# El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project

Initial Study / Mitigated Negative Declaration

**Prepared for**:

County of El Dorado
Community Development Services
Department of Transportation
2850 Fairlane Court
Placerville, CA 95667

October 4, 2017

Prepared by:

FOOTHILL ASSOCIATES

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**NOTICE OF INTENT**

**TO ADOPT A MITIGATED NEGATIVE DECLARATION**

**for the**
**El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project**

Public Notice is hereby given that a Mitigated Negative Declaration is available for public review for the El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project (Proposed Project).

**Project Location**: The project site is located entirely within the Sacramento-Placerville Transportation Corridor (SPTC) right-of-way from northwest of milepost 143 within the Town of El Dorado just north of Pleasant Valley Road and Oriental Street to east of milepost 144 at Old Depot Road south of Placerville within El Dorado County, within portions of Sections 24, 26, 34, and 35, Township 10 North, Range 10 East, of the Placerville, California USGS 7.5-topographic quadrangles, 38° 41' 39.825" North, 120° 50' 21.216" West.

**Project Description**: Implementation of the Proposed Project includes the development of approximately 2.2 miles of an 8-foot wide paved Class 1 multi-use bicycle and pedestrian trail, with signage and a road crossing at Missouri Flat Road. Proposed trail amenities may also include the installation of fencing or railing and small culvert crossings. A bike/pedestrian overcrossing would be constructed of a prefabricated steel truss with a weathered steel, rust-colored finish and a 12-foot-wide concrete deck with approaches to connect the existing El Dorado Trail at its existing terminus just east of Missouri Flat Road with the proposed trail segment west of Missouri Flat Road.

**Document Review and Availability**: The public review and comment period will extend for 30 calendar days in accordance with CEQA Guidelines Section 15105(b) starting October 4, 2017 and ending November 3, 2017. The Initial Study/Mitigated Negative Declaration (IS/MND) is available for public review at the following location:

County of El Dorado
Community Development Services
Department of Transportation
2850 Fairlane Court
Placerville, CA 95667
(8:00 A.M. to 5:00 P.M., Monday through Friday)

The IS/MND can also be viewed and/or downloaded at the County of El Dorado webpage via the following web address: http://www.edcgov.us/government/dot/pages/CEQA.aspx.

**Comments/Questions**: Comments and/or questions regarding the IS/MND may be directed to: Donna Keeler, Principal Planner, County of El Dorado, Community Development Services,

Department of Transportation, 2850 Fairlane Court, Placerville, California 95667, Phone: (530) 621-3829, Fax: (530) 626-0387, Email: donna.keeler@edcgov.us.

**Public Meetings**: The IS/MND is tentatively scheduled for consideration and possible adoption by the County of El Dorado on **December 12, 2017**. Board meetings are on Tuesdays and start at 8:00 A.M. in the County Supervisors Board Meeting Room, 330 Fair Lane, Building A, Placerville, California, 95667. Interested parties should call Donna Keeler, Principal Planner with the County of El Dorado at (530) 621-3829 to confirm meeting agendas, times, and dates or check on the County's website at https://eldorado.legistar.com/Calendar.aspx.

# TABLE OF CONTENTS

**List of Tables**

**List of Figures**



**List of Appendices**

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# 1.0 MITIGATED NEGATIVE DECLARATION INFORMATION SHEET

**Project Title:** El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project

**Project Location:** El Dorado, El Dorado County, California

**Date of Completion:** October 4, 2017

**Project Applicant:** County of El Dorado

**Lead Agency:** County of El Dorado

**Project Description:** Implementation of the Proposed Project includes the development of approximately 2.2 miles of an 8-foot wide paved Class 1 multi-use bicycle and pedestrian trail, with signage and a road crossing at Missouri Flat Road. Proposed trail amenities may also include the installation of fencing or railing and small culvert crossings. A bike/pedestrian overcrossing would be constructed of a prefabricated steel truss with a weathered steel, rust-colored finish and a 12-foot-wide concrete deck with approaches to connect the existing El Dorado Trail at its existing terminus just east of Missouri Flat Road with the proposed trail segment west of Missouri Flat Road. A pedestrian connection would be provided between the Class 1 trail and the sidewalk on the west side of Missouri Flat Road. See **Section 3.0** for additional Project Description details.

**Declaration:**

The County of El Dorado (County) has determined that implementation of the Proposed Project will not result in significant effects on the environment and therefore this Project does not require evaluation through the preparation of an Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act (CEQA). This determination is based on the attached Initial Study in support of the following findings, as documented within **Section 4.0** and **Section 6.0** of this Initial Study:

- The Project will not degrade environmental quality, substantially reduce habitat, cause a wildlife population to drop below self-sustaining levels, reduce the number or restrict the range of special-status species, or eliminate important examples of California history or prehistory;
- The Project does not have the potential to achieve short-term, to the disadvantage of long-term, environmental goals;
- The Project will not have impacts that are individually limited, but cumulatively considerable;
- The Project will not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly; and

- No substantial evidence exists that the Project will have a negative or adverse effect on the environment.

The Project incorporates all applicable mitigation measures identified in the attached Initial Study.

Written comments shall be submitted no later than 30 days from the posting date. The County's determination on the draft MND shall be final.

Submit comments in writing to:

Donna Keeler
Principal Planner
County of El Dorado
Community Development Services
Department of Transportation
2850 Fairlane Court
Placerville, CA 95667
Phone: (530) 621-3829
Fax: (530) 626-0387
Email: donna.keeler@edcgov.us

# 2.0 INTRODUCTION

## 2.1. Introduction and Regulatory Guidance

This document is an Initial Study (IS) supporting a Mitigated Negative Declaration (MND) determination for the El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project (Proposed Project). This MND evaluates the potential impacts resulting from implementation of the Proposed Project. This MND has been prepared in accordance with CEQA, Public Resources Code Section 21000 *et seq.*, and the State CEQA Guidelines, 14 California Code of Regulations (CCR) Section 15000 *et seq.*

An Initial Study is prepared by a Lead Agency to determine if a project has the potential to result in significant impacts on the environment (CEQA Guidelines Section 15063). An EIR must be prepared if an IS indicates that the Proposed Project under review may result in significant impacts to the environment. A Negative Declaration (ND) may be prepared instead, if the Lead Agency prepares a written statement describing the reasons why a proposed project would not have a significant effect on the environment, and therefore does not require the preparation of an EIR. According to CEQA Guidelines Section 15070, a Negative Declaration or Mitigated Negative Declaration shall be prepared for a project subject to CEQA when either:

A. The Initial Study documents that there is no substantial evidence, in light of the whole record before the agency, that the Proposed Project may result in any significant effect on the environment, or

B. The Initial Study identifies potentially significant effects, but:

    1) Revisions in the Project plans or proposals made by or agreed to by the applicant before the proposed mitigated negative declaration and initial study are released for public review would avoid effects or mitigate the effects to a point where clearly no significant effects would occur, and

    2) There is no substantial evidence, in light of the whole record before the agency that the Proposed Project as revised, may have a significant effect on the environment.

### *2.1.1. Tiering (Guidelines §§ 15152, 15385; Pub. Res. Code § 21093)*

"Tiering" is a concept referring to use of the analysis presented in a broad EIR, such as a General Plan EIR, for use in subsequent EIRs or Negative Declarations (ND) on more focused projects, incorporating by reference the general discussion contained in the broader EIR, and concentrating the later EIR or ND on issues specific to the later project. Tiering is appropriate when the sequence of analysis is from an EIR prepared for a general plan, policy, or program, to an EIR or ND prepared for another policy, plan, or program of lesser scope, or to a site-specific

EIR or ND. CEQA encourages tiering to eliminate repetitive discussions of the same issues and allows for focusing in later EIRs and NDs on issues ripe for discussion at each level.

