wolf Pack in Lassen County, Collars Adult Wolf. CDFW News. < https://cdfgnews.wordpress.com/>.

Mayer, K.E., and William F. Laudenslayer, Jr., Editors. 1988. A Guide to Wildlife Habitats of California. California Department of Forestry and Fire Protection. 166 pp.

Rodewald, P. (Editor). 2015. *The Birds of North America*. Cornell Laboratory of Ornithology, Ithaca, NY. April 2018. https://birdsna.org.

USDI Fish and Wildlife Service. 1978. Reclassification of the gray wolf in the United States and Mexico, with determination of Critical Habitat in Michigan and Minnesota. Final Rule. Federal Register 43(47):9607-9615.

Zeiner, D.C., W.F.Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. California's Wildlife. Vol. I-III. California Depart. of Fish and Game, Sacramento, California.

Appendix H

Noise Analysis

Hat Creek Materials Facility Expansion
Revised Environmental Noise Analysis

Lassen County, California

February 6, 2019

jcb Project # 2018-117 / 2019-109

Prepared for:

VESTRA

Wendy Johnston
5300 Aviation Drive
Redding, CA 96002

Prepared by:

j.c. brennan & associates, Inc.

Jim Brennan, INCE
President
Member, Institute of Noise Control Engineering (INCE)

INTRODUCTION

This report describes the existing noise environment in the area of the proposed Hat Creek Materials Facility Expansion Project (HCMFEP). In addition, this report provides an analysis for the potential of the proposed project to generate noise levels exceeding generally accepted exterior noise level standards at noise-sensitive receptors in the project area. Figure 1 shows the location of the project site. Figure 2 shows the project site layout.

The Hat Creek Materials Facility Expansion Project will consist of expanding the existing number of hours per day to 24-hour operations, and increasing the number of material hauling trucks from 16 (8 in and 8 out) per day to 350 material hauling trucks (175 in and 175 out) which would occur 24-hour per day. It should be noted that at times the current operations do include peak operations of 350 one-way truck trips during the daytime hours.

Existing Project Operations:

The project is an existing quarry which is located east of Ward Lake Road, and north of Center Road in Lassen County. The project includes a materials excavation and crushing operation, recycled asphalt and concrete crushing, and an asphalt batch plant. The current operating hours are from 6;00 a.m. to 6:00 p.m., although during data collection on May 3rd and 4th, 2018, two shifts were operating from 6:00 a.m. to midnight. As stated earlier, at times the current operations do include peak operations of 350 one-way truck trips during the daytime hours. The primary noise sources associated with the existing operations include the following:

- Cement Batch Plant;
- Excavation and Crushing Operations (this includes mobile equipment associated with the operations);
- Cement and Asphalt Batch Plants;
- Truck Traffic to and from the Site on Area Roadways.

Existing Adjacent Land Uses:

Adjacent uses generally include farm land with single family residential units adjacent to Ward Lake Road. Other land uses to the north, east and west of the site is generally open and undeveloped land, which is primarily BLM property.

ENVIRONMENTAL SETTING

BACKGROUND INFORMATION ON NOISE

Fundamentals of Acoustics

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

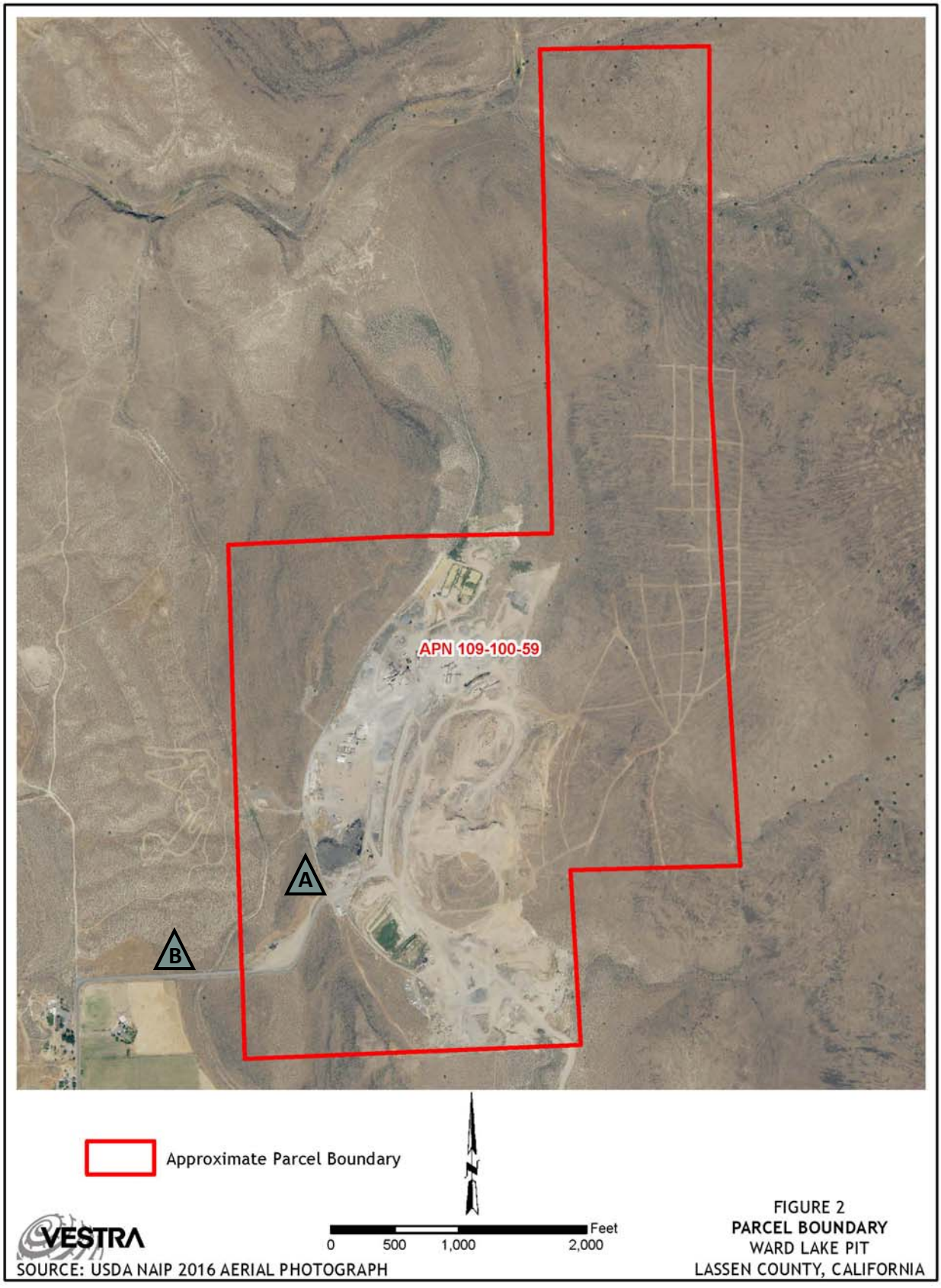
The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Table 1 lists several examples of the noise levels associated with common situations. Appendix A provides a summary of acoustical terms used in this report.



P:\GIS\71305\WardLakeExpansion\ProjectDescription\71305_ParcelBoundary.mxd

Legend

A : Continuous Noise Measurement Site

Figure 1
Project Boundary / Location
& Noise Measurement Sites

j.c. brennan & associates
consultants in acoustics

Date:
6/15/18

Individual Operations Noise Measurement Locations

Figure 2
Project Site Layout

j.c. brennan & associates
consultants in acoustics

Date:
6/15/18

TABLE 1
TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol. November, 20013.

Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING CONDITIONS

EXISTING AMBIENT NOISE LEVELS

To quantify the existing ambient noise environment in the project vicinity due to existing operations, j.c. brennan & associates Inc. conducted continuous hourly noise level measurements for a 24-hour period at two locations. One location was on the project site, and adjacent to the entrance near the office building. The other site was adjacent to Ward Lake Road. The noise level measurements were conducted on Thursday May 3rd - Friday May 4th, 2018.

Noise measurement locations are shown on Figure 1. A summary of the noise level measurement survey results are provided in Table 2. Appendix B contains the complete results of the continuous (24-hr) noise monitoring.

The sound level meters were programmed to record the maximum, median, and average noise levels at each site during the survey. The maximum value, denoted Lmax, represents the highest noise level measured. The average value, denoted Leq, represents the energy average of all of the noise received by the sound level meter microphone during the monitoring period. The median value, denoted L50, represents the sound level exceeded 50 percent of the time during the monitoring period. In addition, the composite 24-hour average noise level (Ldn) was also calculated from the hourly Leq values. The calculated Ldn for each day applies a +10 dBA penalty to all noise which occurs during the nighttime period, which is defined as the hours between 10:00 p.m. and 7:00 a.m.

Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

Table 2
Summary of Existing Continuous Background Noise Measurement Data

MAY 3RD - 4TH, 2018

Site	Ldn	Average Measured Hourly Noise Levels					
		Daytime (7am-10pm)			Nighttime (10pm-7am)		
Site A -Entrance to the Site and Approximately 215-feet from the Scales, and 1,160-feet from the Concrete Plant, and 1,875-feet from the crushing plant	53.5 dBA	Leq	L50	Lmax	Leq	L50	Lmax
		49.4 dBA	39.0 dBA	65.8 dBA	46.5 dBA	33.1 dBA	56.3 dBA
		L2	L8	L25	L2	L8	L25
		47.8 dBA	45.1 dBA	41.9 dBA	40.7 dBA	38.7 dBA	35.9 dBA
Site B - 35-feet from the Ward Lake Road centerline	55.6 dBA	Leq	L50	Lmax	Leq	L50	Lmax
		54.6 dBA	32.7 dBA	78.7 dBA	46.9 dBA	26.8 dBA	68.0 dBA
		L2	L8	L25	L2	L8	L25
		54.6 dBA	42.1 dBA	35.9 dBA	41.5 dBA	34.3 dBA	29.4 dBA

Source: j.c. brennan & associates, Inc., 2018.

EXISTING HAT CREEK MATERIALS FACILITY PLANT OPERATIONS NOISE LEVELS

On May 3rd, 2018, j.c. brennan & associates, Inc. staff conducted noise measurements and observations of the Hat Creek Materials individual operations. The noise measurements were conducted with a Larson Davis Laboratories (LDL) Model 824 precision integrating sound level meter, which was equipped with 1/3 octave and 1/1 octave band filters. The equipment was calibrated prior to, and after the measurements with an LDL Model 200 acoustical calibrator to ensure accuracy of the measurement.. Octave band data was collected, including the hourly average and maximum noise levels. Statistical noise levels were not collected for each individual piece of equipment. It was determined that the overall noise levels collected at Site B, as shown in Table 2 would provide the overall statistical noise levels for the overall operations. Table 3 shows

the results of the individual operations noise measurements. Frequency data was not provided in this report since the noise level standards are based upon A-weighted overall noise levels.

Table 3
Hat Creek Individual Operations Noise Levels

Operation	Location	Sound Level		Source	Photo
		Leq	Lmax		
Sand Plant	**100-feet**	**66.6 dBA**	**74.8 dBA**	**Loader**	
Cement Plant	**100-feet**	**67.7 dBA**	**87.6 dBA**	**Trucks - Plant ops**	
Crushing Ops	**200-feet**	**85.6 dBA**	**88.7 dBA**	**Crushers - Loaders**	
Asphalt Plant	**Center of Site 50-feet from**	**85.6 dBA**	**87.5 dBA**	**Plant - Diesel Generator**	

Table 3
Hat Creek Individual Operations Noise Levels

	Burner **40-feet from Generator**				

Source: j.c. brennan & associates, Inc., 2018

EXISTING TRAFFIC NOISE LEVELS

To describe existing noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. The model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly Leq values for free-flowing traffic conditions. Traffic volumes for existing conditions were obtained from the project traffic consultant. The traffic noise analysis contains the following assumptions:

- Baseline traffic includes an average of 16 one way truck trips per day, which are evenly distributed from 6:00 a.m. to 7:00 p.m.;
- The distribution of truck trips on a typical day (Existing) includes 40 percent traveling east on Center Road, and 60 percent traveling west on Center Road;
- During peak operations, there are up to 350 one way truck trips per day, which are evenly distributed from 6:00 a.m. to 7:00 p.m., with the same trip distribution shown above.

The analysis contained in Table 4 includes the overall 24-hour Ldn, the daytime peak hour, and the nighttime peak hour. Existing traffic noise levels are summarized in Table 4. Appendix C shows the inputs to the FHWA Model.

TABLE 4
PREDICTED EXISTING TRAFFIC NOISE LEVELS

Roadway	Location	Traffic Noise Level @ 75'*	Distance to Noise Contours	
			55 dBA	60 dBA
Traffic Noise Levels During an Average Day with 16 one-way truck trips (6:00 a.m. to 7:00 p.m.)				
Ward Lake Road	Entire Length	47.2 dBA Ldn	23-feet	10-feet
Center Road	West of Ward Lake	51.3 dBA Ldn	43-feet	20-feet
Center Road	East of Ward Lake	48.7 dBA Ldn	28-feet	13-feet
Center Road	East of Cutoff Road	48.3 dBA Ldn	27-feet	12-feet
Traffic Noise Levels During Peak Times with 350 one-way daily truck trips (6:00 a.m. to 7:00 p.m.)				
Ward Lake Road	Entire Length	58.8 dBA Ldn	134-feet	62-feet
Center Road	West of Ward Lake	57.4 dBA Ldn	108-feet	50-feet
Center Road	East of Ward Lake	54.7 dBA Ldn	71-feet	33-feet
Center Road	East of Cutoff Road	54.6 dBA Ldn	71-feet	33-feet
Traffic Noise Levels During an Average Day (Peak Hour Daytime Leq)				
Ward Lake Road	Entire Length	46.1 dBA Leq	19-feet	9-feet
Center Road	West of Ward Lake	52.2 dBA Leq	48-feet	22-feet
Center Road	East of Ward Lake	50.1 dBA Leq	35-feet	16-feet
Center Road	East of Cutoff Road	49.6 dBA Leq	33-feet	15-feet
Traffic Noise Levels During Peak Times (Peak Hour Daytime Leq)				
Ward Lake Road	Entire Length	60.2 dBA Leq	166-feet	77-feet
Center Road	West of Ward Lake	59.3 dBA Leq	145-feet	68-feet
Center Road	East of Ward Lake	56.6 dBA Leq	96-feet	44-feet
Center Road	East of Cutoff Road	56.5 dBA Leq	95-feet	44-feet
Traffic Noise Levels During an Average Day (Peak Hour Nighttime Leq)				
Ward Lake Road	Entire Length	45.7 dBA Leq	18-feet	8-feet
Center Road	West of Ward Lake	48.3 dBA Leq	27-feet	12-feet
Center Road	East of Ward Lake	48.3 dBA Leq	27-feet	12-feet
Center Road	East of Cutoff Road	46.9 dBA Leq	22-feet	10-feet
Traffic Noise Levels During Peak Times (Peak Hour Nighttime Leq)				
Ward Lake Road	Entire Length	45.7 dBA Leq	18-feet	8-feet
Center Road	West of Ward Lake	48.3 dBA Leq	27-feet	12-feet
Center Road	East of Ward Lake	48.3 dBA Leq	27-feet	12-feet
Center Road	East of Cutoff Road	46.9 dBA Leq	22-feet	10-feet

Sources: j.c. brennan & associates, Inc., and FHWA RD-77-108
***** - Roadway noise levels are calculated from the roadway centerline

Materials Facility On-Site Operations Noise Levels at the Nearest Residences

On-site operations associated with Materials Facility on-site activities are generally represented by the measured hourly L50 values. During the daytime, the measured hourly background L50 noise levels due to on-site activities ranged between 27 dBA and 44 dBA at Site B, which represents the nearest residence. The average measured hourly L50 value was 33 dBA at Site B.

During the nighttime hours, the Materials Facility on-site operations resulted in measured

background L50 noise levels ranging from 28 dBA to 45 dBA at Site B, while the plant was operating, which represents the nearest residence. (During the noise measurements, the plant operated during the nighttime hours until approximately 12:00 a.m. to 1:00 a.m.). The noisiest hours occurred during the start-up of operations between the hours of 6:00 a.m. and 8:00 a.m. Otherwise plant operations were represented by the average measured L50 value of 33 dBA.

The noisiest operations associated with the materials facility on-site facilities are the crushing operations, and the asphalt plant operations.

Overall Measured Background Noise Levels

The overall measured background hourly noise levels at Site B, which represents the nearest residence, ranged between 39 dBA and 61 dBA Leq. This included all background noise sources, including the roadway traffic, Materials Facility on-site operations, aircraft overflights, and neighborhood activities.

The measured 24-hour Ldn at Site B was 55.6 dBA.

Maximum noise levels experienced at the nearest residences are due to truck traffic along Ward Lake Road. Based upon signage at one residence along Ward Lake Road, there is concern about the use of engine brakes (jake brakes) from trucks descending the grade as they exit the site.

REGULATORY CONTEXT

LASSEN COUNTY GENERAL PLAN NOISE LEVEL CRITERIA

Lassen County's General Plan Noise element includes noise level policies for land use compatibility. The following summarizes the policies and criteria applicable to the proposed project:

Goal: The overall goals of the Lassen County Noise Element are to protect the citizens of Lassen County from the harmful and annoying effects of exposure to excessive noise, and to protect the economic base of Lassen County by preventing the encroachment of incompatible land uses within areas affected by existing noise-producing uses.

Objectives: The general objectives of the Lassen County Noise Element are to:

1. *Develop and adopt specific policies and an effective implementation program to abate and avoid excessive noise exposures in the county by requiring that effective noise mitigation measures be incorporated into the design of new noise-generating and new noise- sensitive land uses.*

2. *Provide sufficient noise exposure information so that existing and potential noise impacts may be effectively addressed in the land use planning and project review processes.*

3. *Protect areas within the county where the present noise environment is within acceptable limits.*

Implementation

Policy 1: Noise created by locally-regulated noise sources associated with new projects or

developments shall be controlled so as not to exceed the noise level standards as set forth below as measured at any affected residentially designated lands or land use situated in either the incorporated or unincorporated areas. New residential development shall not be allowed where the ambient noise level due to locally-regulated noise sources will exceed the noise level standards as set forth below [Table 5 of this report]. These standards do not apply to residential units established in conjunction with industrial or commercial uses.

Policy 2: The compatibility of proposed projects with existing and future noise levels due to traffic on public roadways, railroad line operations and aircraft in flight shall be evaluated by comparison to [Figure 3 of this report].

Policy 3: Areas within Lassen County shall be defined as noise-impacted if exposed to existing or projected exterior noise levels exceeding either 60 dB L_{dn}/CNEL or the performance standards of Table 5 of this report.

Policy 8: Noise produced by industrial uses shall not exceed 70 dB Ldn at the nearest property line.

Table 5
Lassen County General Plan Noise Level Performance Standards for New Projects and Developments

		Exterior Noise Level Standard, dBA		
Category	Cumulative Number of Minutes in Any One-Hour Time Period	Interpretation	Daytime (7:00 a.m. – 10:00 p.m.)	Nighttime (10:00 p.m. – 7:00 a.m.)
1	30	L50	50	40
2	15	L25	55	45
3	5	L8	60	50
4	1	L1.5	65	55
5	0	Lmax	70	60
Each of the noise level standards specified above shall be reduced by 5 dBA for simple tone noise sources, noises consisting primarily of speech or music, or for recurring impulsive noises.				

DETERMINATION OF A SIGNIFICANT INCREASE IN NOISE LEVELS

California Environmental Quality Act (CEQA) guidelines define a significant impact of a project if it "increases substantially the ambient noise levels for adjoining areas." Table 6 is based upon recommendations made in August 1992 by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been asserted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the L_{dn}.

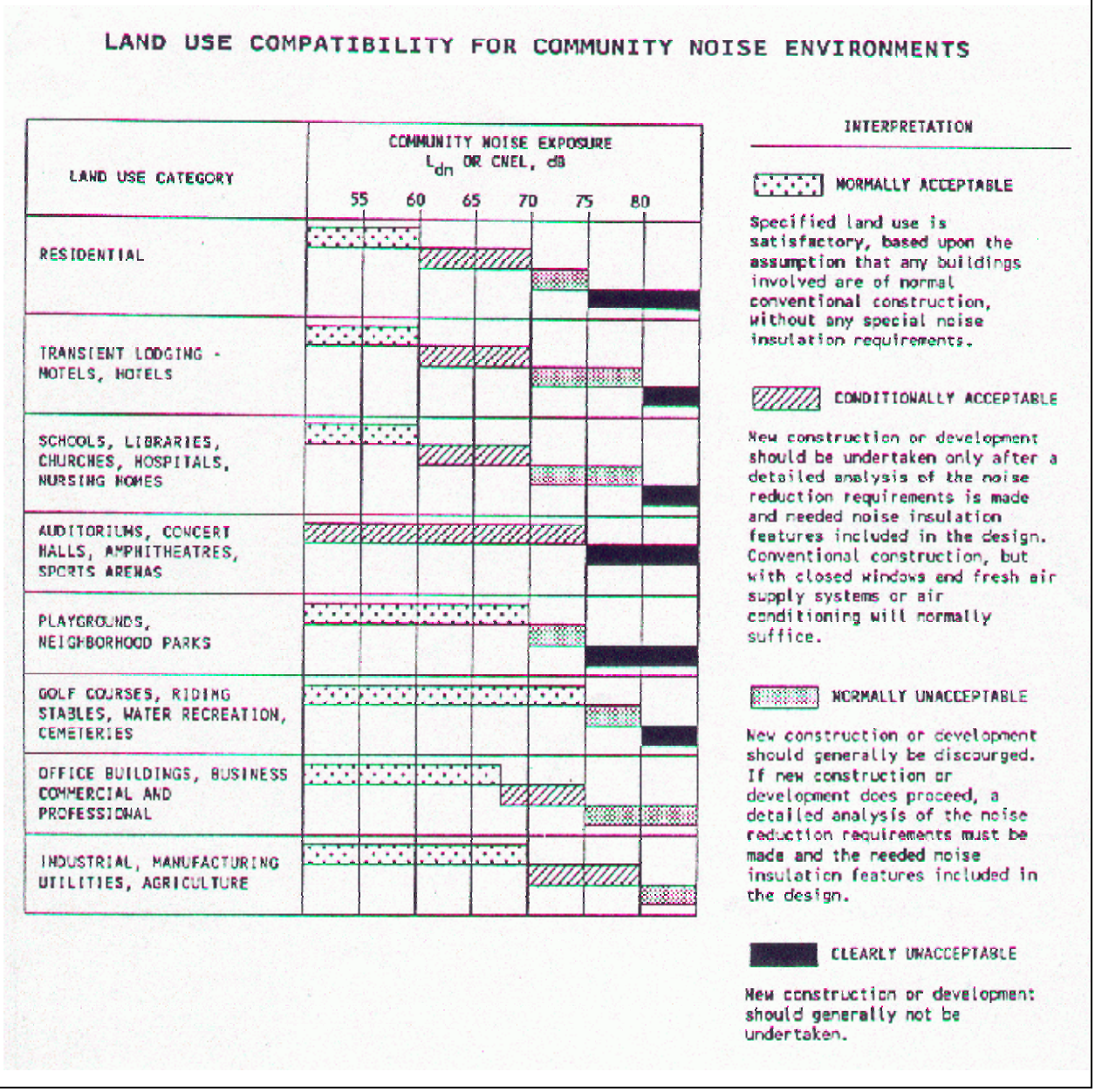
Based upon the Table 6 criteria, an increase in the traffic noise level of 1.5 dB or more would be significant where the ambient noise level exceeds 65 dB L_{dn}. The rationale for the Table 3 criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause significant annoyance.

Table 6
Determination of a Significant Increase in Noise Levels

Ambient Noise Level Without Project, L_{dn}/CNEL	Increase Required for Significant Impact
<60 dBA	+5.0 dB or more
60-65 dBA	+3.0 dB or more
>65 dBA	+1.5 dB or more

Source: FICON, August 1992.

Figure 3



Source: Lassen County General Plan

STANDARDS OF SIGNIFICANCE

CEQA Guidelines define a significant adverse impact on the environment as an impact that would:

a. Exposure of persons to or generation of noise levels in excess of standards established in the Lassen County General Plan. Specifically, exterior noise levels exceeding 60 dBA Ldn, or the performance standards contained in Table 5.

b. Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels. Specifically, a threshold of 0.1 in/sec p.p.v. is considered a safe criterion that would protect against architectural or structural damage and human annoyance.

b. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, as defined by the FICON criteria contained in Table 6.

c. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project, as defined by the FICON criteria contained in Table 6.

d. For a project located within an airport land use plan or, where such a plan has not be adopted, within two miles of a public airport or public use airport, where the project would expose people residing or working in the area to excessive noise levels.

e. For a project within the vicinity of a private airstrip, where the project would expose people residing or working in the project area to excessive noise levels.

PROJECT IMPACTS

FUTURE MATERIALS FACILITY NOISE IMPACTS

The potential for the project operations to result in noise impacts are expected to be due to the extended hours of operations of the on-site plant activities, and the additional materials haul trucks on the local roadway system.

Extended Hours of Operations

During the extended hours of operations, the asphalt batch plant, cement batch plant and crushing operations are expected to occur. The sand plant will not operate during the extended hours of operations. Based upon the measured background noise levels at Site B, it is expected that the on-site activities, which include the batch plants and crushing operations, will result in hourly noise levels equal to, or less than, 45 dBA L50. As stated earlier, the primary increase in L50 values occurred between 6:00 a.m. and 8:00 a.m. during the start-up operations. Once operations occur, they are generally in the mid 30 dBA L50 range.

Based upon the analysis, the nighttime noise levels could exceed the noise level criteria shown on Table 5 of 40 dBA L50, if start-up operations occur during the nighttime hours of 10:00 p.m. to 7:00 a.m.

Materials Haul Truck Operations

To describe project impact noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was once again used. The model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly Leq values for free-flowing traffic conditions. Traffic volumes for existing conditions were obtained from the project traffic consultant. The analysis contained in Table 7 includes the Existing plus Project overall 24-hour Ldn, the daytime peak hour, and the nighttime peak hour. Existing plus Project traffic noise levels are summarized in Table 7. Appendix C shows the inputs to the FHWA Model.

As stated earlier in this report, the traffic noise analysis contains the following assumptions:

- Baseline traffic includes an average of 16 one way truck trips per day, which are evenly distributed from 6:00 a.m. to 7:00 p.m.;
- Truck trips during peak conditions (Plus Project) includes 350 one-way truck trips per day, which are evenly distributed over a 24-hour period;
- The distribution of truck trips on a typical day (Existing) includes 40 percent traveling east on Center Road, and 60 percent traveling west on Center Road;
- Under Project conditions, there is no changes to the existing truck trips (16 one-way);

Under Project conditions, and during nighttime operations, all nighttime truck traffic will be required to turn west on Center Road.

TABLE 7
PREDICTED EXISTING + PROJECT TRAFFIC NOISE LEVELS

Roadway	Location	Traffic Noise Level @ 75'*	Distance to Noise Contours	
			55 dBA	60 dBA
Traffic Noise Levels (24-hour Ldn)				
Ward Lake Road	Entire Length	63.6 dBA Ldn	280-feet	130-feet
Center Road	West of Ward Lake	63.1 dBA Ldn	261-feet	121-feet
Center Road	East of Ward Lake	54.9 dBA Ldn	74-feet	35-feet
Center Road	East of Cutoff Road	54.7 dBA Ldn	72-feet	33-feet
Traffic Noise Levels (Peak Hour Daytime Leq)				
Ward Lake Road	Entire Length	57.3 dBA Leq	107-feet	50-feet
Center Road	West of Ward Lake	57.1 dBA Leq	103-feet	48-feet
Center Road	East of Ward Lake	54.4 dBA Leq	68-feet	32-feet
Center Road	East of Cutoff Road	54.2 dBA Leq	67-feet	31-feet
Traffic Noise Levels (Peak Hour Nighttime Leq)				
Ward Lake Road	Entire Length	57.3 dBA Leq	106-feet	49-feet
Center Road	West of Ward Lake	58.3 dBA Leq	125-feet	58-feet
Center Road	East of Ward Lake	46.2 dBA Leq	19-feet	9-feet
Center Road	East of Cutoff Road	43.3 dBA Leq	12-feet	6-feet

Sources: j.c. brennan & associates, Inc., and FHWA RD-77-108
***** - Roadway noise levels are calculated from the roadway centerline

Based upon Table 7, the project would exceed the 60 dBA Ldn noise level standard along Ward Lake Road, and a portion of Center Road, west of Ward Lake Road.

Also, based upon comparison of Table 7 to Table 4, the project would result in increases in traffic noise levels between 6 dBA and 16 dBA Ldn along the Material Haul Truck routes during typical operating operations (16-one-way trips). The project would result in increases in peak hour traffic noise levels between 4 dBA and 11 dBA Leq during the daytime hours during typical operating operations (16-one-way trips). During the nighttime hours, the peak hour traffic associated with the project would increase the nighttime peak hour noise level along Ward Lake Road by approximately 12 dBA Leq during typical operating operations (16-one-way trips).

During the nighttime hours, the peak hour traffic associated with the project would increase the nighttime peak hour noise level along Center Road (West of Ward Lake Road) by approximately 10 dBA Leq during typical operating operations (16-one-way trips). Peak hour traffic noise during the nighttime hours would decrease along Center Road (East of Ward Lake Road). This is due to the fact that no truck traffic would occur along this section of roadway between the 6:00 a.m. to 7:00 a.m. hour, which is considered to be a nighttime hour.

The increases in traffic noise levels would exceed the acceptable increases in traffic noise as described by CEQA.

MITIGATION MEASURES

Materials Facility Operations

Mitigation measures for the Materials Facility operations to reduce on-site operations to a less than significant level include the following:

1. Restrict the start-up operations to between the hours of 7:00 a.m. to 10:00 p.m.

Material Haul Truck Traffic

Due to the number of Material Haul Trucks utilizing the facility, the project can reduce the noise impacts to comply with the 60 dB Ldn noise level standard with the following mitigation measures. However, the project would not be able to result in a less than significant increase in truck traffic noise levels unless overall truck traffic is reduced to 62 total trucks per 24-hour period.

1. Restrict the use of engine brakes leaving the project site;

2. Reduce the number of trucks per day to 250 (125 arriving and 125 departing).

Appendix A
Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
$L_{(n)}$	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L_{50} is the sound level exceeded 50% of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
NRC	Noise Reduction Coefficient. NRC is a single-number rating of the sound-absorption of a material equal to the arithmetic mean of the sound-absorption coefficients in the 250, 500, 1000, and 2,000 Hz octave frequency bands rounded to the nearest multiple of 0.05. It is a representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption.
Peak Noise	The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the AMaximum@ level, which is the highest RMS level.
RT_{60}	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 Sabin.
SEL	Sound Exposure Level. SEL is s rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.
STC	Sound Transmission Class. STC is an integer rating of how well a building partition attenuates airborne sound. It is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

Appendix B
Ward Lake Quarry Expansion
24hr Continuous Noise Monitoring - Site A
May 3-4, 2018

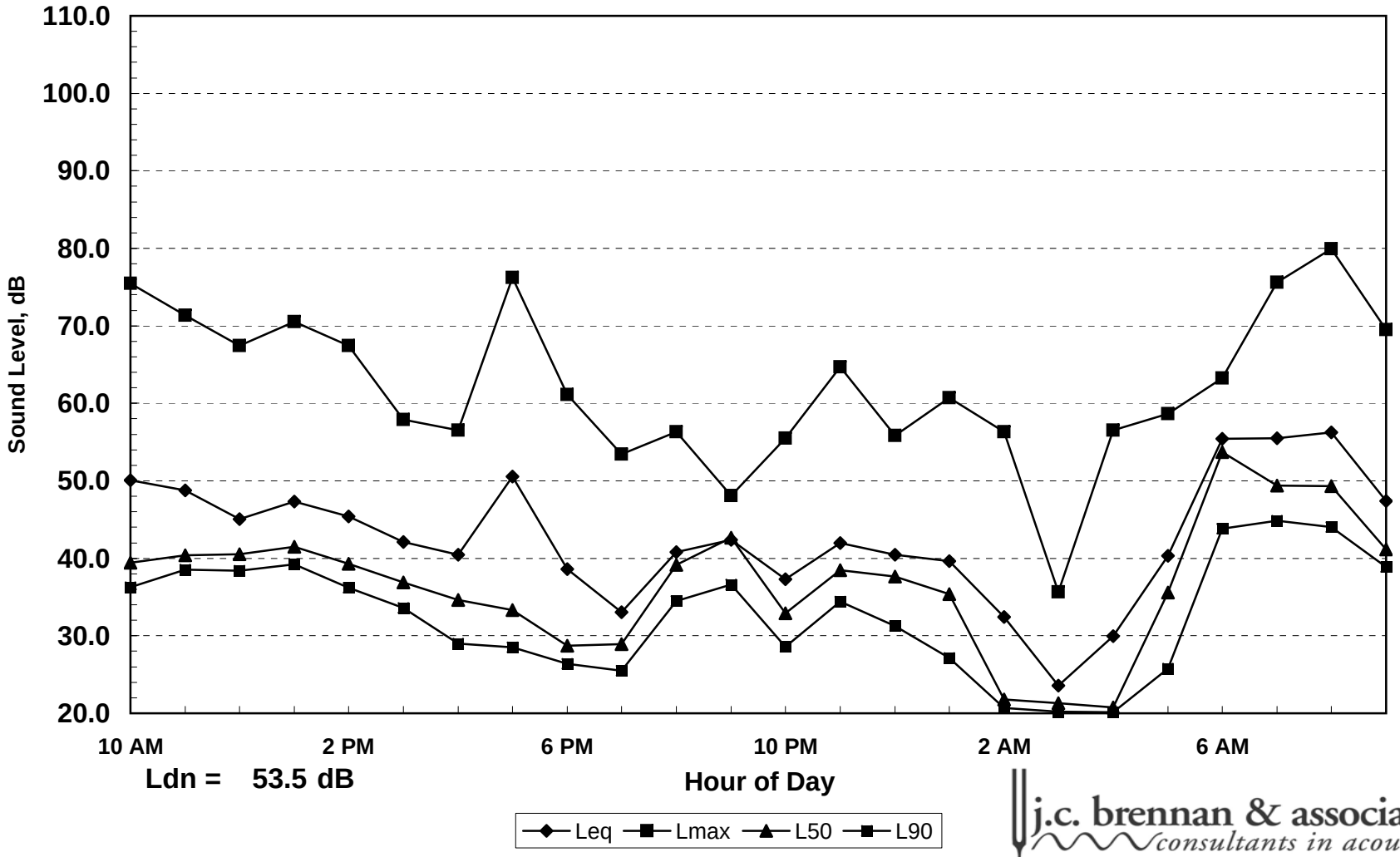
Hour	Leq	Lmax	L50	L90
10:00	50.1	75.4	39.4	36.3
11:00	48.8	71.4	40.4	38.5
12:00	45.1	67.4	40.6	38.4
13:00	47.3	70.5	41.5	39.2
14:00	45.4	67.5	39.3	36.2
15:00	42.1	57.9	36.9	33.6
16:00	40.4	56.5	34.6	29.0
17:00	50.5	76.3	33.3	28.5
18:00	38.6	61.1	28.8	26.4
19:00	33.0	53.4	28.9	25.5
20:00	40.8	56.3	39.1	34.5
21:00	42.4	48.1	42.6	36.6
22:00	37.3	55.5	32.9	28.6
23:00	42.0	64.7	38.5	34.4
0:00	40.4	55.9	37.6	31.3
1:00	39.7	60.7	35.4	27.1
2:00	32.5	56.3	21.8	20.7
3:00	23.6	35.6	21.3	20.2
4:00	30.0	56.5	20.8	20.1
5:00	40.3	58.6	35.6	25.8
6:00	55.4	63.2	53.7	43.8
7:00	55.5	75.6	49.4	44.9
8:00	56.2	79.9	49.3	44.0
9:00	47.4	69.5	41.2	38.9