Tiering is used in this document by relying on the Sacramento-Placerville Transportation Corridor Master Plan EIR (Program EIR) as the initial basis for analyzing the potential environmental impacts of implementation of the Proposed Project. The analysis of the El Dorado Trail Extension Project, therefore, need not examine those effects which were addressed in the earlier EIR or which were examined at a sufficient level of detail in the earlier EIR to allow the effects to be avoided or mitigated as part of the project approval process.

### *2.1.2. Incorporation by Reference*

Pursuant to Section 15150 of the State CEQA Guidelines, the documents listed below are hereby incorporated by reference. Relevant information from these documents has been summarized and incorporated into individual resource issue area discussions. Citations have been included to indicate from which document information has been summarized. The following documents are on file and available for review at the County of El Dorado, Community Development Services, Department of Transportation, 2850 Fairlane Court, Placerville, California.

- County of El Dorado. 2004. *El Dorado County General Plan A Plan for Managed Growth and Open Roads; A Plan for Quality Neighborhoods and Traffic Relief*, Adopted July 19, 2004 (Amended July 29, 2016). Available online at: http://www.edcgov.us/Government/Planning/Adopted_General_Plan.aspx.
- County of El Dorado. 2012. *El Dorado County Parks and Trails Master Plan*, March 27, 2012. Available online at: http://www.edcgov.us/Government/Parks/MasterPlan.aspx.
- El Dorado County Transportation Commission, Fehr and Peers Associates, Inc., and Jones and Stokes, Inc. 2003. *Sacramento-Placerville Transportation Corridor Master Plan, First Edition*, February 25, 2003. Available online at: http://www.edctc.org/C/SPTC/Analysis/EDC_SPTC_Master_Plan_2003.pdf.
- El Dorado County Transportation Commission. 2010. *El Dorado County Bicycle Transportation Plan*, November 9, 2010. Available online at: http://www.edctc.org/3/CountyBikePlan2010.html.
- Jones and Stokes, Inc. 2000. *Sacramento-Placerville Transportation Corridor Master Plan Final Environmental Impact Report*, April 2000. Available online at: http://www.edctc.org/C/SPTC/Analysis/EDC_SPTC_MasterPlan_EIR_2000.pdf.

## 2.2. Lead Agency

The Lead Agency is the public agency that has the principal responsibility for carrying out or approving a proposed project. CEQA Guidelines Section 15051 states that if a project will be carried out by a public agency that agency shall be the Lead Agency, even if the project would be located within the jurisdiction of another public agency.

The County of El Dorado will oversee and implement the project; therefore, the County of El Dorado is the designated Lead Agency for the purposes of CEQA.

## 2.3. Purpose and Document Organization

The purpose of this Initial Study is to document if implementation of the Proposed Project may result in potentially significant impacts on the environment.

This document is divided into the following sections:

**Section 1.0 Mitigated Negative Declaration Information Sheet**
Pursuant to CEQA Guidelines 15071, Section 1 includes a brief description of the Project, the Project location, and the County of El Dorado's proposed findings. Section 1.0 references the attached Initial Study, including proposed mitigating measures included by individual resource issue area as applicable to development of the Proposed Project.

**Section 2.0 Introduction**
This section provides an introduction and describes the purpose and organization of this document.

**Section 3.0 Project Description**
This section provides a detailed description of the Proposed Project including the location of the Project.

**Section 4.0 Initial Study Checklist**
This section describes the environmental setting for each of the environmental subject areas, the regulatory setting, where relevant, and evaluates a range of impacts in response to the environmental checklist. Impacts are classified as "no impact," "less than significant impact," "less than significant with mitigation incorporated," or "potentially significant impact." Where appropriate, mitigation measures are provided that mitigate potentially significant impacts to a less than significant level.

**Section 5.0 CEQA Determination**
This section provides the environmental determination for the Project.

**Section 6.0** Report Preparation
This section identifies a list of staff and consultants responsible for preparation of this document and persons and agencies consulted.

**Section 7.0 References**
This section identifies the references used in preparation of the MND.

**Appendix A Mitigation Monitoring and Reporting Program**
This appendix identifies mitigation measures included in the Initial Study and the responsible entity for implementation of the mitigation measures, as required by Section 15097 of the CEQA Guidelines.

**Appendix B** ***Visual Impact Assessment El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project*****, February 9, 2017**

**Appendix C** ***El Dorado Trail Project Air Quality Study*****, November 29, 2016**

**Appendix D** ***El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project, Natural Environmental Study*****, July 2017**

**Appendix E** ***El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project Oak Woodland Analysis*****, June 22, 2017**

**Appendix F** ***Construction Noise Analysis El Dorado Trail Extension & Missouri Flat Road Bike/Pedestrian Overcrossing, El Dorado County, California*****, November 10, 2016**

## 2.4. Thresholds of Significance

A significant effect on the environment is generally defined as a substantial or potentially substantial adverse change in the physical environment (CEQA Guidelines Section 15358). Environment as used in this definition includes the land, air, water, minerals, flora, fauna, ambient noise, and objects which are historical or aesthetic in nature. The guidelines in the following Initial Study focus on these elements and are used as tools to determine the potential of whether or not an activity is considered significant (CEQA Guidelines Section 15065). Effects are also recognized as to whether they would occur either directly or indirectly as a result of the Project.

## 2.5. Terminology Used in this Document

The Environmental Checklist in this document utilizes the following terminology to describe the levels of significance associated with project-related impacts:

**Potentially Significant Impact**: An impact that may have a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the Project" (CEQA Guidelines Section 15382); the existence of a potentially significant impact requires the preparation of an EIR with respect to such an impact.

**Less Than Significant With Mitigation Incorporated**: A potentially significant impact that could be mitigated to a level of less than significant through the incorporation of mitigation measures.

**Less Than Significant Impact**: An impact which is less than significant and does not require the implementation of mitigation measures.

**No Impact**: Utilized for checklist items where development of the Project would not have any impact and does not require the implementation of mitigation measures.

## 2.6. Assembly Bill 52 Consultation

In accordance with Assembly Bill 52 (AB 52), the County of El Dorado sent Formal Notification to tribes who had requested notification on August 17, 2016. Notification was sent out via Certified mail and email. The United Auburn Indian Community (UAIC) and Shingle Springs Band of Miwok Indians requested a field meeting. A field meeting was scheduled for Monday, October 24, 2016 and was attended by County of El Dorado staff, Senior Regulatory Specialist Kyrsten Shields from Foothill Associates, and Marcella Ernest of the UAIC.

## 2.7. Required Permit Approvals

Implementation of the Proposed Project is anticipated to require permits and authorizations as summarized in **Table 2.7-1** below.