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	56.2	33.0	49.4	55.4	23.6	46.5
Lmax (Maximum)	79.9	48.1	65.8	64.7	35.6	56.3
L50 (Median)	49.4	28.8	39.0	53.7	20.8	33.1
L90 (Background)	44.9	25.5	35.4	43.8	20.1	28.0

Computed Ldn, dB	53.5
% Daytime Energy	76%
% Nighttime Energy	24%

j.c. brennan & associates
consultants in acoustics

Appendix B
Ward Lake Quarry Expansion
24hr Continuous Noise Monitoring - Site A
May 3-4, 2018



Ldn = 53.5 dB

j.c. brennan & associates
consultants in acoustics

Appendix B
Ward Lake Quarry Expansion
24hr Continuous Noise Monitoring - Site B
May 3-4, 2018

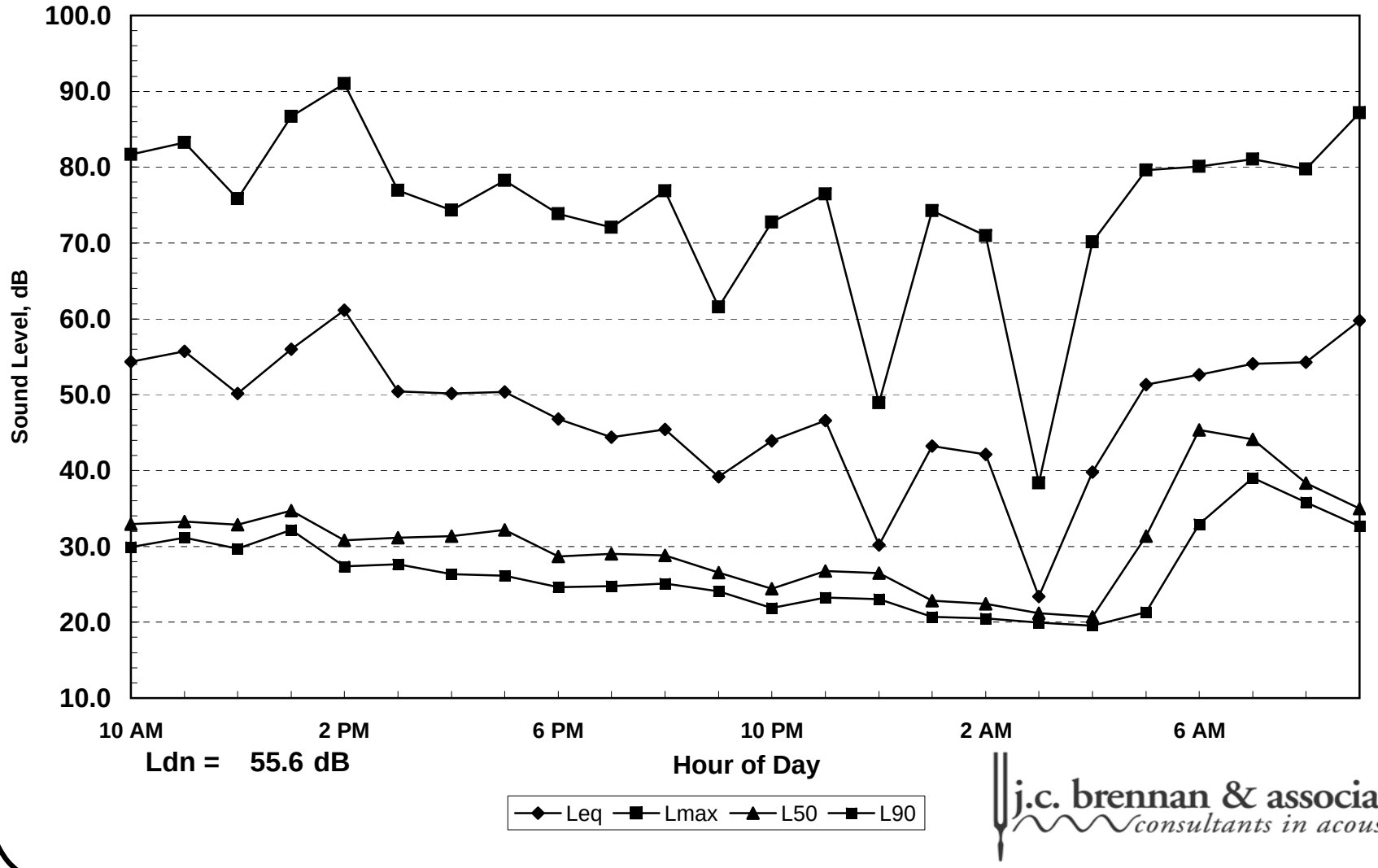
Hour	Leq	Lmax	L50	L90
10:00	54.4	81.7	32.9	29.9
11:00	55.7	83.2	33.3	31.1
12:00	50.2	75.8	32.9	29.7
13:00	56.0	86.7	34.7	32.1
14:00	61.1	91.0	30.8	27.4
15:00	50.5	77.0	31.2	27.7
16:00	50.2	74.3	31.4	26.3
17:00	50.4	78.3	32.2	26.1
18:00	46.8	73.9	28.7	24.6
19:00	44.4	72.1	29.1	24.8
20:00	45.5	76.9	28.8	25.1
21:00	39.2	61.6	26.5	24.1
22:00	43.9	72.8	24.4	21.9
23:00	46.6	76.4	26.8	23.2
0:00	30.2	48.9	26.5	23.1
1:00	43.2	74.2	22.8	20.7
2:00	42.2	70.9	22.5	20.5
3:00	23.4	38.4	21.2	19.9
4:00	39.8	70.2	20.7	19.6
5:00	51.3	79.6	31.3	21.3
6:00	52.6	80.1	45.4	32.9
7:00	54.0	81.1	44.1	39.0
8:00	54.3	79.8	38.3	35.8
9:00	59.8	87.2	35.0	32.6

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	61.1	39.2	54.6	52.6	23.4	46.9
Lmax (Maximum)	91.0	61.6	78.7	80.1	38.4	68.0
L50 (Median)	44.1	26.5	32.7	45.4	20.7	26.8
L90 (Background)	39.0	24.1	29.1	32.9	19.6	22.6

Computed Ldn, dB	55.6
% Daytime Energy	91%
% Nighttime Energy	9%

j.c. brennan & associates
consultants in acoustics

Appendix B
Ward Lake Quarry Expansion
24hr Continuous Noise Monitoring - Site B
May 3-4, 2018



Ldn = 55.6 dB

j.c. brennan & associates
consultants in acoustics

Appendix C
FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2018-117
Description: Existing ADT
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Ward Lake Road	Entire Length	140	90		10	2.0	12.0	25	75	
2	Center Road	West of Ward Lake	510	90		10	1.0	2.3	45	75	
3	Center Road	East of Ward Lake	550	90		10	1.0	1.5	35	75	
4	Center Road	East of Cutoff Road	490	90		10	1.0	1.6	35	75	
5										75	
6										75	
7										75	
8										75	
9										75	
10										75	
11										75	
12										75	
13										75	
14										75	
15										75	
16										75	
17										75	
18										75	
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											

C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2018-117
Description: Existing ADT
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Ward Lake Road	Entire Length	36.0	31.3	46.7	47.2
2	Center Road	West of Ward Lake	49.5	37.9	46.0	51.3
3	Center Road	East of Ward Lake	46.7	36.5	43.5	48.7
4	Center Road	East of Cutoff Road	46.2	36.0	43.2	48.3

Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Noise Contour Output

Project #: 2018-117
Description: Existing ADT
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	Ward Lake Road	Entire Length	1	2	5	10	23
2	Center Road	West of Ward Lake	2	4	9	20	43
3	Center Road	East of Ward Lake	1	3	6	13	28
4	Center Road	East of Cutoff Road	1	3	6	12	27

Appendix C
FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2018-117
Description: Existing Peak ADT with Peak Conditions 350 Daily Trucks
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Ward Lake Road	Entire Length	474	95		5	1.0	74.0	25	75	
2	Center Road	West of Ward Lake	770	97		3	1.0	27.0	45	75	
3	Center Road	East of Ward Lake	682	97		3	1.0	21.0	35	75	
4	Center Road	East of Cutoff Road	622	97		3	1.0	23.0	35	75	
5										75	
6										75	
7										75	
8										75	
9										75	
10										75	
11										75	
12										75	
13										75	
14										75	
15										75	
16										75	
17										75	
18										75	
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											

C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2018-117

Description: Existing Peak ADT with Peak Conditions 350 Daily Trucks

Ldn/CNEL: Ldn

Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Ward Lake Road	Entire Length	34.8	32.4	58.7	58.8
2	Center Road	West of Ward Lake	48.3	37.9	56.7	57.4
3	Center Road	East of Ward Lake	44.9	35.7	54.1	54.7
4	Center Road	East of Cutoff Road	44.4	35.3	54.1	54.6

j.c. brennan & associates
consultants in acoustics

Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Noise Contour Output

Project #: 2018-117

Description: Existing Peak ADT with Peak Conditions 350 Daily Trucks

Ldn/CNEL: Ldn

Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	Ward Lake Road	Entire Length	6	13	29	62	134
2	Center Road	West of Ward Lake	5	11	23	50	108
3	Center Road	East of Ward Lake	3	7	15	33	71
4	Center Road	East of Cutoff Road	3	7	15	33	71

Appendix C
FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Data Input Sheet - Peak Hour Leq
Peak Hour Leq daytime

Project #: 2018-117
Description: Existing Conditions
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Peak Hour Volume	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Ward Lake Road	Entire Length	14	1.0	7.0	25	75	
2	Center Road	West of Ward Lake	51	1.0	2.0	45	75	
3	Center Road	East of Ward Lake	55	1.0	2.0	35	75	
4	Center Road	East of Cutoff Road	49	1.0	2.0	35	75	
5							75	
6							75	
7							75	
8							75	
9							75	
10							75	
11							75	
12							75	
13							75	
14							75	
15							75	
16							75	
17							75	
18							75	
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								

Appendix C

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)

Predicted Levels

Peak Hour Leq daytime

Project #: 2018-117

Description: Existing Conditions

Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Ward Lake Road	Entire Length	37.3	29.3	45.4	46.1
2	Center Road	West of Ward Lake	50.5	38.9	46.4	52.2
3	Center Road	East of Ward Lake	47.7	37.5	45.7	50.1
4	Center Road	East of Cutoff Road	47.2	37.0	45.2	49.6
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!

Appendix C

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)

Noise Contour Output

Peak Hour Leq daytime

Project #: 2018-117

Description: Existing Conditions

Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	Ward Lake Road	Entire Length	1	2	4	9	19
2	Center Road	West of Ward Lake	2	5	10	22	48
3	Center Road	East of Ward Lake	2	4	8	16	35
4	Center Road	East of Cutoff Road	2	3	7	15	33

Appendix C
FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Data Input Sheet - Peak Hour Leq
Peak Hour Leq Nighttime

Project #: 2018-117
Description: Existing Conditions
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Peak Hour Volume	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Ward Lake Road	Entire Length	5	1.0	20.0	25	75	
2	Center Road	West of Ward Lake	12	1.0	8.0	45	75	
3	Center Road	East of Ward Lake	27	1.0	4.0	35	75	
4	Center Road	East of Cutoff Road	14	1.0	7.0	35	75	
5							75	
6							75	
7							75	
8							75	
9							75	
10							75	
11							75	
12							75	
13							75	
14							75	
15							75	
16							75	
17							75	
18							75	
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								

Appendix C

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)

Predicted Levels

Peak Hour Leq Nighttime

Project #: 2018-117

Description: Existing Conditions

Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Ward Lake Road	Entire Length	32.2	24.8	45.5	45.7
2	Center Road	West of Ward Lake	44.0	32.6	46.1	48.3
3	Center Road	East of Ward Lake	44.5	34.4	45.7	48.3
4	Center Road	East of Cutoff Road	41.5	31.6	45.2	46.9
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!

Appendix C

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)

Noise Contour Output

Peak Hour Leq Nighttime

Project #: 2018-117

Description: Existing Conditions

Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	Ward Lake Road	Entire Length	1	2	4	8	18
2	Center Road	West of Ward Lake	1	3	6	12	27
3	Center Road	East of Ward Lake	1	3	6	12	27
4	Center Road	East of Cutoff Road	1	2	5	10	22

Appendix C
FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Data Input Sheet - Peak Hour Leq
Peak Hour Leq daytime

Project #: 2018-117
Description: Existing Conditions Peak Conditions with 350 daily trucks
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Peak Hour Volume	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Ward Lake Road	Entire Length	43	1.0	68.0	25	75	
2	Center Road	West of Ward Lake	68	1.0	25.0	45	75	
3	Center Road	East of Ward Lake	67	1.0	17.0	35	75	
4	Center Road	East of Cutoff Road	60	1.0	19.0	35	75	
5							75	
6							75	
7							75	
8							75	
9							75	
10							75	
11							75	
12							75	
13							75	
14							75	
15							75	
16							75	
17							75	
18							75	
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								

Appendix C

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)

Predicted Levels

Peak Hour Leq daytime

Project #: 2018-117

Description: Existing Conditions Peak Conditions with 350 daily trucks

Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Ward Lake Road	Entire Length	37.5	34.2	60.1	60.2
2	Center Road	West of Ward Lake	50.6	40.2	58.6	59.3
3	Center Road	East of Ward Lake	47.8	38.4	55.9	56.6
4	Center Road	East of Cutoff Road	47.2	37.9	55.9	56.5
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!

Appendix C

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)

Noise Contour Output

Peak Hour Leq daytime

Project #: 2018-117

Description: Existing Conditions Peak Conditions with 350 daily trucks

Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	Ward Lake Road	Entire Length	8	17	36	77	166
2	Center Road	West of Ward Lake	7	15	31	68	145
3	Center Road	East of Ward Lake	4	10	21	44	96
4	Center Road	East of Cutoff Road	4	9	20	44	95

Appendix C
FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2018-117
Description: Existing + Project ADT
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Ward Lake Road	Entire Length	490	62		38	1.0	71.0	25	75	
2	Center Road	West of Ward Lake	860	77		23	1.0	40.0	45	75	
3	Center Road	East of Ward Lake	643	90		10	1.0	15.0	35	75	
4	Center Road	East of Cutoff Road	583	90		10	1.0	16.0	35	75	
5										75	
6										75	
7										75	
8										75	
9										75	
10										75	
11										75	
12										75	
13										75	
14										75	
15										75	
16										75	
17										75	
18										75	
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											

C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2018-117

Description: Existing + Project ADT

Ldn/CNEL: Ldn

Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Ward Lake Road	Entire Length	40.3	37.4	63.5	63.6
2	Center Road	West of Ward Lake	51.7	42.2	62.8	63.1
3	Center Road	East of Ward Lake	46.7	37.2	54.1	54.9
4	Center Road	East of Cutoff Road	46.3	36.8	54.0	54.7

Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Noise Contour Output

Project #: 2018-117

Description: Existing + Project ADT

Ldn/CNEL: Ldn

Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	Ward Lake Road	Entire Length	13	28	60	130	280
2	Center Road	West of Ward Lake	12	26	56	121	261
3	Center Road	East of Ward Lake	3	7	16	35	74
4	Center Road	East of Cutoff Road	3	7	16	33	72

Appendix C
FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Data Input Sheet - Peak Hour Leq
Peak Hour Leq daytime

Project #: 2018-117
Description: Existing + Project Conditions daytime Leq
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Peak Hour Volume	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Ward Lake Road	Entire Length	29	1.0	52.0	25	75	
2	Center Road	West of Ward Lake	60	1.0	15.0	45	75	
3	Center Road	East of Ward Lake	61	1.0	10.0	35	75	
4	Center Road	East of Cutoff Road	55	1.0	11.0	35	75	
5							75	
6							75	
7							75	
8							75	
9							75	
10							75	
11							75	
12							75	
13							75	
14							75	
15							75	
16							75	
17							75	
18							75	
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								

Appendix C

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)

Predicted Levels

Peak Hour Leq daytime

Project #: 2018-117

Description: Existing + Project Conditions daytime Leq

Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Ward Lake Road	Entire Length	37.6	32.5	57.3	57.3
2	Center Road	West of Ward Lake	50.6	39.6	55.9	57.1
3	Center Road	East of Ward Lake	47.8	38.0	53.2	54.4
4	Center Road	East of Cutoff Road	47.3	37.5	53.1	54.2
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!

Appendix C

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)

Noise Contour Output

Peak Hour Leq daytime

Project #: 2018-117

Description: Existing + Project Conditions daytime Leq

Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	Ward Lake Road	Entire Length	5	11	23	50	107
2	Center Road	West of Ward Lake	5	10	22	48	103
3	Center Road	East of Ward Lake	3	7	15	32	68
4	Center Road	East of Cutoff Road	3	7	14	31	67

Appendix C
FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Data Input Sheet - Peak Hour Leq
Peak Hour Leq Nighttime

Project #: 2018-117
Description: Existing + Project Nighttime Leq
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Peak Hour Volume	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Ward Lake Road	Entire Length	20	1.0	75.0	25	75	
2	Center Road	West of Ward Lake	27	1.0	56.0	45	75	
3	Center Road	East of Ward Lake	27	1.0	1.0	35	75	
4	Center Road	East of Cutoff Road	14	1.0	1.0	35	75	
5							75	
6							75	
7							75	
8							75	
9							75	
10							75	
11							75	
12							75	
13							75	
14							75	
15							75	
16							75	
17							75	
18							75	
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								

Appendix C

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)

Predicted Levels

Peak Hour Leq Nighttime

Project #: 2018-117

Description: Existing + Project Nighttime Leq

Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Ward Lake Road	Entire Length	33.0	30.9	57.2	57.3
2	Center Road	West of Ward Lake	44.2	36.1	58.1	58.3
3	Center Road	East of Ward Lake	44.7	34.4	39.6	46.2
4	Center Road	East of Cutoff Road	41.8	31.6	36.8	43.3
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!
			#NUM!	#NUM!	#NUM!	#NUM!

Appendix C

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)

Noise Contour Output

Peak Hour Leq Nighttime

Project #: 2018-117

Description: Existing + Project Nighttime Leq

Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	Ward Lake Road	Entire Length	5	11	23	49	106
2	Center Road	West of Ward Lake	6	12	27	58	125
3	Center Road	East of Ward Lake	1	2	4	9	19
4	Center Road	East of Cutoff Road	1	1	3	6	12

Appendix I

Traffic Study

SOLAEGUI
ENGINEERS

February 14, 2019

Ms. Wendy Johnson
Vestra
5300 Aviation Drive
Redding, California 96002

Re: Ward Lake Pit

Dear Wendy:

Per your request we prepared this letter with responses to the comments posed by GHD in their December 21, 2018 peer review letter of the Updated Hat Creek Material Facility Transportation Analysis.

They comment on the 25 mile per hour speed zone on a curve on Cutoff Road. They ask that we confirm if this is the posted speed limit or just a curve warning sign. It is a curve warning sign.

Trip Generation comments are listed. We obtained updated trip data from you in your January 22, 2019 letter. We understand these updated volumes have been coordinated with Lassen County staff. We assume that the GHD comments are clarified and resolved with your updated volume data. We will use your updated data for the balance of this response letter.

One Trip Distribution and Assignment comment is listed. Input provided by you is the basis for the updated trip distribution and assignment we are to use in this letter and analysis.

Two Existing and Projected Traffic Volume comments are listed. The first asks for the dates and days when the existing traffic counts were performed. The counts were performed on Tuesday April 17, 2018 and Wednesday April 18, 2018.

The second comment addresses the use of a 10% peak hour factor. Actual traffic counts by Caltrans indicate peak hour factors of 12% to 14% on US-395 near the site. We used the 10% peak hour factor to estimate average daily traffic volumes in order to ensure conservative volumes.

Four Intersection Capacity Analysis comments are listed. The first asks that the analysis software and version be stated. We used the HCS7, TWSC Version 7.4 software as noted on the bottom of the capacity analysis reports included in the appendix of the study.

The second comment suggests that crash data be included. This information is not available within the time constraints of the preparation of this response letter.

The third comment discusses the need for an exclusive eastbound right turn lane on Center Road at the Cutoff Road intersection. With this response letter we are including an update to the trip generation, distribution, assignment and capacity analysis. These update results include discussion of the right turn lane. The updated portions of the study are presented below.

The fourth comments seeks cumulative analysis. No other uses have been identified for cumulative analysis. We understand that Vestra may calculate trip numbers for the nearby BLM pit and present then in another document.

Your January 22, 2019 letter establishes updated trip totals and speaks of the preparation of a revised analysis. The updated Trip Generation, Trip Distribution and Assignment, Existing and Projected Traffic Volumes, and Intersection Capacity Analysis, and Recommendation sections are discussed below.

TRIP GENERATION

In order to assess the magnitude of traffic impacts of the project's expanded operation on the adjacent street network, daily and peak hour trip generation volumes had to be determined. The night peak hour occurring from 9:00 to 10:00 PM was analyzed based on your input.

The proposed night operation is to include a maximum of 358 material hauling trucks per day which amounts to 358 arriving trucks and 358 departing trucks per day. The daily trip generation is therefore 716 material hauling trucks per day. These material hauling trucks are assumed to be equally dispersed throughout an eleven-hour work period (7:00 PM to 6:00 AM) resulting in 33 trips entering and 33 trips departing during the 9:00 to 10:00 PM peak hour.

Additional traffic entering and departing the site includes employees. The proposed operation will include up to 20 seasonal employees resulting in daily trip generation volumes of 40 employee trips per day (20 entering and 20 exiting). The employees will enter the site before and depart the site after the 9:00 to 10:00 PM peak hour so they generate no peak hour trips. The night operations will not generate supplier trucks per your input.

Table 1 shows a summary of the daily traffic volumes and peak hour volumes generated by the expanded operation.

TABLE 1
TRIP GENERATION

LAND USE	DAILY	NIGHT PEAK HOUR	
		IN	OUT
Material Hauling Trucks	716	33	33
Seasonal Employees	40	0	0
Total	756	33	33

TRIP DISTRIBUTION AND ASSIGNMENT

The distribution of the project traffic to the key roadways and intersections was based on input provided by you. The attached Figure 2 shows the updated trip distribution. The daily traffic and peak hour trips shown in Table 1 were subsequently assigned to the key roadways and intersections based on the trip distribution percentages. The attached Figure 3 shows the updated daily trip assignment volumes on the key roadways and the peak hour traffic volumes at the key intersections.

EXISTING AND PROJECTED TRAFFIC VOLUMES

The attached Figure 4 shows the existing traffic volumes at the key intersections during the 9:00 to 10:00 PM peak hour. As previously stated the counts were performed on Tuesday April 17, 2018 and Wednesday April 18, 2018.

Figure 4 also shows the existing daily traffic volumes on the adjacent roadway segments. The existing daily traffic volumes were not counted but instead were estimated by applying a 10% peak hour factor to the 4:00 to 5:00 PM peak hour roadway volumes presented in the original traffic study for the project. The peak hour factor is the ratio of hourly traffic volume to the daily traffic volume. The daily traffic volumes on the various roadway segments were therefore calculated by dividing the peak hour link volumes by 10%. For example, the existing daily traffic volume on Center Road just west of Ward Creek Road (510 vehicles per day) was calculated by adding the eastbound left turn volume (2 vehicles per hour), eastbound through volume (19 vehicles per hour), westbound through volume (27 vehicles per hour), and southbound right turn volume (3 vehicles per hour) and then dividing the sum (51 vehicles per hour) by the 10% PM peak hour factor. This method of estimating daily traffic volumes was discussed with and subsequently approved by Lassen County Department of Public Works staff (Bob McGarva) during the scoping of the traffic study.

The California Department of Transportation (Caltrans) publishes actual daily traffic volumes on some of their roadways. However, our research of Caltrans traffic volumes indicates that no count information is available on Center Road or Ward Lake Road. As previously stated in this letter, actual traffic counts by Caltrans indicate peak hour factors of 12 to 14 percent on US-395 east of the project site. The 10% peak hour factor was used to estimate average daily traffic volumes in order to ensure conservative volumes.

The attached Figure 5 shows the existing plus project traffic volumes at the key intersections during the 9:00 to 10:00 PM peak hour and the existing plus project daily traffic volumes on the key roadways. The existing plus project traffic volumes were obtained by adding the trip assignment volumes shown on Figure 3 to the existing traffic volumes shown on Figure 4.

INTERSECTION CAPACITY ANALYSIS

The Center Road/Ward Lake Road and Center Road/Cutoff Road intersections were analyzed for capacity based on procedures presented in the *Highway Capacity Manual (6th Edition)*, prepared by the Transportation Research Board, for unsignalized intersections. As previously stated the HCS7, TWSC Version 7.4 software was used to analyze the intersections. The software has since been updated to Version 7.7.

The result of capacity analysis is a level of service (LOS) rating for each unsignalized intersection minor movement. Level of service is a qualitative measure of traffic operating conditions where a letter grade "A" through "F", corresponding to progressively worsening traffic operation, is assigned to the intersection minor movement.

The *Highway Capacity Manual* defines level of service for stop controlled intersections in terms of computed or measured control delay for each minor movement. Level of service is not defined for the intersection as a whole. The level of service criteria for unsignalized intersections is shown in Table 2.

TABLE 2
LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	DELAY RANGE (SEC/VEH)
A	≤10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	>50

Table 3 shows the level of service and delay results at the key intersections for the existing and existing plus project scenarios. The capacity worksheets are attached.

TABLE 3
INTERSECTION LEVEL OF SERVICE AND DELAY RESULTS

INTERSECTION/MOVEMENT	EXISTING 9:00-10:00 PM	EXISTING + PROJECT 9:00-10:00 PM
Center Road & Ward Lake Road		
Eastbound Left	A7.3	A7.8
Southbound Left-Right	A8.5	A9.0
Center Road & Cutoff Road		
Eastbound Left	A7.3	A7.3
Westbound Left	A7.3	A7.3
Northbound Left-Thru-Right	A8.7	A8.7
Southbound Left-Thru-Right	A0.0	A0.0

Center Road/Ward Lake Road Intersection

The Center Road/Ward Lake Road intersection was analyzed as an unsignalized three-leg intersection with stop sign control at the north approach for the existing and existing plus project traffic volumes. The intersection minor movements currently operate at LOS A during the Night peak hour. For the existing plus project traffic volumes the intersection minor movements continue to operate at LOS A during the Night peak hour. The intersection was analyzed with the existing approach lanes for both scenarios.

The need for an exclusive eastbound left turn lane on Center Road at the Ward Lake Road intersection was reviewed based on Table 9-23 of the AASHTO publication *A Policy on Geometric Design of Highways and Streets*. A copy of this table is attached. Table 9-23 shows traffic volumes and operating speeds which may trigger the need for a left turn lane on a two-lane highway. The traffic volumes to be considered include the advancing traffic volume (eastbound left turn plus eastbound through volumes), opposing traffic volume (westbound through plus westbound right turn volumes), and the percent of advancing traffic which is turning left (eastbound left turn volume divided by the sum of the eastbound left turn and through volumes). As shown in Table 9.23, for an estimated operating speed of 50 miles per hour on Center Road with 30% left turns, the volume threshold to warrant an exclusive left turn lane would be 135 advancing vehicles and 800 opposing vehicles or 295 advancing vehicles and 100 opposing vehicles. As shown on Figure 5 the advancing volume amounts to 46 vehicles per hour, the opposing volume amounts to 14 vehicles per hour, and the percent of advancing traffic which is turning left is approximately 74%. The left turn percentage is higher than the 30% maximum percentage shown in Table 9-23 but the existing plus project traffic volumes are well below the AASHTO volume thresholds and therefore an exclusive left turn lane on Center Road is not recommended.

The need for an exclusive westbound right turn lane on Center Road at the Ward Lake Road intersection was reviewed based on the *Caltrans Highway Design Manual*. The manual states that right turn lanes can be justified on the basis of capacity, analysis, and frequent rear-end and sideswipe crash experience. Other factors such as a high volume of right turn traffic causing backup in the through lanes and pedestrians conflicts with right turn traffic may also contribute to the need for right turn lanes. A copy of Section 405.3 "Right Turn Channelization" from the *Caltrans Highway Design Manual* is attached. The *Caltrans Highway Design Manual* does not specifically identify thresholds for intersection capacity, pedestrian and bicycle counts, and right turn volume. However, an exclusive right turn lane is not recommended at this location based on 1) the intersection is anticipated to operate well below capacity, LOS A as shown in Table 3, 2) right turn conflicts with pedestrians and bicycles are not anticipated due to the fact that no pedestrians or bicycles were observed at the intersection when the existing counts were performed, and 3) the projected right turn traffic is projected to be extremely low, only 2 vehicles during the peak hour. Traffic crash data was not made available to us at this location.

Center Road/Cutoff Road Intersection

The Center Road/Cutoff Road intersection was analyzed as an unsignalized four-leg intersection with stop sign control at the north and south approaches for the existing and existing plus project traffic volumes. The intersection minor movements currently operate at LOS A during the Night peak hour. For the existing plus project traffic volumes the intersection minor movements continue to operate at LOS A during the Night peak hour. The intersection was analyzed with the existing approach lanes for all scenarios. The need for an exclusive eastbound right turn lane on Center Road at the Cutoff Road intersection was not reviewed since the project developer has committed to send no trucks onto Cutoff Road.

RECOMMENDATIONS

The increased traffic generated by the Hat Creek Materials Facility will have little impact on the adjacent street network.

No improvements are recommended at either the Center Road/Ward Lake Road intersection or the Center Road/Cutoff Road intersection.

We trust that this information will be adequate response to your comment. Please contact us if you have questions or concerns.

Very truly yours,
SOLAEGUI ENGINEERS, LTD.

REGISTERED PROFESSIONAL ENGINEER
PAUL W. SOLAEGUI
No. TR 1463
Exp. 12-31-19
STATE OF CALIFORNIA

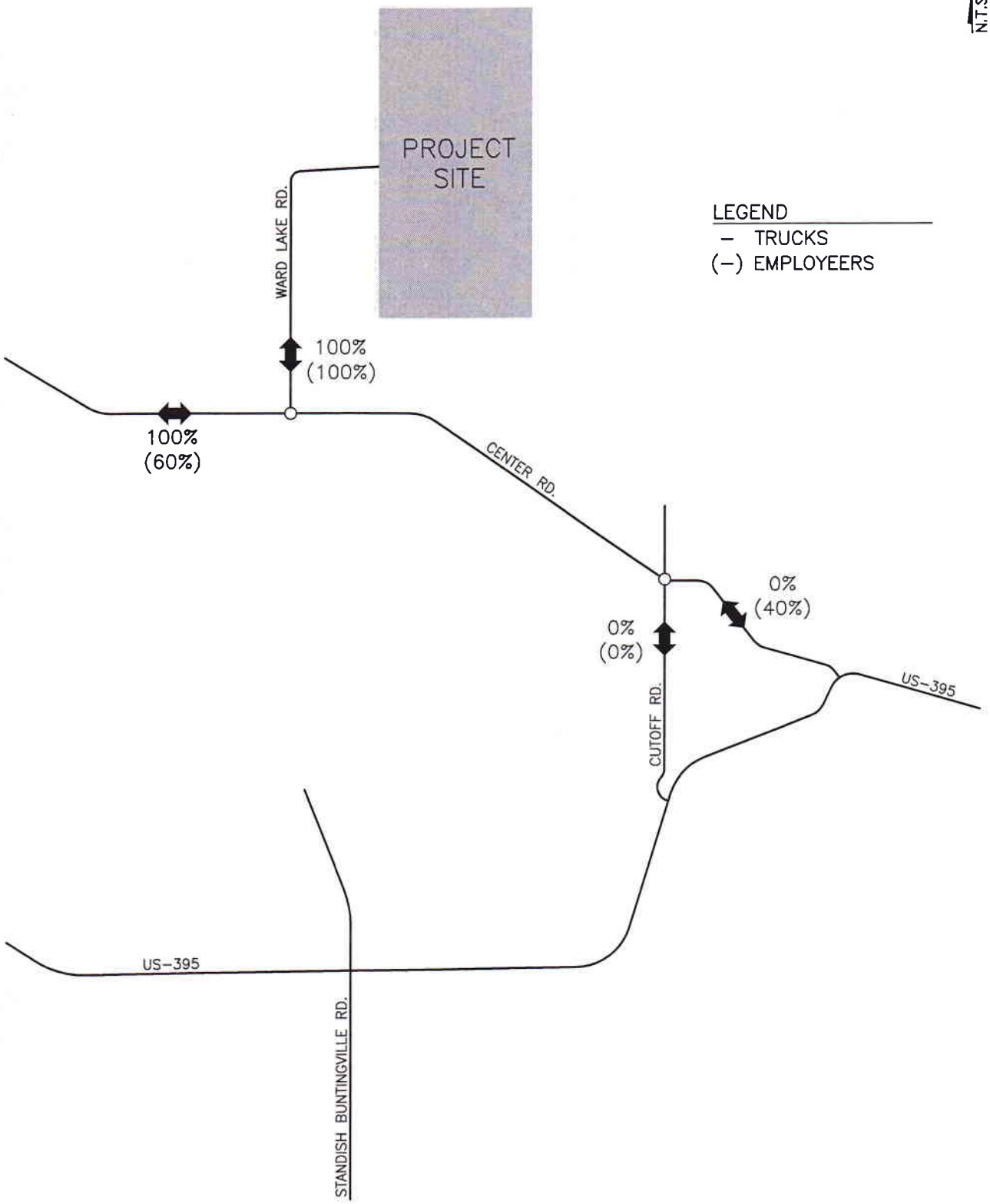
Paul W. Solaegui, P.E.

2-14-19

Letters/ Ward Lake Update Letter

SOLAEGUI
ENGINEERS LTD.

N.T.S.

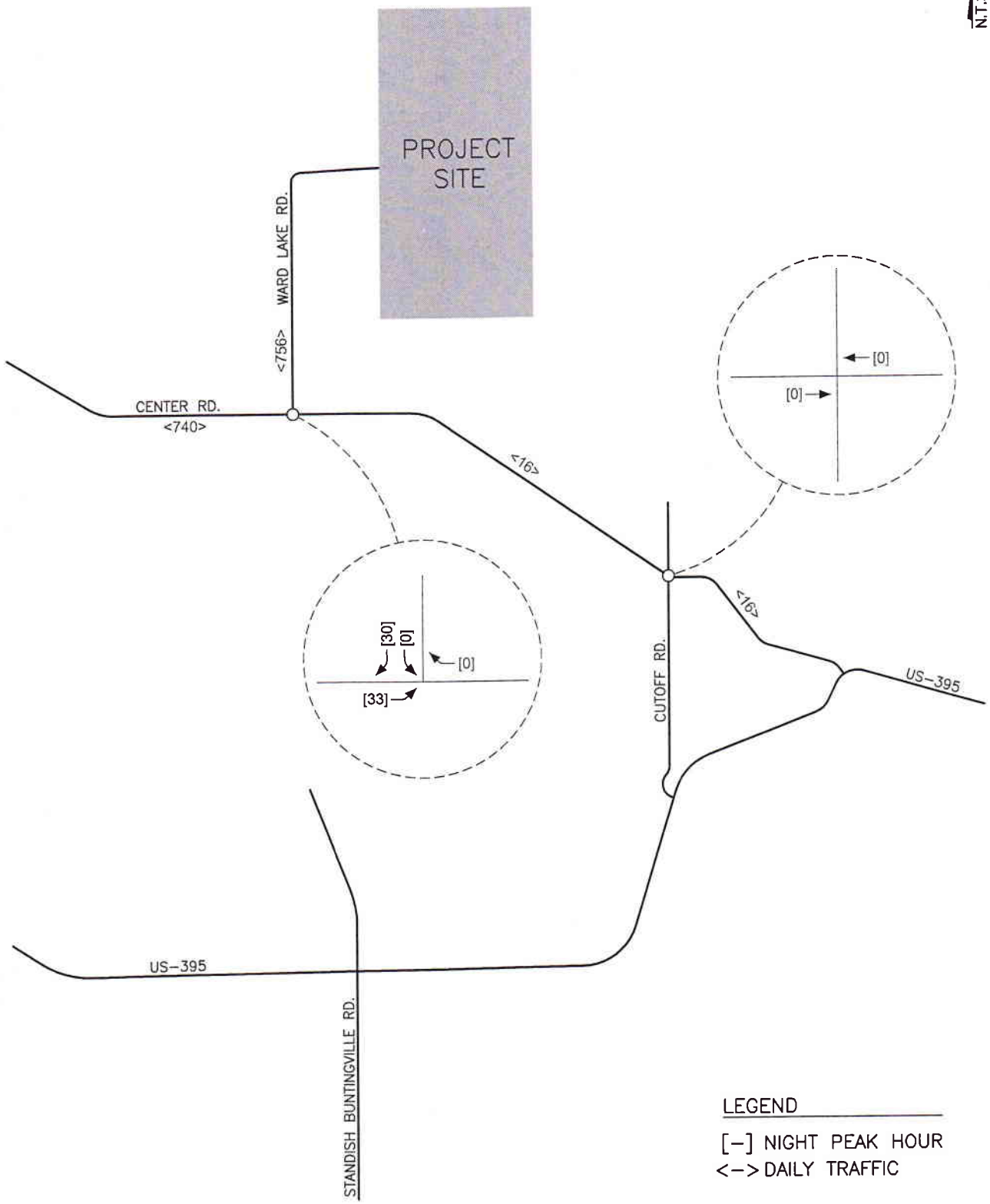


HAT CREEK MATERIALS FACILITY

TRIP DISTRIBUTION
FIGURE 2

SOLAEGUI
ENGINEERS LTD.