**Table 2.7-1 — Potential Resource Agency Permitting Requirements**

| Approving Agency | Permit/ Approval |
|---|---|
| ***Federal Agencies*** | |
| U.S. Army Corps of Engineers (USACE) | Compliance with Section 404 of the Federal Clean Water Act |
| State Historic Preservation Officer (SHPO) | Compliance with Section 106 of the National Historic Preservation Act |
| ***State Agencies*** | |
| State Water Resources Control Board, Regional Water Quality Control Board (SWRCB, RWQCB) | Coverage under the General Construction Activity Storm Water Permit (§ 402 of the Clean Water Act, 40 CFR Part 122) |
| State Water Resources Control Board, Regional Water Quality Control Board (SWRCB, RWQCB) | Water Quality Certification (§ 401 of the Clean Water Act) |
| California Department of Fish and Wildlife (CDFW) | Streambed Alteration Agreement (§ 1602 of the Fish and Game Code) |
| ***Local Agencies*** | |
| County of El Dorado | Project Approval and Adopt Initial Study/ Mitigated Negative Declaration |

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# 3.0 PROJECT DESCRIPTION

## 3.1. Project Location

The approximately 37-acre project site is located entirely within the Sacramento-Placerville Transportation Corridor (SPTC) right-of-way from northwest of milepost 143 within the Town of El Dorado, just north of Pleasant Valley Road and Oriental Street, to east of milepost 144 at Old Depot Road south of Placerville, El Dorado County, California, within portions of Sections 24, 26, 34, and 35, Township 10 North, Range 10 East, on the *Placerville*, California USGS 7.5-topographic quadrangle, 38° 41' 39.825" North, 120° 50' 21.216" West (**Figure 3.2-1**) (Project Site). The Project Site is also shown on **Figure 3.2-2**, **Sheets 1 through 8**.

## 3.2. Background and Project Purpose

### *3.2.1. Sacramento – Placerville Transportation Corridor*

The SPTC is a 53-mile segment of the Southern Pacific Railway Corporation's Placerville Branch railroad right-of-way (Rail Corridor) from Sacramento to Placerville, California. The SPTC Joint Powers Authority (SPTC – JPA) is a public entity formed in 1991 for the purpose of purchasing the SPTC and consists of four member agencies: the County of El Dorado, the City of Folsom, the County of Sacramento, and the Sacramento Regional Transit District, and one Member-at-Large that serves on the SPTC - JPA Board of Directors.

The SPTC – JPA purchased the 53-mile Rail Corridor segment in 1996 for the purpose of preserving it for transportation uses and coordinating usage and maintenance by the member agencies. Upon acquiring the Rail Corridor, the SPTC – JPA and its member agencies entered into a Reciprocal Use and Funding Agreement (RUFA) to establish the joint rights and responsibilities for the member agencies with respect to the ownership and use of the Rail Corridor. The RUFA allocates segments of the Rail Corridor among the SPTC – JPA member agencies; each member agency has primary usage rights and maintenance responsibility for its allocation of the Rail Corridor which has been granted through an easement to each member by the SPTC – JPA. The SPTC – JPA has railbanked[1] this portion of the Rail Corridor under the Rails to Trails Act and the corridor remains subject to the jurisdiction of the federal Surface Transportation Board.

### *3.2.2. Project Purpose*

The proposed El Dorado Trail Extension — Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project (Proposed Project) would implement the Class 1 Trail within Section C2 of Segment C identified by the SPTC Master Plan.

[1] Railbanking, as defined by the National Trails System Act, 16 USC § 1247 (d), is a voluntary agreement between a railroad company and a trail agency to use an out-of-service rail corridor as a trail until a railroad might need the corridor again for rail service. Because a railbanked corridor is not considered abandoned, it can be sold, leased, or donated to a trail manager without reverting to adjacent landowners (Rails to Trails Conservancy, accessed online May 24, 2015 - http://www.railstotrails.org/build-trails/trail-building-toolbox/railbanking/).

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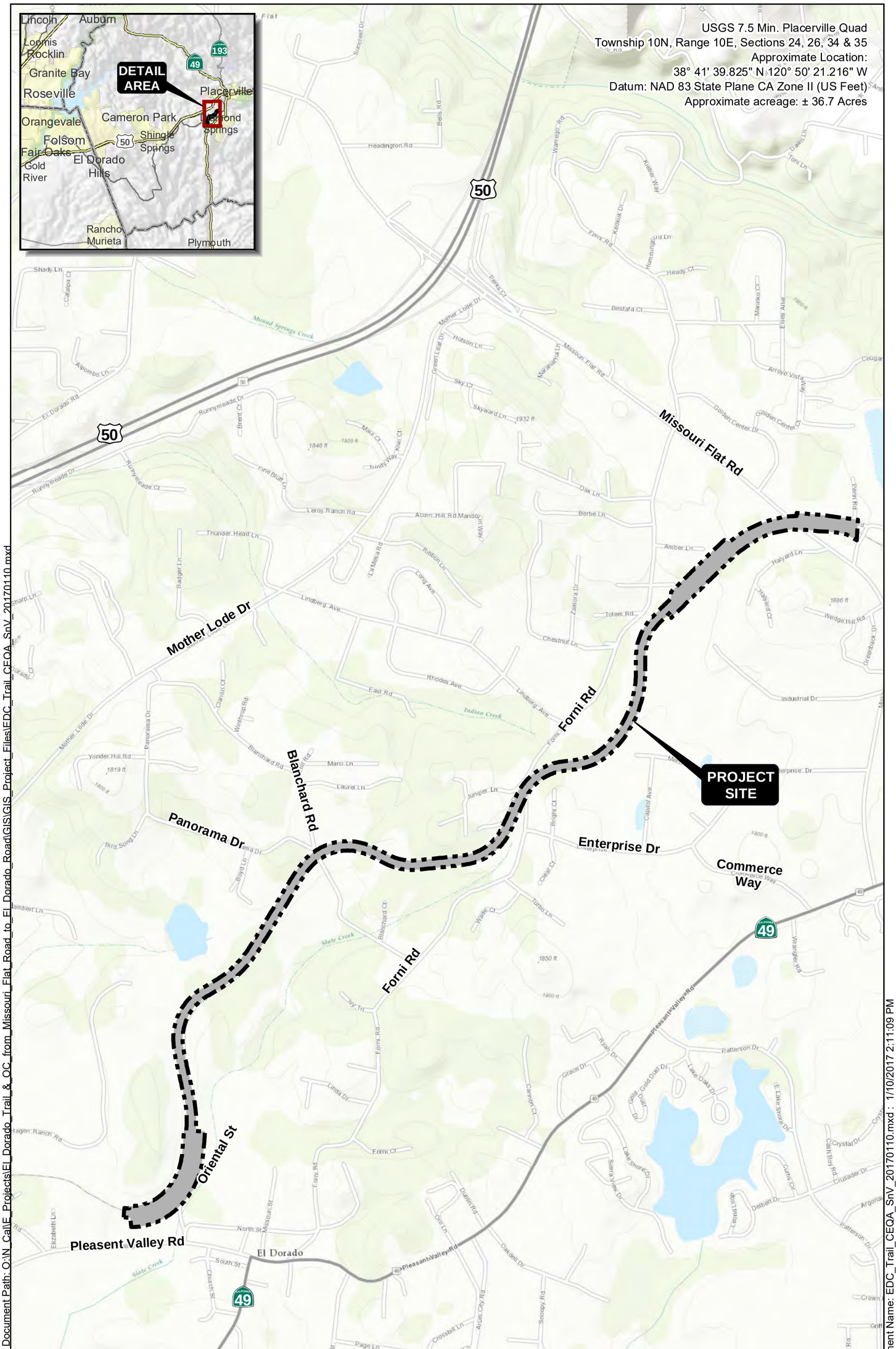