N.T.S.

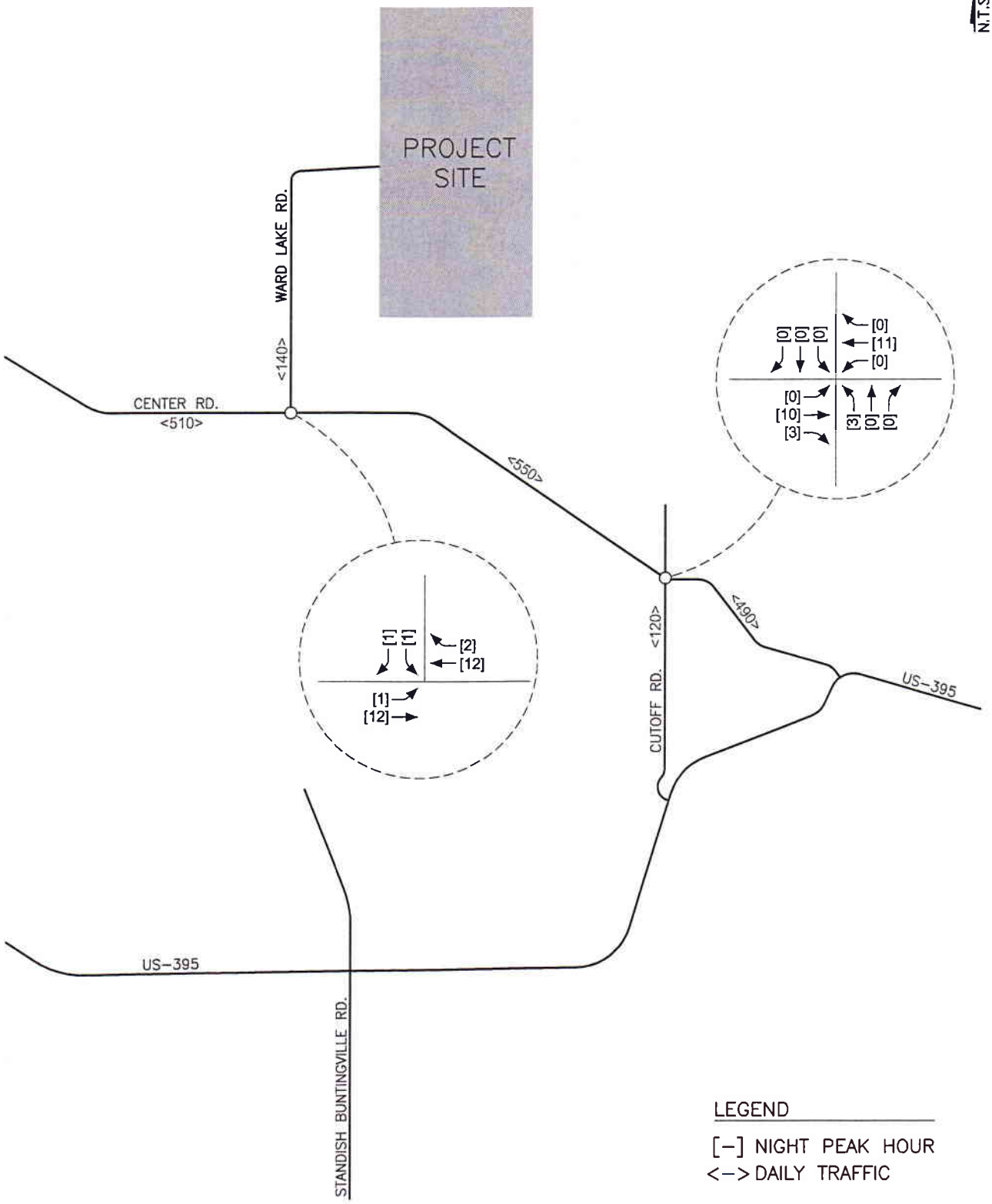


HAT CREEK MATERIALS FACILITY

TRIP ASSIGNMENT
FIGURE 3

SOLAEGUI
ENGINEERS LTD.

N.T.S.



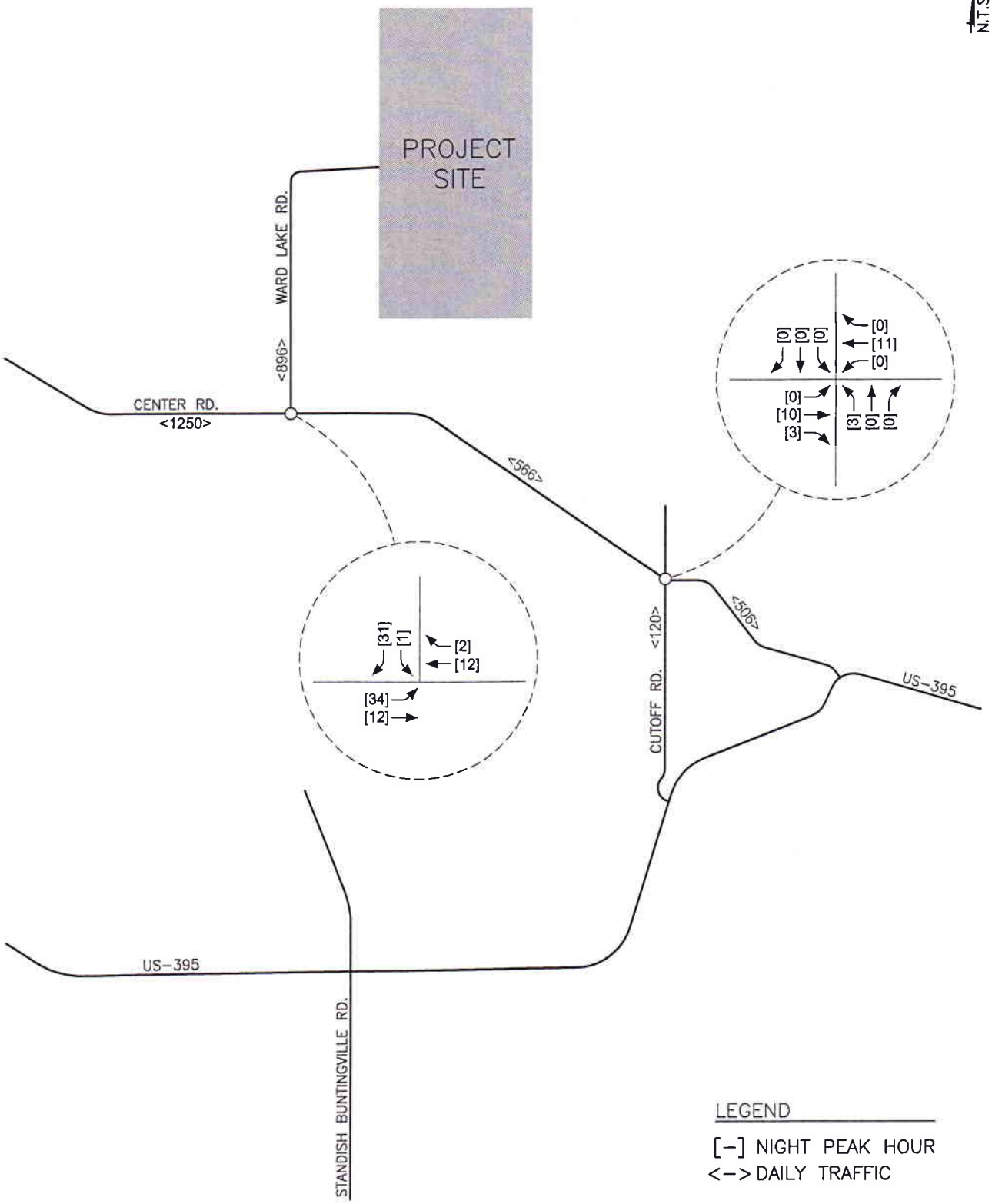
HAT CREEK MATERIALS FACILITY

EXISTING TRAFFIC VOLUMES

FIGURE 4

SOLAEGUI
ENGINEERS LTD.

N.T.S.



HAT CREEK MATERIALS FACILITY

EXISTING PLUS PROJECT TRAFFIC VOLUMES

FIGURE 5

HCS7 Two-Way Stop-Control Report

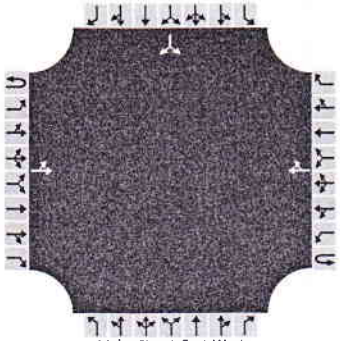
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	2/14/2019
Analysis Year	2019
Time Analyzed	Night Existing
Intersection Orientation	East-West
Project Description	

Site Information

Intersection	Center & Ward Lake
Jurisdiction	Lassen County
East/West Street	Center Road
North/South Street	Ward Lake Road
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		1	12				12	2						1		1
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1													2	
Capacity, c (veh/h)		1593													1019	
v/c Ratio		0.00													0.00	
95% Queue Length, Q_{95} (veh)		0.0													0.0	
Control Delay (s/veh)		7.3													8.5	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)	0.6												8.5			
Approach LOS													A			

Copyright © 2019 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

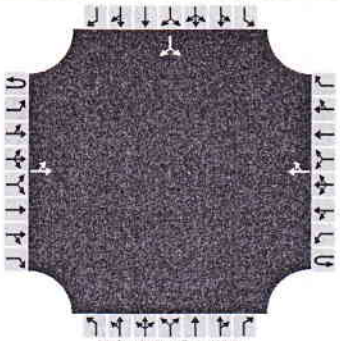
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	2/14/2019
Analysis Year	2019
Time Analyzed	Night Existing + Project
Intersection Orientation	East-West
Project Description	

Site Information

Intersection	Center & Ward Lake
Jurisdiction	Lassen County
East/West Street	Center Road
North/South Street	Ward Lake Road
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		34	12				12	2						1		31
Percent Heavy Vehicles (%)		50												50		50
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.60												6.90		6.70
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.65												3.95		3.75

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		38													36	
Capacity, c (veh/h)		1339													935	
v/c Ratio		0.03													0.04	
95% Queue Length, Q_{95} (veh)		0.1													0.1	
Control Delay (s/veh)		7.8													9.0	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)		5.8												9.0		
Approach LOS														A		

Copyright © 2019 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

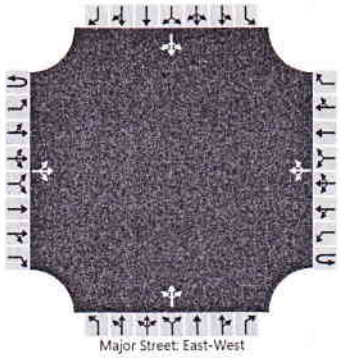
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	2/14/2019
Analysis Year	2019
Time Analyzed	Night Existing
Intersection Orientation	East-West
Project Description	

Site Information

Intersection	Center & Cutoff
Jurisdiction	Lassen County
East/West Street	Center Road
North/South Street	Cutoff Road
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	10	3		0	11	0		3	0	0		0	0	0
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					3				0	
Capacity, c (veh/h)		1598				1595					983					
v/c Ratio		0.00				0.00					0.00					
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0					
Control Delay (s/veh)		7.3				7.3					8.7					
Level of Service (LOS)		A				A					A					
Approach Delay (s/veh)	0.0				0.0				8.7							
Approach LOS									A							

Copyright © 2019 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

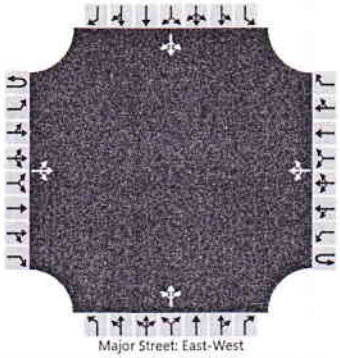
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	2/14/2019
Analysis Year	2019
Time Analyzed	Night Existing + Project
Intersection Orientation	East-West
Project Description	

Site Information

Intersection	Center & Cutoff
Jurisdiction	Lassen County
East/West Street	Center Road
North/South Street	Cutoff Road
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	10	3		0	11	0		3	0	0		0	0	0
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					3				0	
Capacity, c (veh/h)		1598				1595					983					
v/c Ratio		0.00				0.00					0.00					
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0					
Control Delay (s/veh)		7.3				7.3					8.7					
Level of Service (LOS)		A				A					A					
Approach Delay (s/veh)	0.0				0.0				8.7							
Approach LOS									A							

Copyright © 2019 University of Florida. All Rights Reserved.

A Policy on Geometric Design of Highways and Streets

2011
6th Edition

American Association of State Highway and Transportation Officials
AASHTO
The Voice of Transportation

Table 9-23. Guide for Left-Turn Lanes on Two-Lane Highways (*10*)

Metric					U.S. Customary				
Opposing Volume (veh/h)	Advancing Volume (veh/h)				Opposing Volume (veh/h)	Advancing Volume (veh/h)			
	5% Left Turns	10% Left Turns	20% Left Turns	30% Left Turns		5% Left Turns	10% Left Turns	20% Left Turns	30% Left Turns
60-km/h Operating Speed					40-mph Operating Speed				
800	330	240	180	160	800	330	240	180	160
600	410	305	225	200	600	410	305	225	200
400	510	380	275	245	400	510	380	275	245
200	640	470	350	305	200	640	470	350	305
100	720	515	390	340	100	720	515	390	340
80-km/h Operating Speed					50-mph Operating Speed				
800	280	210	165	135	800	280	210	165	135
600	350	260	195	170	600	350	260	195	170
400	430	320	240	210	400	430	320	240	210
200	550	400	300	270	200	550	400	300	270
100	615	445	335	295	100	615	445	335	295
100-km/h Operating Speed					60-mph Operating Speed				
800	230	170	125	115	800	230	170	125	115
600	290	210	160	140	600	290	210	160	140
400	365	270	200	175	400	365	270	200	175
200	450	330	250	215	200	450	330	250	215
100	505	370	275	240	100	505	370	275	240

Additional information on left-turn lanes, including their suggested lengths, can be found in *Highway Research Record 211*, NCHRP Report 225, and NCHRP Report 279 (*10*, *19*, *17*). In the case of double left-turn lanes, a capacity analysis of the intersection should be performed to determine what traffic controls are needed in order for it to function properly.

Local conditions and the cost of right-of-way often influence the type of intersection selected as well as many of the design details. Limited sight distance, for example, may make it desirable to control traffic by yield signs, stop signs, or traffic signals when the traffic densities are less than those ordinarily considered appropriate for such control. The alignment and grade of the intersecting roads and the angle of intersection may make it advisable to channelize or use auxiliary pavement areas, regardless of the traffic densities. In general, traffic service, highway design designation, physical conditions, and cost of right-of-way are considered jointly in choosing the type of intersection.

For the general benefit of through-traffic movements, the number of crossroads, intersecting roads, or intersecting streets should be minimized. Where intersections are closely spaced on a two-way facility, it is seldom practical to provide signals for completely coordinated traffic movements at reasonable speeds in opposing directions on that facility. At the same time, the resultant road or street patterns should permit travel on roadways other than the predominant highway without too much inconvenience. Traffic analysis

California Department of Transportation

Highway Design Manual

U.S. Customary Units

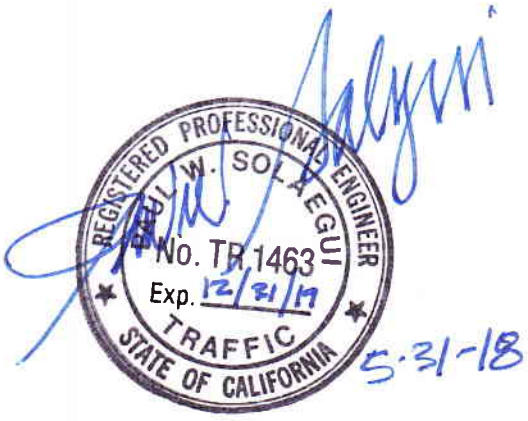
Sixth Edition

SOLAEGUI
ENGINEERS, LTD

HAT CREEK
MATERIALS FACILITY

UPDATED TRAFFIC STUDY

MAY 2018



Prepared by:
Solaegui Engineers, Ltd.
715 H Street
Sparks, Nevada 89431
(775) 358-1004

TABLE OF CONTENTS

EXECUTIVE SUMMARY 3

INTRODUCTION 4
STUDY AREA 4
EXISTING AND PROPOSED LAND USES 4
EXISTING AND PROPOSED ROADWAYS AND INTERSECTIONS 4

TRIP GENERATION 6

TRIP DISTRIBUTION AND ASSIGNMENT 7

EXISTING AND PROJECTED TRAFFIC VOLUMES 7

INTERSECTION CAPACITY ANALYSIS 12

RECOMMENDATIONS 14

APPENDIX 15

LIST OF FIGURES

FIGURE 1 - VICINITY MAP 5

FIGURE 2 - TRIP DISTRIBUTION 8

FIGURE 3 - TRIP ASSIGNMENT 9

FIGURE 4 - EXISTING TRAFFIC VOLUMES 10

FIGURE 5 - EXISTING PLUS PROJECT TRAFFIC VOLUMES 11

HAT CREEK MATERIALS FACILITY

UPDATED TRAFFIC STUDY

EXECUTIVE SUMMARY

The Hat Creek Materials Facility is located in Lassen County, California. The project site is located east of Ward Lake Road and north of Center Road. The project site currently contains the existing Hat Creek Materials Facility. The purpose of this updated study is to address the project's impact upon the adjacent street network. The Center Road/Ward Lake Road and Center Road/Cutoff Road intersections have been identified for peak hour analysis for the existing and existing plus project scenarios. The typical AM and PM peak hours and a late night peak hour were identified for analysis. Center Road, Ward Lake Road, and Cutoff Road have been identified for daily traffic loading review for the existing and existing plus project scenarios.

The Hat Creek Materials Facility consists of a construction and materials facility. Access to the site is provided from Ward Lake Road via Center Road. The project is proposing to expand the daily hours of operation which will result in increased truck traffic to and from their facility. The expanded hours of operation are anticipated to generate 320 daily trips with 22 trips occurring during the AM peak hour, 22 trips occurring during the PM peak hour, and 22 trips occurring during the Night peak hour.

The increased traffic generated by the Hat Creek Materials Facility will have little impact on the adjacent street network.

No improvements are recommended at either the Center Road/Ward Lake Road intersection or the Center Road/Cutoff Road intersection.

INTRODUCTION

STUDY AREA

The Hat Creek Materials Facility is located in Lassen County, California. The project site is located east of Ward Lake Road and north of Center Road. Figure 1 shows the approximate location of the project site. The purpose of this updated study is to address the project's traffic impact on the adjacent street network. The Center Road/Ward Lake Road and Center Road/Cutoff Road intersections have been identified for peak hour analysis for the existing and existing plus project scenarios. The typical AM and PM peak hours and a late night peak hour were identified for analysis. Center Road, Ward Lake Road, and Cutoff Road have been identified for daily traffic loading review for the existing and existing plus project scenarios.

EXISTING AND PROPOSED LAND USES

The project site contains the existing Hat Creek Materials Facility. Adjacent properties generally include farm land with single family dwelling units to the southwest and undeveloped land to the north and west. The Hat Creek Materials Facility consists of a construction and materials facility. Access to the site is provided from Ward Lake Road via Center Road. The project is proposing to expand the daily hours of operation which will result in increased truck traffic to and from their facility.

EXISTING AND PROPOSED ROADWAYS AND INTERSECTIONS

Center Road is a rural, two-lane roadway with one through lane in each direction in the vicinity of the site. The speed limit is posted for 35 miles per hour generally east of Ward Lake Road, 45 miles per hour west of Ward Lake Road, and 55 miles per hour further west. Roadway improvements generally include ±1 wide paved shoulders with solid white edgelines and a striped centerline.

Ward Lake Road is a rural, two-lane roadway with one through lane in each direction north of Center Road. The speed limit is not posted. Roadway improvements generally include paved travel lanes with a striped centerline.

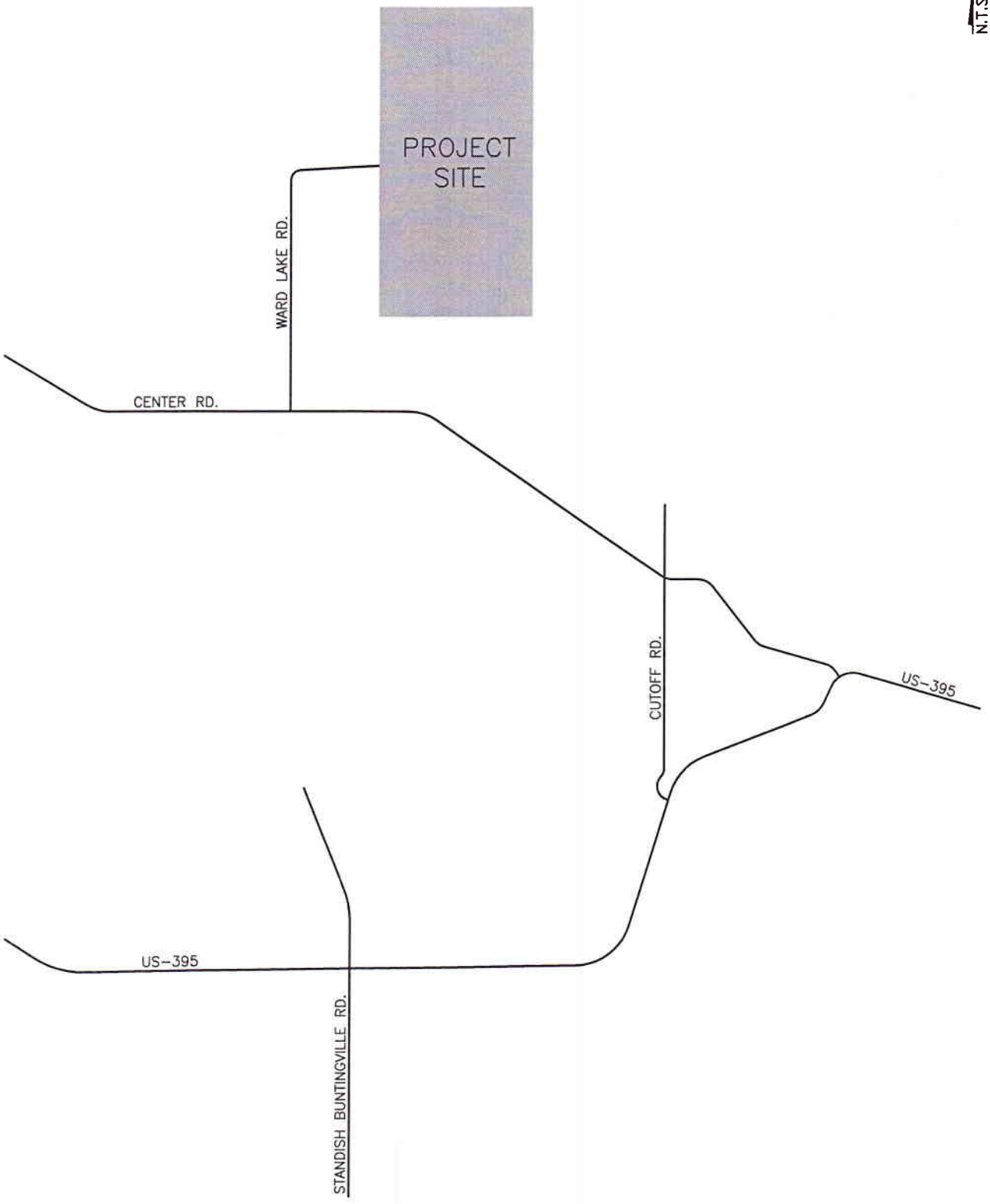
Cutoff Road is a rural, two-lane roadway with one through lane in each direction from US-395 to north of Center Road. The speed limit is not posted except for a 25 mile per hour zone on a curve. Roadway improvements generally include paved travel lanes with a striped centerline.

The Center Road/Ward Lake Road intersection is an unsignalized three-leg intersection with stop control at the north approach. The north approach contains one shared left turn-right turn lane. The west approach contains one shared left turn-through lane. The east approach contains one shared through-right turn lane.

The Center Road/Cutoff Road intersection is an unsignalized four-leg intersection with stop control at the north and south approaches. All approaches contain a shared left turn-through-right turn lane.

SOLAEGUI
ENGINEERS LTD.

N.T.S.



HAT CREEK MATERIALS FACILITY

VICINITY MAP
FIGURE 1

TRIP GENERATION

In order to assess the magnitude of traffic impacts of the project's expanded operation on the adjacent street network, daily and peak hour trip generation volumes had to be determined. The peak hours occurring from 7:00 to 8:00 AM, 4:00 to 5:00 PM, and 9:00 to 10:00 PM were identified for analysis after consultation with Lassen County Department of Public Works staff (Bob McGarva).

The current project permit allows 10 material hauling trucks per day which includes 10 trucks arriving empty and 10 trucks departing full. The proposed operation is to include 145 material hauling trucks per day which amounts to 145 arriving trucks and 145 departing trucks per day. Deducting the existing 10 material hauling trucks per day results in an increase of 135 material hauling trucks per day. The existing 10 material hauling trucks were deducted because they are already included in the existing daily traffic volumes discussed in the Existing and Projected Traffic Volume section of this report. The daily trip generation for the proposed increase is therefore 270 material hauling trucks per day assuming 135 arriving trucks and 135 departing trucks. These material hauling trucks are assumed to be equally dispersed throughout a twelve-hour day resulting in 11 trips entering and 11 trips departing during both the 7:00 to 8:00 AM and 4:00 to 5:00 PM peak hours. During night operations, an increased total of 135 material hailing truck trips are again anticipated (135 empty trucks arriving and 135 full trucks departing). Again, these material hauling trucks are assumed to be equally dispersed throughout a twelve-hour night resulting in 11 entering and departing trips during the 9:00 to 10:00 PM peak hour.

Additional traffic entering and departing the site includes employees and suppliers. The proposed operation will include up to 20 seasonal employees and 5 supplier truck loads resulting in daily trip generation volumes of 40 employee trips per day (20 entering and 20 exiting) and 10 supplier truck trips per day (5 entering and 5 exiting). The increased employee trips will begin work around 6:00 AM and depart around 6:00 PM so they fall outside the 7:00 to 8:00 AM, 4:00 to 5:00 PM, and 9:00 to 10:00 PM peak hours. The increased supplier truck trips are also anticipated to occur outside the peak hours. Table 1 shows a summary of the daily traffic volumes and peak hour volumes generated by the expanded operation.

TABLE 1
TRIP GENERATION

LAND USE	DAILY	AM PEAK HOUR		PM PEAK HOUR		NIGHT PEAK HOUR	
		IN	OUT	IN	OUT	IN	OUT
Material Hauling Trucks	270	11	11	11	11	11	11
Seasonal Employees	40	0	0	0	0	0	0
Supplier Trucks	10	0	0	0	0	0	0
Total	320	11	11	11	11	11	11

Material hauling trucks include asphalt, base, concrete, etc. and supplier trucks include oil, cement, parts, etc.

TRIP DISTRIBUTION AND ASSIGNMENT

The distribution of the project traffic to the key roadways and intersections was based on existing peak hour traffic patterns and the locations of attractions and productions in the area. Figure 2 shows the anticipated trip distribution. The daily traffic and peak hour trips shown in Table 1 were subsequently assigned to the key roadways and intersections based on the trip distribution percentages. Figure 3 shows the daily trip assignment volumes on the key roadways and the peak hour traffic volumes at the key intersections.

EXISTING AND PROJECTED TRAFFIC VOLUMES

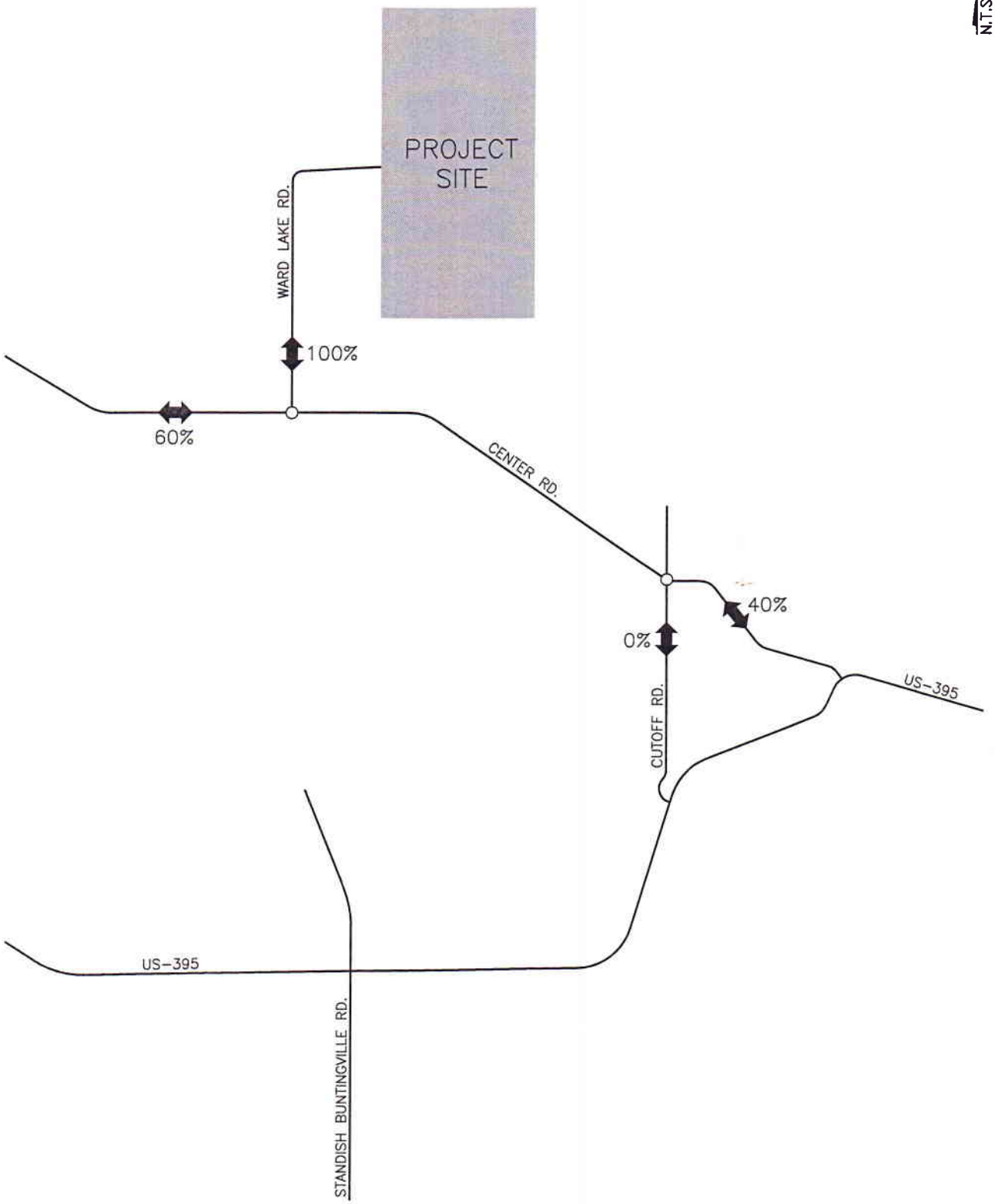
Figure 4 shows the existing traffic volumes at the key intersections during the AM and PM peak hours. The existing AM and PM peak hour traffic volumes at the intersections were obtained from manual traffic counts conducted by Solaegui Engineers in April of 2018.

Figure 4 also shows the existing daily traffic volumes on the adjacent roadway segments. The existing daily traffic volumes were not counted but were instead estimated by applying a 10% peak hour factor to the PM peak hour roadway volumes. The peak hour factor is the ratio of hourly traffic volume to the daily traffic volume. The daily traffic volumes on the various roadway segments were therefore calculated by dividing the peak hour link volumes by 10%. For example, the existing daily traffic volume on Center Road just west of Ward Creek Road (510 vehicles per day) was calculated by adding the eastbound left turn volume (2 vehicles per hour), eastbound through volume (19 vehicles per hour), westbound through volume (27 vehicles per hour), and southbound right turn volume (3 vehicles per hour) and then dividing the sum (51 vehicles per hour) by the 10% PM peak hour factor. This method of estimating daily traffic volumes was discussed with and subsequently approved by Lassen County Department of Public Works staff (Bob McGarva) during the scoping of the traffic study. The California Department of Transportation (Caltrans) publishes actual daily traffic volumes on some of their roadways. However, our research of Caltrans traffic volumes indicates that no count information is available on Center Road or Ward Lake Road.

Figure 5 shows the existing plus project traffic volumes at the key intersections during the AM and PM peak hours and the existing plus project daily traffic volumes on the key roadways. The existing plus project traffic volumes were obtained by adding the trip assignment volumes shown on Figure 3 to the existing traffic volumes shown on Figure 4.

SOLAEGUI
ENGINEERS LTD.

N.T.S.