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## SITE AND VICINITY

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**Figure 3.2-1**

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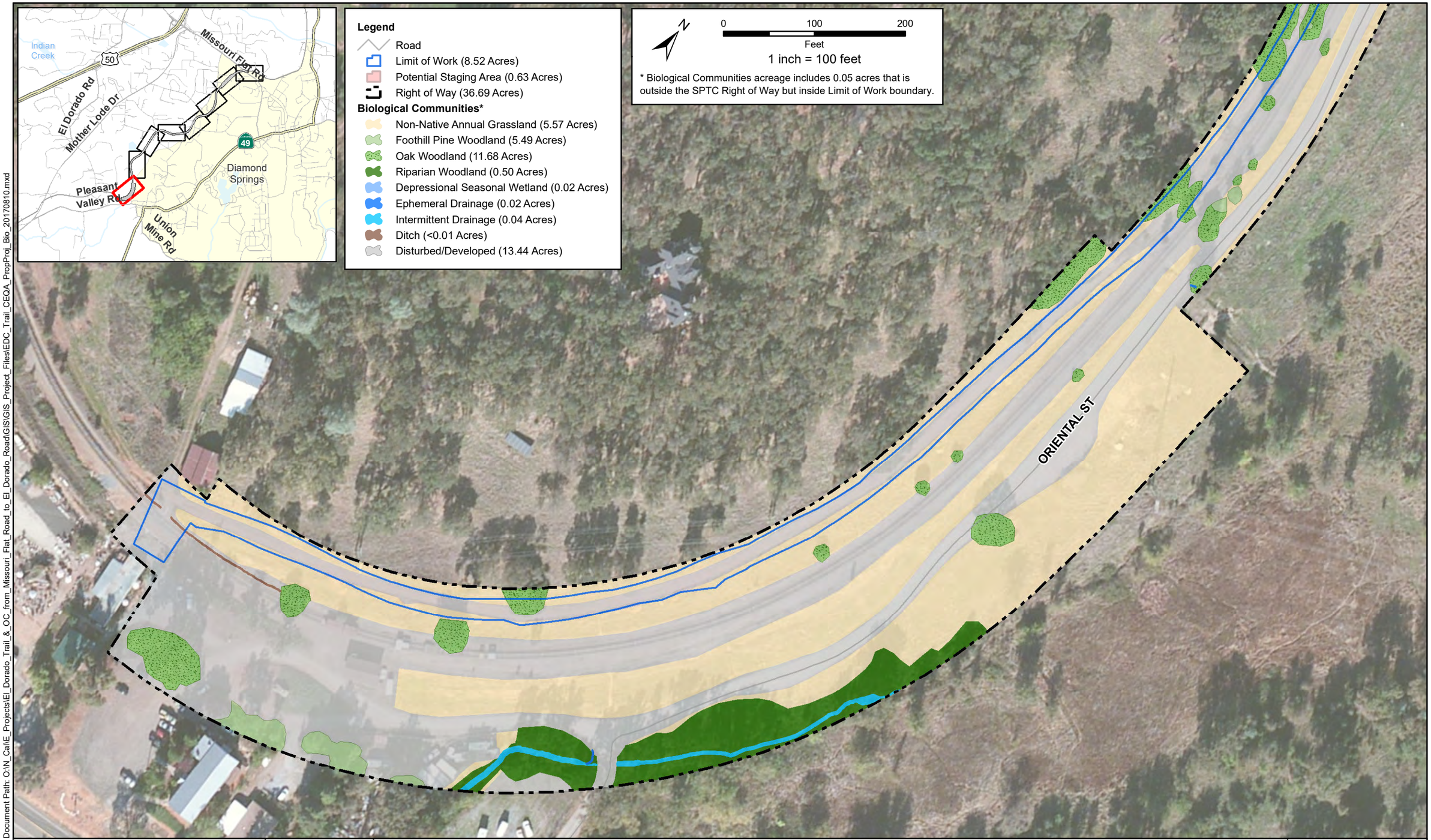


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**EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — PROPOSED PROJECT**

FIGURE 3.2-2
SHEET 1



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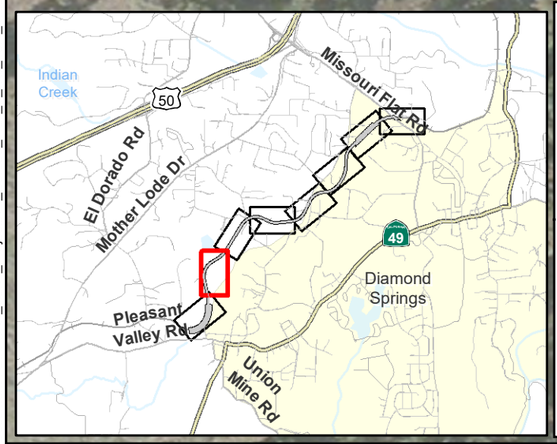


**Legend**

- Road
- Limit of Work (8.52 Acres)
- Potential Staging Area (0.63 Acres)
- Right of Way (36.69 Acres)

**Biological Communities***

- Non-Native Annual Grassland (5.57 Acres)
- Foothill Pine Woodland (5.49 Acres)
- Oak Woodland (11.68 Acres)
- Riparian Woodland (0.50 Acres)
- Depressional Seasonal Wetland (0.02 Acres)
- Ephemeral Drainage (0.02 Acres)
- Intermittent Drainage (0.04 Acres)
- Ditch (<0.01 Acres)
- Disturbed/Developed (13.44 Acres)

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Feet

1 inch = 100 feet

* Biological Communities acreage includes 0.05 acres that is outside the SPTC Right of Way but inside Limit of Work boundary.

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# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — PROPOSED PROJECT

FIGURE 3.2-2
SHEET 2



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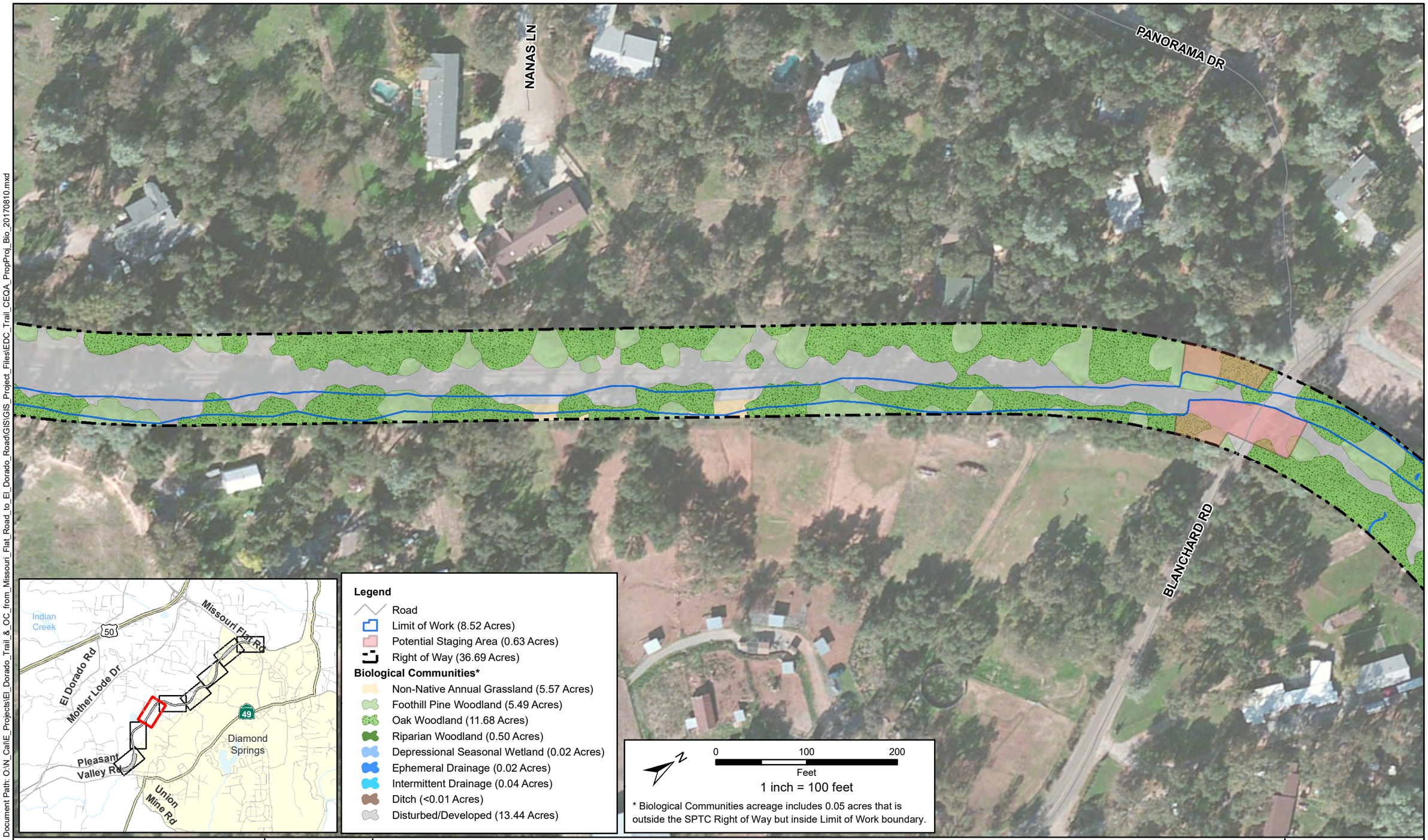