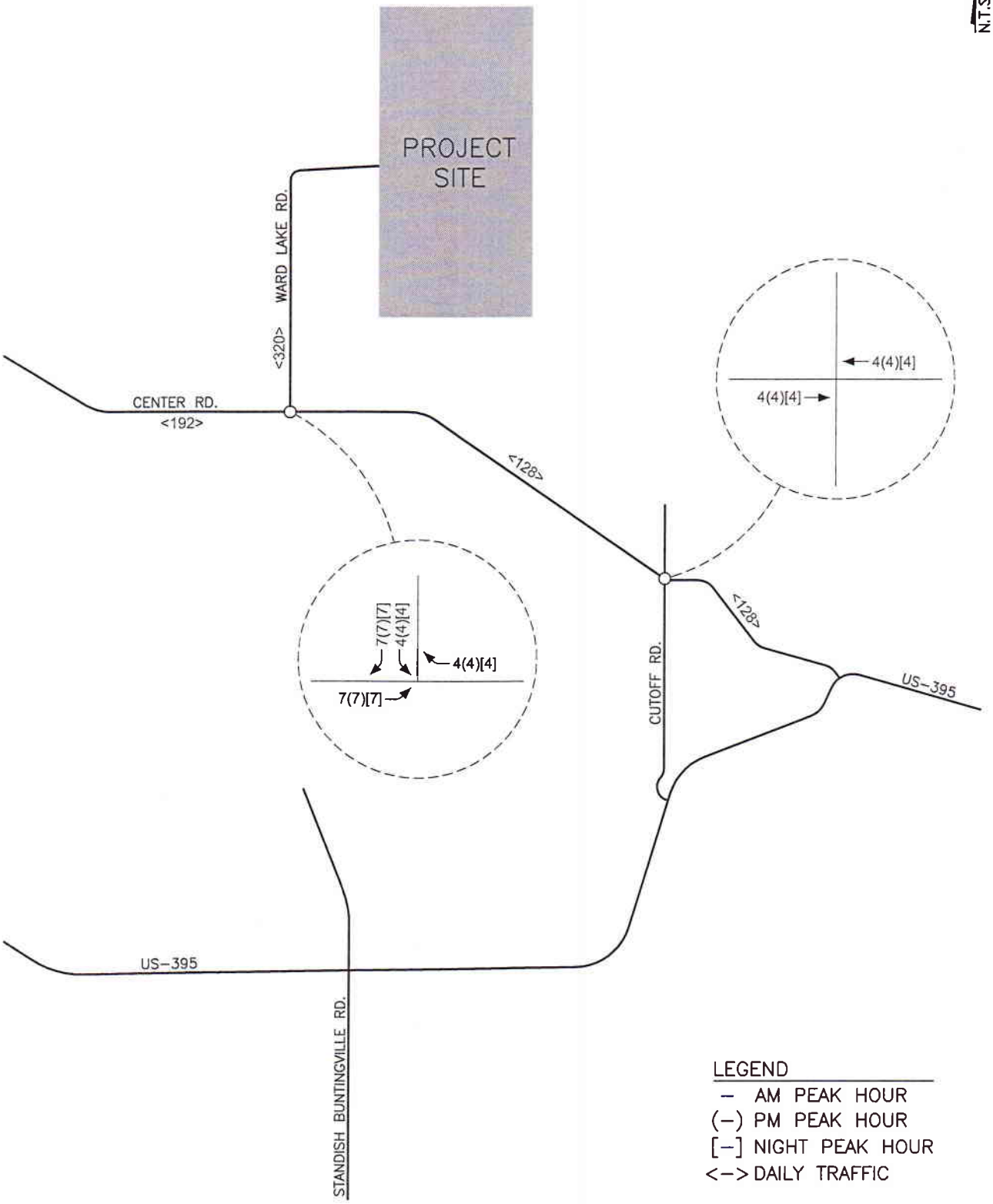


HAT CREEK MATERIALS FACILITY

TRIP DISTRIBUTION
FIGURE 2

SOLAEGUI
ENGINEERS LTD.

N.T.S.

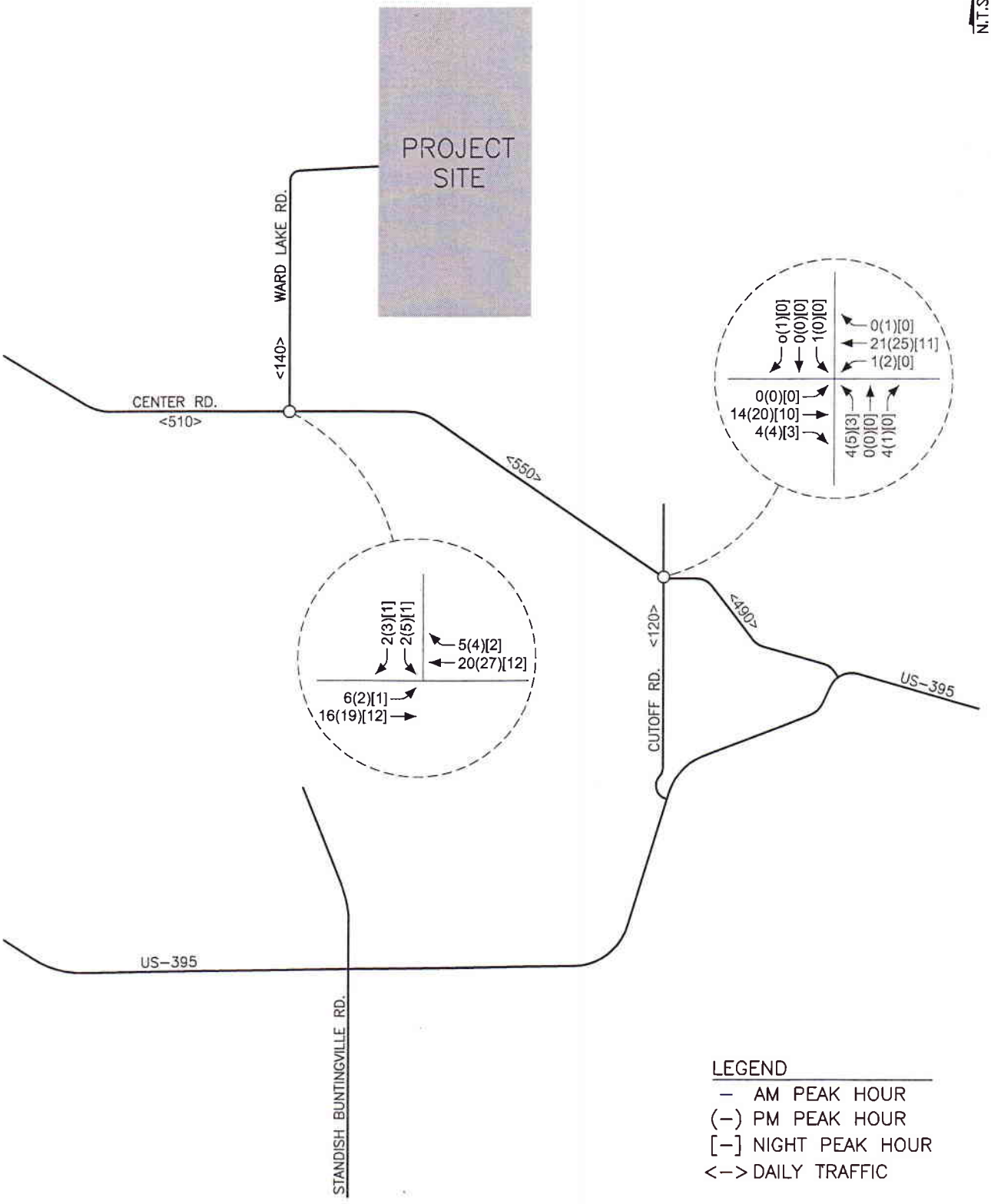


HAT CREEK MATERIALS FACILITY

TRIP ASSIGNMENT
FIGURE 3

SOLAEGUI
ENGINEERS LTD.

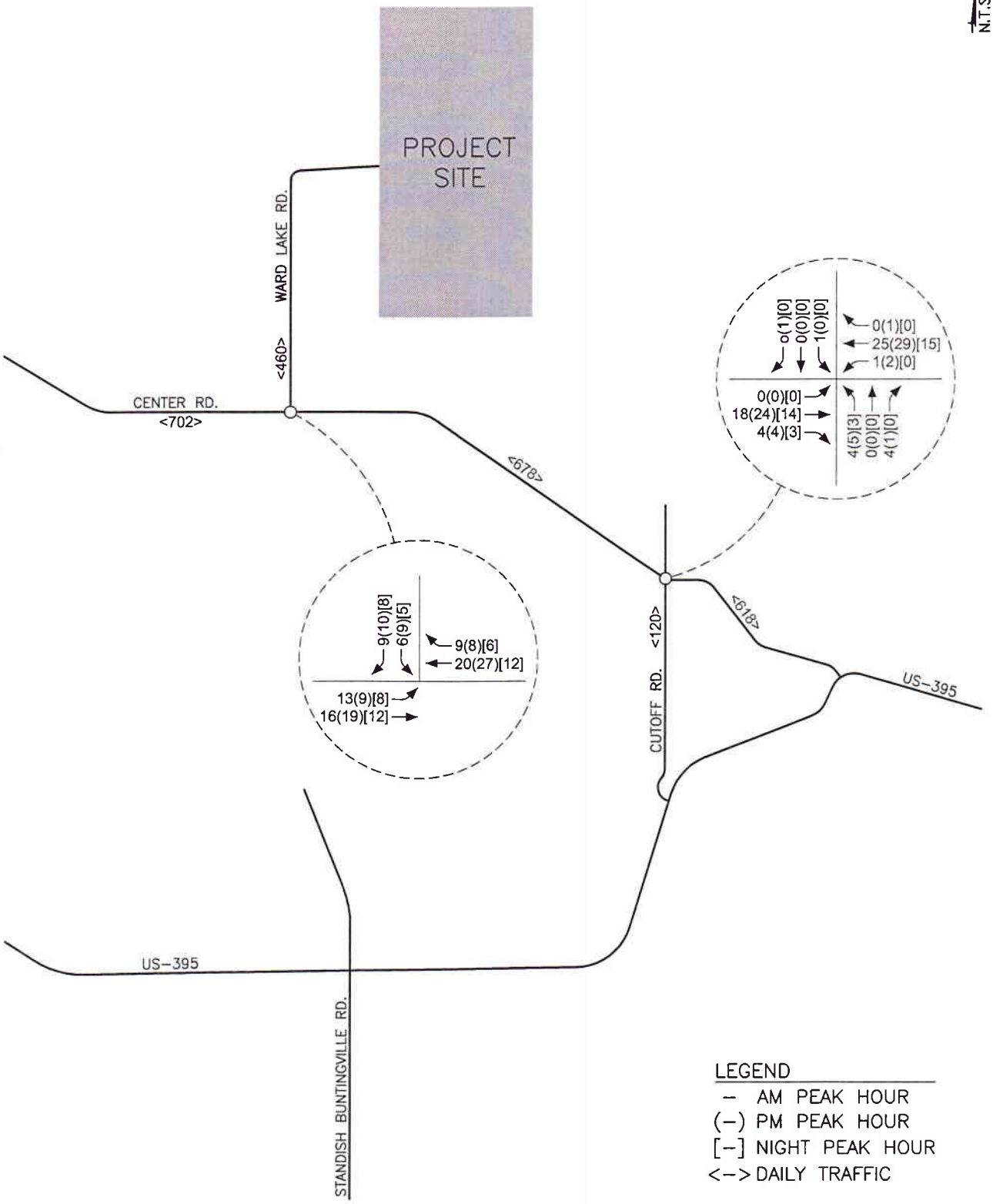
N.T.S.



HAT CREEK MATERIALS FACILITY
EXISTING TRAFFIC VOLUMES
FIGURE 4

SOLAEGUI
ENGINEERS LTD.

N.T.S.



HAT CREEK MATERIALS FACILITY

EXISTING PLUS PROJECT TRAFFIC VOLUMES

FIGURE 5

INTERSECTION CAPACITY ANALYSIS

The Center Road/Ward Lake Road and Center Road/Cutoff Road intersections were analyzed for capacity based on procedures presented in the *Highway Capacity Manual (6th Edition)*, prepared by the Transportation Research Board, for unsignalized intersections using the latest version of the Highway Capacity software.

The result of capacity analysis is a level of service (LOS) rating for each unsignalized intersection minor movement. Level of service is a qualitative measure of traffic operating conditions where a letter grade "A" through "F", corresponding to progressively worsening traffic operation, is assigned to the intersection minor movement.

The *Highway Capacity Manual* defines level of service for stop controlled intersections in terms of computed or measured control delay for each minor movement. Level of service is not defined for the intersection as a whole. The level of service criteria for unsignalized intersections is shown in Table 2.

TABLE 2
LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	DELAY RANGE (SEC/VEH)
A	≤10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	>50

Table 3 shows the AM, PM, and Night peak hour level of service and delay results at the key intersections for the existing and existing plus project scenarios. The capacity worksheets are included in the Appendix.

TABLE 3
INTERSECTION LEVEL OF SERVICE AND DELAY RESULTS

INTERSECTION/MOVEMENT	EXISTING			EXISTING + PROJECT		
	AM	PM	NIGHT	AM	PM	NIGHT
Center Road & Ward Lake Road						
Eastbound Left	A7.3	A7.3	A7.3	A7.8	A7.8	A7.7
Southbound Left-Right	A8.6	A8.7	A8.5	A9.2	A9.3	A9.1
Center Road & Cutoff Road						
Eastbound Left	A7.3	A7.3	A7.3	A7.3	A7.3	A7.3
Westbound Left	A7.3	A7.3	A7.3	A7.3	A7.3	A7.3
Northbound Left-Thru-Right	A8.6	A8.8	A8.7	A8.7	A8.9	A8.7
Southbound Left-Thru-Right	A8.8	A8.5	A0.0	A8.8	A8.5	A0.0

Center Road/Ward Lake Road Intersection

The Center Road/Ward Lake Road intersection was analyzed as an unsignalized three-leg intersection with stop sign control at the north approach for the existing and existing plus project traffic volumes. The intersection minor movements currently operate at LOS A during the AM, PM, and Night peak hours. For the existing plus project traffic volumes the intersection minor movements continue to operate at LOS A during the AM, PM, and Night peak hours. The intersection was analyzed with the existing approach lanes for all scenarios.

The need for an exclusive eastbound left turn lane on Center Road at the Ward Lake Road intersection was reviewed based on Table 9-23 of the AASHTO publication *A Policy on Geometric Design of Highways and Streets*. A copy of this table is included in the Appendix. Table 9-23 shows traffic volumes and operating speeds which may trigger the need for a left turn lane on a two-lane highway. The traffic volumes to be considered include the advancing traffic volume (eastbound left turn plus eastbound through volumes), opposing traffic volume (westbound through plus westbound right turn volumes), and the percent of advancing traffic which is turning left (eastbound left turn volume divided by the sum of the eastbound left turn and through volumes). As shown in Table 9.23, for an estimated operating speed of 50 miles per hour on Center Road with 30% left turns, the volume threshold to warrant an exclusive left turn lane would be 135 advancing vehicles and 800 opposing vehicles or 295 advancing vehicles and 100 opposing vehicles. As shown on Figure 5, for the higher PM peak hour, the advancing volume amounts to 28 vehicles per hour, the opposing volume amounts to 35 vehicles per hour, and the percent of advancing traffic which is turning left is approximately 32%. These existing plus project traffic volumes are well below the AASHTO volume thresholds and therefore an exclusive left turn lane on Center Road is not recommended.

The need for an exclusive westbound right turn lane on Center Road at the Ward Lake Road intersection was reviewed based on the *Caltrans Highway Design Manual*. The manual states that right turn lanes can be justified on the basis of capacity, analysis, and frequent rear-end and sideswipe crash experience. Other factors such as a high volume of right turn traffic causing backup in the through lanes and pedestrians conflicts with right turn traffic may also contribute to the need for right turn lanes. A copy of Section 405.3 "Right Turn Channelization" from the *Caltrans Highway Design Manual* is include in the Appendix. The *Caltrans Highway Design Manual* does not specifically identify thresholds for intersection capacity, pedestrian and bicycle counts, and right turn volume. However, an exclusive right turn lane is not recommended at this location based on 1) the intersection is anticipated to operate well below capacity, LOS A as shown in Table 3, 2) right turn conflicts with pedestrians and bicycles are not anticipated due to the fact that no pedestrians or bicycles were observed at the intersection when the existing counts were performed, and 3) the projected right turn traffic is projected to be extremely low, only 9 vehicles during the highest peak hour. Traffic crash data was not made available to us at this location.

Center Road/Cutoff Road Intersection

The Center Road/Cutoff Road intersection was analyzed as an unsignalized four-leg intersection with stop sign control at the north and south approaches for the existing and existing plus project traffic volumes. The intersection minor movements currently operate at LOS A during the AM, PM, and Night peak hours. For the existing plus project traffic volumes the intersection minor movements continue to operate at LOS A during the AM, PM, and Night peak hours. The intersection was analyzed with the existing approach lanes for all scenarios. The need for an exclusive eastbound right turn lane on Center Road at the Cutoff Road intersection was not reviewed since the project developer has committed to send no trucks onto Cutoff Road.

RECOMMENDATIONS

The increased traffic generated by the Hat Creek Materials Facility will have little impact on the adjacent street network.

No improvements are recommended at either the Center Road/Ward Lake Road intersection or the Center Road/Cutoff Road intersection.