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# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — PROPOSED PROJECT

FIGURE 3.2-2
SHEET 3



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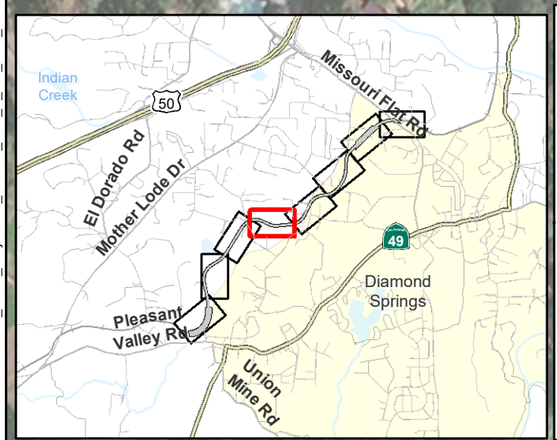


**Legend**

- Road
- Limit of Work (8.52 Acres)
- Potential Staging Area (0.63 Acres)
- Right of Way (36.69 Acres)

**Biological Communities***

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* Biological Communities acreage includes 0.05 acres that is outside the SPTC Right of Way but inside Limit of Work boundary.

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# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — PROPOSED PROJECT

FIGURE 3.2-2
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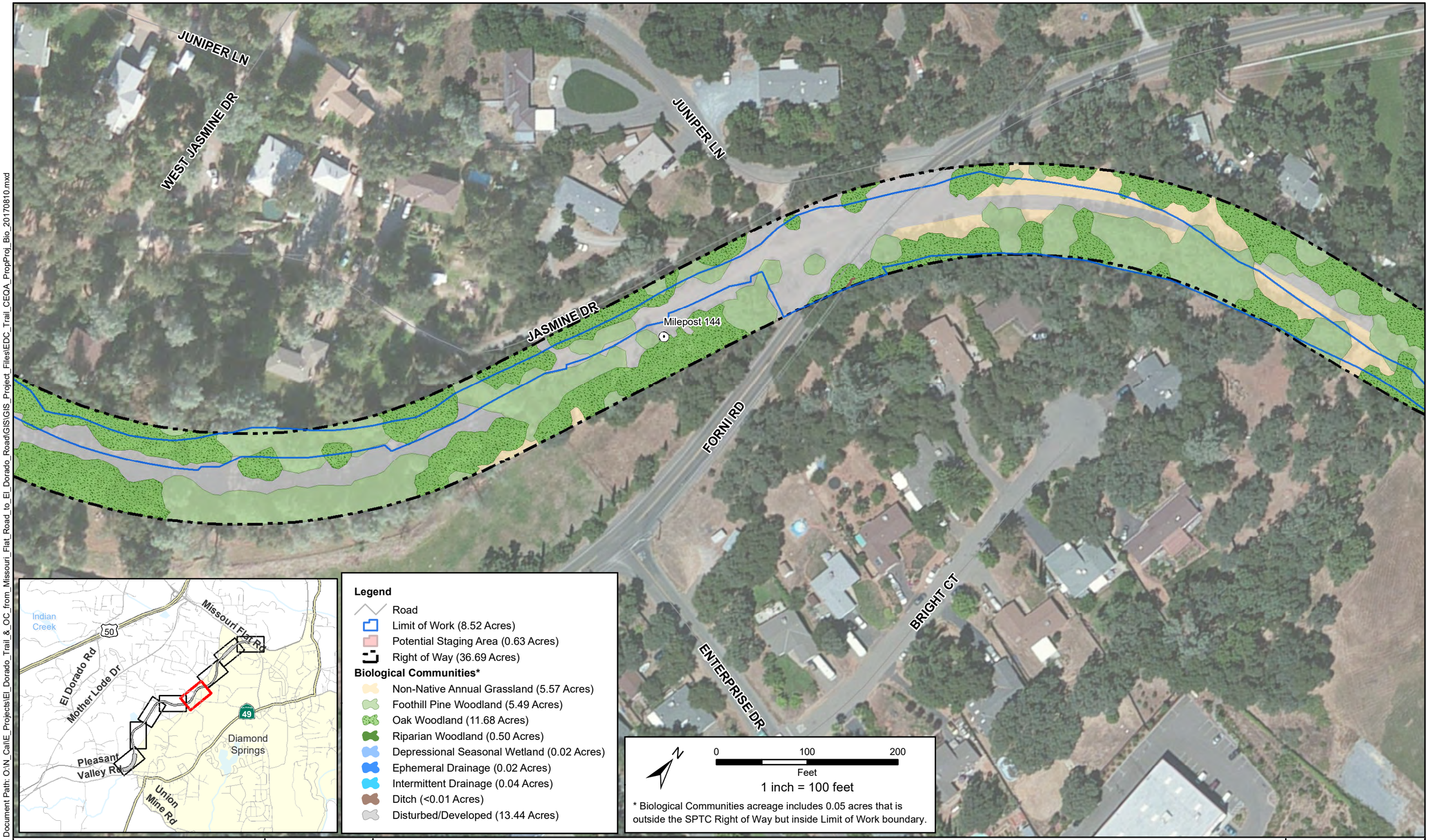