APPENDIX

HCS7 Two-Way Stop-Control Report

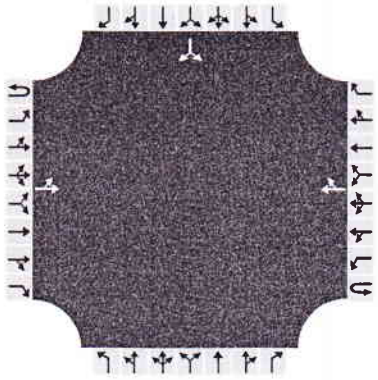
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	4/18/2018
Analysis Year	2018
Time Analyzed	AM Existing
Intersection Orientation	East-West
Project Description	

Site Information

Intersection	Center & Ward Lake
Jurisdiction	Lassen County
East/West Street	Center Road
North/South Street	Ward Lake Road
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume, V (veh/h)		6	16				20	5						2		2
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		7													4	
Capacity, c (veh/h)		1577													993	
v/c Ratio		0.00													0.00	
95% Queue Length, Q_{95} (veh)		0.0													0.0	
Control Delay (s/veh)		7.3													8.6	
Level of Service, LOS		A													A	
Approach Delay (s/veh)		2.0												8.6		
Approach LOS														A		

Copyright © 2018 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

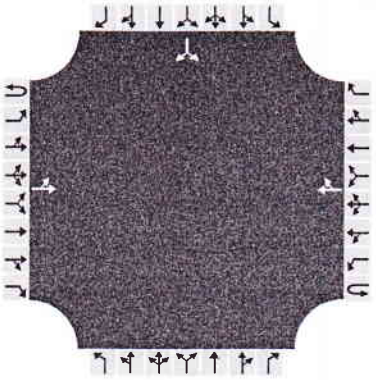
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	4/18/2018
Analysis Year	2018
Time Analyzed	PM Existing
Intersection Orientation	East-West
Project Description	

Site Information

Intersection	Center & Ward Lake
Jurisdiction	Lassen County
East/West Street	Center Road
North/South Street	Ward Lake Road
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume, V (veh/h)		2	19				27	4						5		3
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		2													9	
Capacity, c (veh/h)		1569													978	
v/c Ratio		0.00													0.01	
95% Queue Length, Q_{95} (veh)		0.0													0.0	
Control Delay (s/veh)		7.3													8.7	
Level of Service, LOS		A													A	
Approach Delay (s/veh)		0.7												8.7		
Approach LOS														A		

Copyright © 2018 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

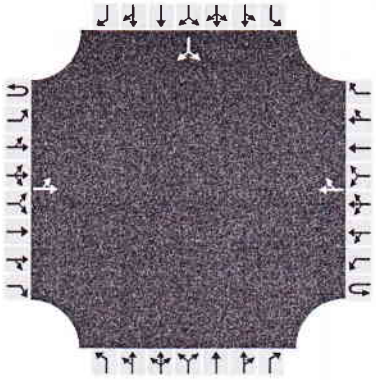
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	4/18/2018
Analysis Year	2018
Time Analyzed	Night Existing
Intersection Orientation	East-West
Project Description	

Site Information

Intersection	Center & Ward Lake
Jurisdiction	Lassen County
East/West Street	Center Road
North/South Street	Ward Lake Road
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume, V (veh/h)		1	12				12	2						1		1
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1													2	
Capacity, c (veh/h)		1593													1020	
v/c Ratio		0.00													0.00	
95% Queue Length, Q_{95} (veh)		0.0													0.0	
Control Delay (s/veh)		7.3													8.5	
Level of Service, LOS		A													A	
Approach Delay (s/veh)		0.6												8.5		
Approach LOS														A		

Copyright © 2018 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

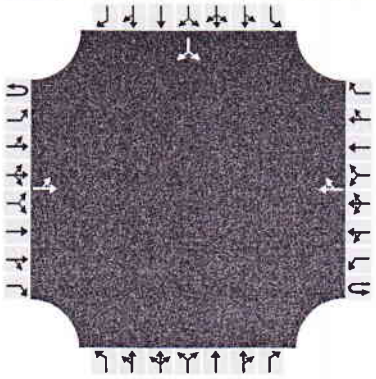
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	4/18/2018
Analysis Year	2018
Time Analyzed	AM Existing + Project
Intersection Orientation	East-West
Project Description	

Site Information

Intersection	Center & Ward Lake
Jurisdiction	Lassen County
East/West Street	Center Road
North/South Street	Ward Lake Road
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume, V (veh/h)		13	16				20	9						6		9
Percent Heavy Vehicles (%)		50												50		50
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14													17	
Capacity, c (veh/h)		1320													878	
v/c Ratio		0.01													0.02	
95% Queue Length, Q_{95} (veh)		0.0													0.1	
Control Delay (s/veh)		7.8													9.2	
Level of Service, LOS		A													A	
Approach Delay (s/veh)		3.5												9.2		
Approach LOS														A		

Copyright © 2018 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

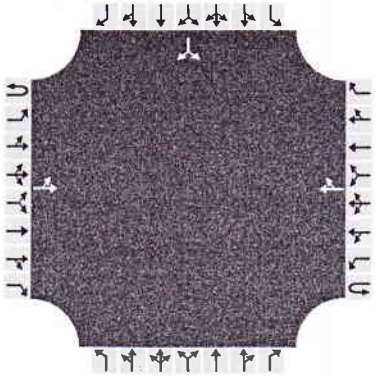
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	4/18/2018
Analysis Year	2018
Time Analyzed	PM Existing + Project
Intersection Orientation	East-West
Project Description	

Site Information

Intersection	Center & Ward Lake
Jurisdiction	Lassen County
East/West Street	Center Road
North/South Street	Ward Lake Road
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume, V (veh/h)		9	19				27	8						9		10
Percent Heavy Vehicles (%)		50												50		50
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		10													21	
Capacity, c (veh/h)		1311													866	
v/c Ratio		0.01													0.02	
95% Queue Length, Q_{95} (veh)		0.0													0.1	
Control Delay (s/veh)		7.8													9.3	
Level of Service, LOS		A													A	
Approach Delay (s/veh)		2.5												9.3		
Approach LOS														A		

Copyright © 2018 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

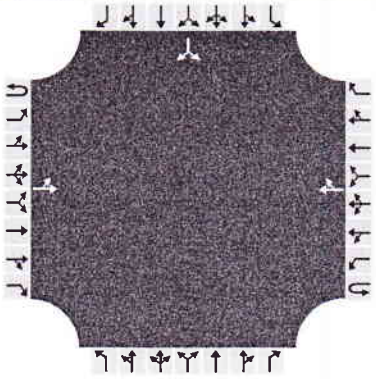
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	4/18/2018
Analysis Year	2018
Time Analyzed	Night Existing + Project
Intersection Orientation	East-West
Project Description	

Site Information

Intersection	Center & Ward Lake
Jurisdiction	Lassen County
East/West Street	Center Road
North/South Street	Ward Lake Road
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume, V (veh/h)		8	12				12	6						5		8
Percent Heavy Vehicles (%)		50												50		50
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		9													14	
Capacity, c (veh/h)		1334													901	
v/c Ratio		0.01													0.02	
95% Queue Length, Q_{95} (veh)		0.0													0.0	
Control Delay (s/veh)		7.7													9.1	
Level of Service, LOS		A													A	
Approach Delay (s/veh)		3.1												9.1		
Approach LOS														A		

Copyright © 2018 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

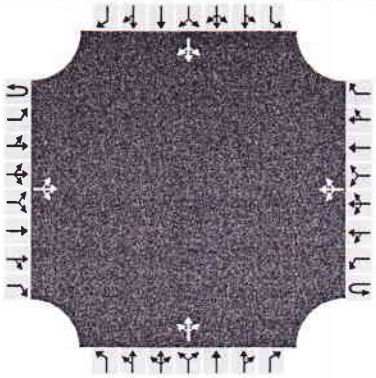
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	4/18/2018
Analysis Year	2018
Time Analyzed	AM Existing
Intersection Orientation	East-West
Project Description	

Site Information

Intersection	Center & Cutoff
Jurisdiction	Lassen County
East/West Street	Center Road
North/South Street	Cutoff Road
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume, V (veh/h)		0	14	4		1	21	0		4	0	4		1	0	0
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				1					9				1	
Capacity, c (veh/h)		1584				1588					1004				948	
v/c Ratio		0.00				0.00					0.01				0.00	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.0	
Control Delay (s/veh)		7.3				7.3					8.6				8.8	
Level of Service, LOS		A				A					A				A	
Approach Delay (s/veh)		0.0				0.3					8.6				8.8	
Approach LOS											A				A	

Copyright © 2018 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

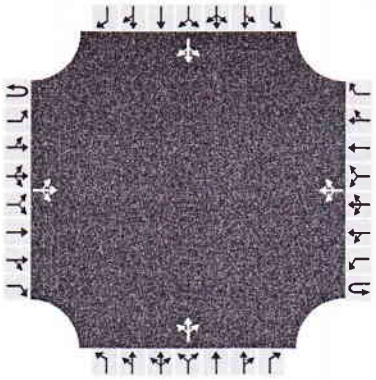
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	4/18/2018
Analysis Year	2018
Time Analyzed	PM Existing
Intersection Orientation	East-West
Project Description	

Site Information

Intersection	Center & Cutoff
Jurisdiction	Lassen County
East/West Street	Center Road
North/South Street	Cutoff Road
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume, V (veh/h)		0	20	4		2	25	1		5	0	1		0	0	1
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				2					7				1	
Capacity, c (veh/h)		1576				1578					951				1043	
v/c Ratio		0.00				0.00					0.01				0.00	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.0	
Control Delay (s/veh)		7.3				7.3					8.8				8.5	
Level of Service, LOS		A				A					A				A	
Approach Delay (s/veh)		0.0				0.5				8.8				8.5		
Approach LOS										A				A		

Copyright © 2018 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

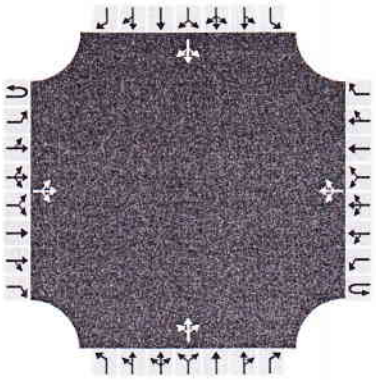
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	4/18/2018
Analysis Year	2018
Time Analyzed	Night Existing
Intersection Orientation	East-West
Project Description	

Site Information

Intersection	Center & Cutoff
Jurisdiction	Lassen County
East/West Street	Center Road
North/South Street	Cutoff Road
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume, V (veh/h)		0	10	3		0	11	0		3	0	0		0	0	0
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					3				0	
Capacity, c (veh/h)		1598				1596					983				0	
v/c Ratio		0.00				0.00					0.00					
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0					
Control Delay (s/veh)		7.3				7.3					8.7				5.0	
Level of Service, LOS		A				A					A				A	
Approach Delay (s/veh)		0.0				0.0				8.7				5.0		
Approach LOS										A				A		

Copyright © 2018 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

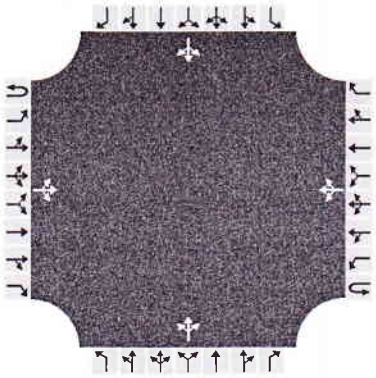
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	4/18/2018
Analysis Year	2018
Time Analyzed	AM Existing + Project
Intersection Orientation	East-West
Project Description	

Site Information

Intersection	Center & Cutoff
Jurisdiction	Lassen County
East/West Street	Center Road
North/South Street	Cutoff Road
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume, V (veh/h)		0	18	4		1	25	0		4	0	4		1	0	0
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				1					9				1	
Capacity, c (veh/h)		1577				1582					994				936	
v/c Ratio		0.00				0.00					0.01				0.00	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.0	
Control Delay (s/veh)		7.3				7.3					8.7				8.8	
Level of Service, LOS		A				A					A				A	
Approach Delay (s/veh)		0.0				0.3					8.7				8.8	
Approach LOS											A				A	

Copyright © 2018 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

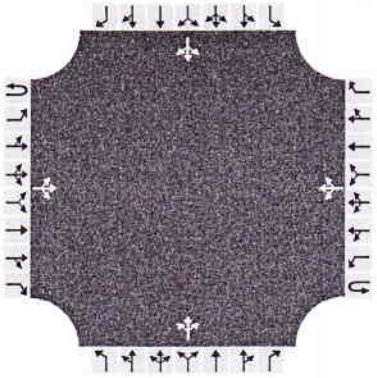
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	4/18/2018
Analysis Year	2018
Time Analyzed	PM Existing + Project
Intersection Orientation	East-West
Project Description	

Site Information

Intersection	Center & Cutoff
Jurisdiction	Lassen County
East/West Street	Center Road
North/South Street	Cutoff Road
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume, V (veh/h)		0	24	4		2	29	1		5	0	1		0	0	1
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				2					7				1	
Capacity, c (veh/h)		1570				1573					939				1037	
v/c Ratio		0.00				0.00					0.01				0.00	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.0	
Control Delay (s/veh)		7.3				7.3					8.9				8.5	
Level of Service, LOS		A				A					A				A	
Approach Delay (s/veh)		0.0				0.5					8.9				8.5	
Approach LOS											A				A	

Copyright © 2018 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

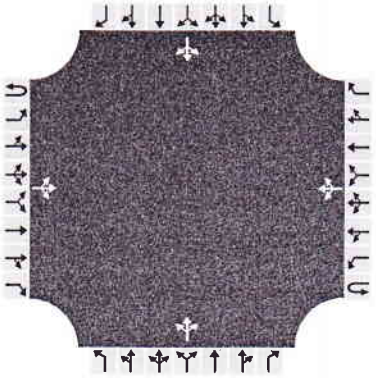
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	4/18/2018
Analysis Year	2018
Time Analyzed	Night Existing + Project
Intersection Orientation	East-West
Project Description	

Site Information

Intersection	Center & Cutoff
Jurisdiction	Lassen County
East/West Street	Center Road
North/South Street	Cutoff Road
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume, V (veh/h)		0	14	3		0	15	0		3	0	0		0	0	0
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					3				0	
Capacity, c (veh/h)		1592				1589					970				0	
v/c Ratio		0.00				0.00					0.00					
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0					
Control Delay (s/veh)		7.3				7.3					8.7				5.0	
Level of Service, LOS		A				A					A				A	
Approach Delay (s/veh)		0.0				0.0					8.7				5.0	
Approach LOS											A				A	

Copyright © 2018 University of Florida. All Rights Reserved.

A Policy on Geometric Design of Highways and Streets

2011
6th Edition

American Association of State Highway and Transportation Officials
AASHTO
The Voice of Transportation

Table 9-23. Guide for Left-Turn Lanes on Two-Lane Highways (*10*)

Metric					U.S. Customary				
	Advancing Volume (veh/h)					Advancing Volume (veh/h)			
Opposing Volume (veh/h)	5% Left Turns	10% Left Turns	20% Left Turns	30% Left Turns	Opposing Volume (veh/h)	5% Left Turns	10% Left Turns	20% Left Turns	30% Left Turns
60-km/h Operating Speed					40-mph Operating Speed				
800	330	240	180	160	800	330	240	180	160
600	410	305	225	200	600	410	305	225	200
400	510	380	275	245	400	510	380	275	245
200	640	470	350	305	200	640	470	350	305
100	720	515	390	340	100	720	515	390	340
80-km/h Operating Speed					50-mph Operating Speed				
800	280	210	165	135	800	280	210	165	135
600	350	260	195	170	600	350	260	195	170
400	430	320	240	210	400	430	320	240	210
200	550	400	300	270	200	550	400	300	270
100	615	445	335	295	100	615	445	335	295
100-km/h Operating Speed					60-mph Operating Speed				
800	230	170	125	115	800	230	170	125	115
600	290	210	160	140	600	290	210	160	140
400	365	270	200	175	400	365	270	200	175
200	450	330	250	215	200	450	330	250	215
100	505	370	275	240	100	505	370	275	240

Additional information on left-turn lanes, including their suggested lengths, can be found in *Highway Research Record 211*, NCHRP Report 225, and NCHRP Report 279 (*10*, *19*, *17*). In the case of double left-turn lanes, a capacity analysis of the intersection should be performed to determine what traffic controls are needed in order for it to function properly.

Local conditions and the cost of right-of-way often influence the type of intersection selected as well as many of the design details. Limited sight distance, for example, may make it desirable to control traffic by yield signs, stop signs, or traffic signals when the traffic densities are less than those ordinarily considered appropriate for such control. The alignment and grade of the intersecting roads and the angle of intersection may make it advisable to channelize or use auxiliary pavement areas, regardless of the traffic densities. In general, traffic service, highway design designation, physical conditions, and cost of right-of-way are considered jointly in choosing the type of intersection.

For the general benefit of through-traffic movements, the number of crossroads, intersecting roads, or intersecting streets should be minimized. Where intersections are closely spaced on a two-way facility, it is seldom practical to provide signals for completely coordinated traffic movements at reasonable speeds in opposing directions on that facility. At the same time, the resultant road or street patterns should permit travel on roadways other than the predominant highway without too much inconvenience. Traffic analysis

California Department of Transportation

Highway Design Manual

U.S. Customary Units

Sixth Edition

(3) *Double Left-turn Lanes.* At signalized intersections on multilane conventional highways and on multilane ramp terminals, double left-turn lanes should be considered if the left-turn demand is 300 vehicles per hour or more. The lane widths and other design elements of left-turn lanes given under Index 405.2(2) applies to double as well as single left-turn lanes.

The design of double left-turn lanes can be accomplished by adding one or two lanes in the median. See "Guidelines for Reconstruction of Intersections", published by Headquarters, Division of Traffic Operations, for the various treatments of double left-turn lanes.

(4) *Two-way Left-turn Lane (TWLTL).* The TWLTL consists of a striped lane in the median of an arterial and is devised to address the special capacity and safety problems associated with high-density strip development. It can be used on 2-lane highways as well as multilane highways. Normally, the District Traffic Operations Branch should determine the need for a TWLTL.

The minimum width for a TWLTL shall be 12 feet (see Index 301.1). The preferred width is 14 feet. Wider TWLTL's are occasionally provided to conform with local agency standards. However, TWLTL's wider than 14 feet are not recommended, and in no case should the width of a TWLTL exceed 16 feet. Additional width may encourage drivers in opposite directions to use the TWLTL simultaneously.

405.3 Right-turn Channelization

(1) *General.* For right-turning traffic, delays are less critical and conflicts less severe than for left-turning traffic. Nevertheless, right-turn lanes can be justified on the basis of capacity, analysis, and crash experience.

In rural areas a history of high speed rear-end collisions may warrant the addition of a right-turn lane.

In urban areas other factors may contribute to the need such as:

- High volumes of right-turning traffic causing backup and delay on the through lanes.
- Conflicts between crossing pedestrians and right-turning vehicles and bicycles.
- Frequent rear-end and sideswipe collisions involving right-turning vehicles.

Where right-turn channelization is proposed, lower speed right-turn lanes should be provided to reduce the likelihood of conflicts between vehicles, pedestrians, and bicyclists.

(2) *Design Elements.*

(a) Lane and Shoulder Width--**Index 301.1 shall be used for right-turn lane width requirements. Shoulder width shall be a minimum of 4 feet.** Although not desirable, lane and shoulder widths less than those given above can be considered for right-turn lanes under the following conditions pursuant to Index 82.2:

- In urban, city or town centers (rural main streets) with posted speeds less than 40 miles per hour in severely constrained situations, if truck or bus use is low, consideration may be given to reducing the right-turn lane width to 10 feet.
- Shoulder widths may also be considered for reduction under constricted situations. Whenever possible, at least a 2-foot shoulder should be provided where the right-turn lane is adjacent to a curb. Entire omission of the shoulder should only be considered in constrained situations and where an 11-foot lane can be constructed.

  Gutter pans can be included within a shoulder, but cannot be included as part of the travel lane width. Additional right of way for a future right-turn lane should be considered when an intersection is being designed.