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FIGURE 3.2-2
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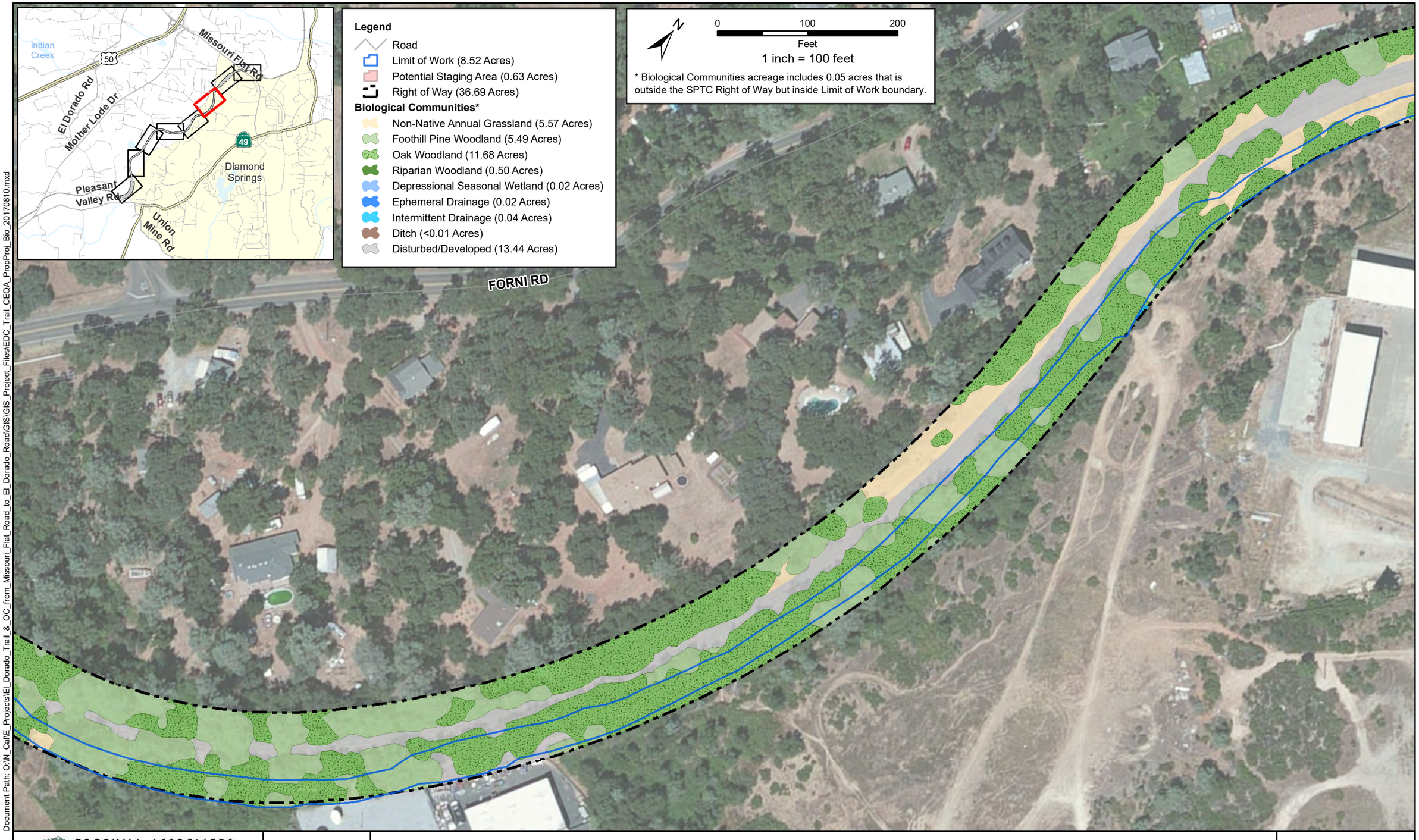


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Date: 08/10/2017

# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — PROPOSED PROJECT

FIGURE 3.2-2
SHEET 6



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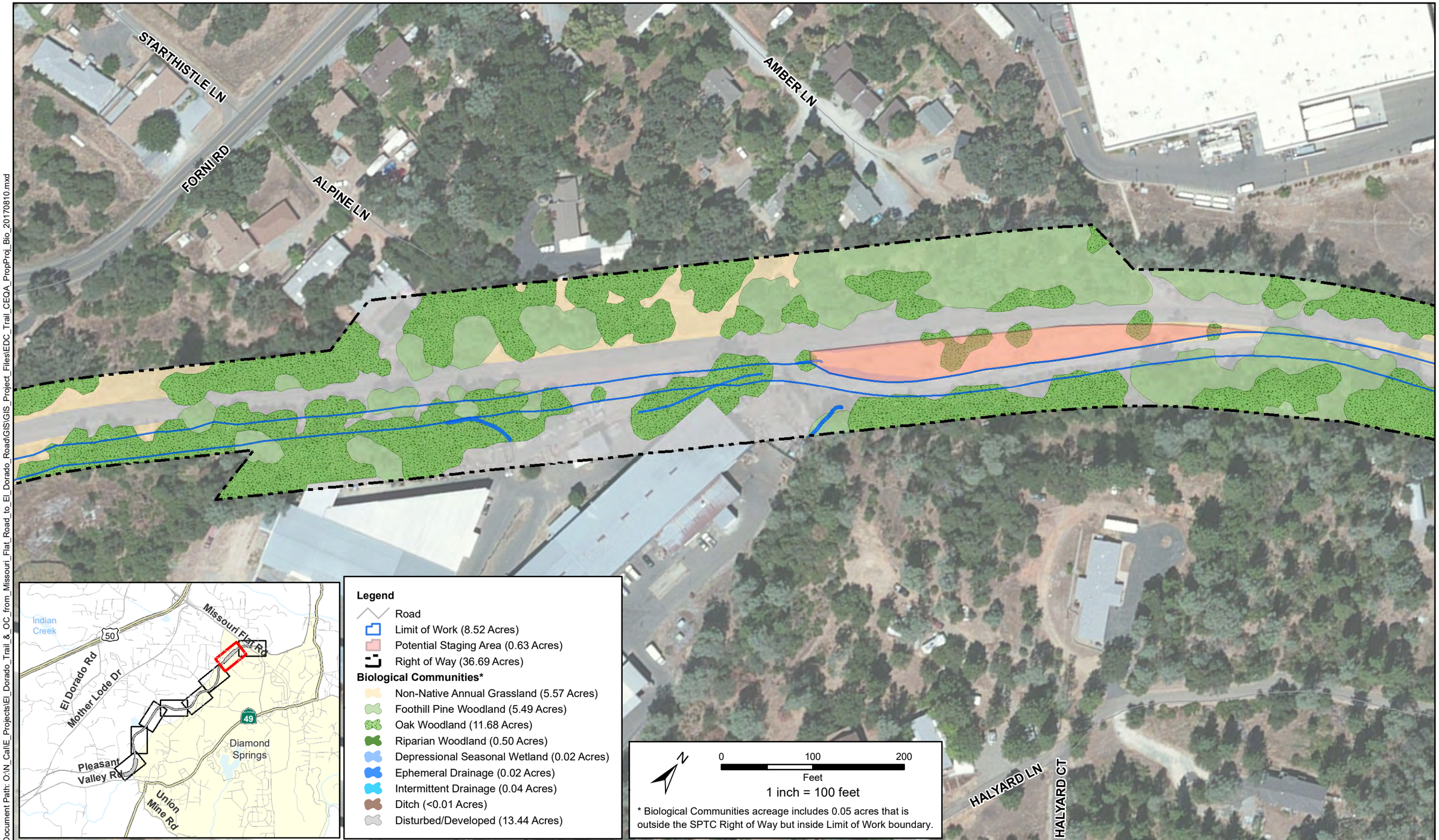


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Drawn By: MUB
QA/QC: KJS
Date: 08/10/2017

# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — PROPOSED PROJECT

FIGURE 3.2-2
SHEET 7



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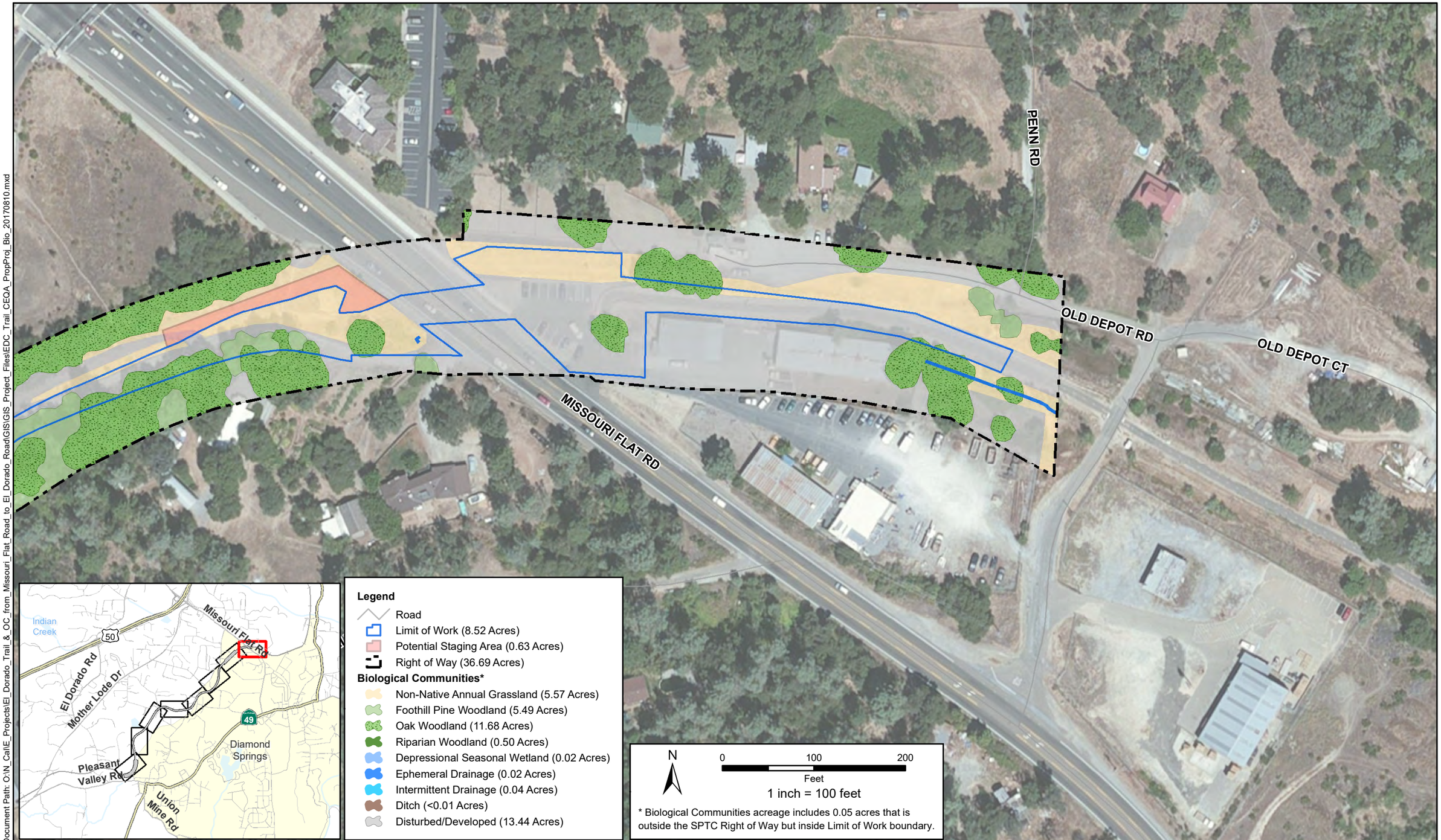


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Drawn By: MUB
QA/QC: KJS
Date: 08/10/2017

# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — PROPOSED PROJECT

FIGURE 3.2-2
SHEET 8



Document Name: EDC_Trail_CEQA_PropProj_Bio_20170810.mxd : : 8/10/2017 3:08:58 PM

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## 3.3. Planning and California Environmental Quality Act Evaluation

Several County planning documents anticipated construction of the Proposed Project.

### *3.3.1. Sacramento – Placerville Transportation Corridor Master Plan and Environmental Impact Report*

The County of El Dorado certified the *Sacramento-Placerville Transportation Corridor Master Plan Final Environmental Impact Report* (Program EIR) and adopted the *Sacramento-Placerville Transportation Corridor Master Plan* (Master Plan) *and Mitigation Monitoring Program* on February 5, 2003. The Master Plan covers future uses within an approximately 28-mile segment of SPTC railway right-of-way extending from the El Dorado/Sacramento County line to Apex, near the City of Placerville. The Master Plan provides guidance on the type of uses that may occur within the corridor to facilitate future individual development proposals within the corridor, including the Proposed Project, which is identified as Segment C, Section C2 of the Master Plan, and would provide linkage between Segment D and Section C1.

The Program EIR prepared for the Master Plan was a "first-tier" environmental review, assessing impacts with a broad approach as guidance for the future review of individual projects.

### *3.3.2. El Dorado County Bicycle Transportation Plan and El Dorado County Parks and Trail Master Plan*

The Proposed Project is a "Tier 1" project in both the 2010 *El Dorado County Bicycle Transportation Plan* and the 2012 *El Dorado County Parks and Trail Master Plan*. Tier One projects are those identified with the highest priority, as they address an immediate critical need, provide strategic benefit, and/or are relatively simple to implement.

## 3.4. Funding

The El Dorado Trail from Missouri Flat Road to El Dorado Road (CIP #97014) and the El Dorado Trail at Missouri Flat Road Bike/Pedestrian Overcrossing (CIP #97015) projects are independently identified in the County's Capital Improvement Program (CIP) as separate projects, with each segment receiving separate Federal Highway Administration Congestion Mitigation and Air Quality (CMAQ) grant awards for planning and environmental and engineering analysis. In addition, each segment would likely be constructed at different times, depending upon the timing of construction funding. However, due to the locality and interconnection of the two segments, the Trail and the Overcrossing are being combined within the CEQA analyses as a single project.

## 3.5. Environmental Setting

### *3.5.1. Overview/ Land Use*

The Project Site ranges from 50 feet to 100 feet in width, as measured from the centerline of the railroad tracks, and has been historically characterized as Southern Pacific Railroad property. Areas spanning 100 feet in width include portions of Railroad Park along Oriental

Street and the northeastern portion of the Project Site extending approximately 1,000 feet west past Missouri Flat Road.

The Project Site is bordered primarily by rural residential development, with the exception of one area between Forni Road and Missouri Flat Road that consists of light industrial development.

### *3.5.2. Topography*

Project Site topography has been influenced by the construction of the railroad. The immediate areas paralleling the railroad tracks are mildly sloping, with a few areas along the central portion of the Project Site that are moderately sloped with the railroad at the base.

Elevations within the Project Site range from 1,604 feet above mean sea level (MSL) in the southwestern portion of the site to 1,795 feet above MSL in the northeastern portion of the site.

### *3.5.3. Biological Communities*

The Project Site is primarily characterized by disturbed/developed areas and oak woodland. Foothill pine woodland and non-native annual grassland also occur throughout the site, as well as a small portion of riparian woodland, which occurs adjacent to the intermittent drainages. Several drainages and a ditch segment are mapped within the Project Site. The extent of individual biological communities mapped within the Project Site is summarized below in **Table 3.5-1** and shown on **Figure 3.2-2**, **Sheets 2 through 8**.

**Table 3.5-1 — Biological Communities and Acreages within the Project Site**

| Biological Community | Acreage |
|---|---|
| Disturbed/ Developed | 13.45 |
| Non-Native Annual Grassland | 5.57 |
| Foothill Pine Woodland | 5.49 |
| Oak Woodland | 11.68 |
| Riparian Woodland | 0.50 |
| Ephemeral Drainage | 0.02 |
| Intermittent Drainage | 0.04 |
| Ditch | 0.01 |
| **Total** | **36.76** |

### *3.5.4. Aquatic Features*

Several unnamed intermittent and ephemeral drainages are mapped within the Project Site. These features are associated with offsite runoff from adjacent properties. A small roadside ditch segment is present along Forni Road in the southern portion of the Project Site (**Figure 3.2-2**, **Sheet 5**).

## 3.6. Project Components

### *3.6.1. Trail Design*

The El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project proposes the development of an 8-foot wide paved Class 1 multi-use bicycle and pedestrian trail, extending approximately 2.2 miles, with 2-foot shoulders on either side, and signage, as well as signalized pedestrian crossings proposed at Forni Road and Blanchard Road. A pedestrian connection would be provided between the Class 1 trail and the sidewalk on the west side of Missouri Flat Road. Proposed trail amenities may include the installation of fencing or railing, and small culvert crossings.

### *3.6.2. Bike/Pedestrian Overcrossing Design*

A bike/pedestrian overcrossing is proposed to connect the existing El Dorado Trail at its existing terminus just east of Missouri Flat Road with the proposed trail segment west of Missouri Flat Road. The crossing would provide a direct connection between trail segments separated by the roadway and would eliminate the need for trail users to divert from the trail to the nearest signal crossing on Missouri Flat Road at Golden Center Drive. The proposed overcrossing would be developed within County right-of-way, with both approaches located within SPTC right-of-way.

The proposed overcrossing would consist of a prefabricated steel truss with a weathered steel, rust-colored finish. The deck would be constructed of a 12-foot-wide reinforced concrete deck (**Figure 3.6-1**). The main (single) span would be approximately 160 feet in length, spanning Missouri Flat Road. Piers would be located on each side of the Missouri Flat Road, constructed of reinforced concrete with a stacked rock type architectural finish. The main span truss would have an approximate overall depth ranging from 12 ½ to 15 feet, with the top of the truss in an arch, with an overhead clearance of 17 ½ feet over Missouri Flat Road (**Figure 3.6-2** and **Figure 3.6-3**).

The piers would also support end span structures at each side of the main span. The west and east end spans would be approximately 50 and 75 feet in length, respectively. End span structures would consist of precast/ pre-stressed concrete girders with a reinforced concrete deck, matching the main span deck width. The approach spans would have a smooth concrete finish.

Retaining wall structure approaches would be constructed beyond the end spans. The west and east structure approaches would extend approximately 190 and 320 feet, respectively, and would vary in height from zero to approximately 16 feet above ground. The wall faces of the structure approaches would also have a stacked rock type architectural finish, matching the piers.

Steel railing would be constructed along the entire overcrossing length (approach structures, end spans, and main span) on both sides, and would have either a galvanized steel or painted finish.

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Digital data provided by: T.Y. Lin International.

PROPOSED PEDESTRIAN OVERCROSSING STRUCTURE (DESIGN)

| | | | |
|---|---|---|---|
| FOOTHILL ASSOCIATES<br>ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE | NOT TO SCALE | Layout By: CTGH<br>Date: 01/12/17 | FIGURE 3.6-1 |

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Digital data provided by: T.Y. Lin International.

PROPOSED PEDESTRIAN OVERCROSSING — DAYTIME SIMULATION (NORTHBOUND)

| | | | |
|---|---|---|---|
| FOOTHILL ASSOCIATES<br>ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE | NOT TO SCALE | Layout By: CTGH<br>Date: 01/12/17 | FIGURE 3.6-2 |

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Digital data provided by: T.Y. Lin International.

PROPOSED PEDESTRIAN OVERCROSSING — DAYTIME SIMULATION (WESTBOUND)

| | | | |
|---|---|---|---|
| FOOTHILL ASSOCIATES<br>ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE | NOT TO SCALE | Layout By: CTGH<br>Date: 01/12/17 | FIGURE 3.6-3 |

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Lighting for the overcrossing may be considered as an added safety feature. If used, a low-level walkway illumination system, such as a handrail tube lighting would likely be utilized. The lighting would be designed to only illuminate deck walkway surfaces, minimizing any light outside of the overcrossing structure (**Figure 3.6-4** and **Figure 3.6-5**).

### *3.6.3. Rail and Road Crossing and Signage*

The proposed trail would require rail crossings at Oriental Street, and near Blanchard and Forni Roads. Each rail crossing would be adequately posted with warning signs and pavement delineations for both trail users and railroad operators.

The Forni Road crossing would include a High-Intensity Activated Cross Walk (HAWK) Signal, and the Blanchard Road crossing would utilize a flashing beacon crossing system. Both crossings would follow the California MUTCD 2014 design standards, including additional signage and/or striping to ensure that the design features would not increase hazards.

Signage for both trail users and motorists would be posted to ensure safety and may include one or more of the following components:

- Striping;
- Signage;
- Flashing beacon; and/or
- High-Intensity Activated Cross Walk (HAWK) Signal.

### *3.6.4. Parking*

Parking currently exists along Oriental Street at the western end of the Project Site and within an existing parking lot for trail users east of Missouri Flat Road. Overcrossing construction would necessitate the relocation of this existing parking lot to a new location approximately 0.14 miles southeast of the existing parking lot. Until a new parking lot is completed, temporary parking will be made available in proximity to the trail head.

### *3.6.5. Construction*

Project construction is planned to commence during spring 2019 for the trail and 2020 for the pedestrian overcrossing and would involve a combination of standard types of construction equipment, including, but not limited to, backhoe/skiploader, grader, excavator, compactor/roller, asphalt paver, and trucks.

**Construction Staging**

As shown on **Figure 3.2-2** (**Sheets 3,7, and 8**) three potential staging areas for construction equipment are proposed within the Project Site. One potential staging area is identified adjacent to Blanchard Road, south of Panorama Drive. A second potential staging area is identified south of Amber Lane, north of Halyard Lane. The third and final potential staging area would be located north of Halyard Lane, northwest of Missouri Flat Road to the proposed overcrossing. All staging areas are located within the existing SPTC – JPA right-of-way.

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Digital data provided by: T.Y. Lin International.

PROPOSED PEDESTRIAN OVERCROSSING — NIGHTTIME SIMULATION (NORTHBOUND)

| | | | |
|---|---|---|---|
| FOOTHILL ASSOCIATES<br>ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE | NOT TO SCALE | Layout By: CTGH<br>Date: 01/12/17 | FIGURE 3.6-4 |

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PROPOSED PEDESTRIAN OVERCROSSING — NIGHTTIME SIMULATION (WESTBOUND)

| | | | |
|---|---|---|---|
| FOOTHILL ASSOCIATES<br>ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE | NOT TO SCALE | Layout By: CTGH<br>Date: 01/12/17 | FIGURE 3.6-5 |

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## 3.7. Sacramento-Placerville Transportation Corridor Master Plan

The SPTC Master Plan identifies the following guidelines and standards for SPTC trail development relevant to the Proposed Project.

## 3.8. General Trail Guidelines

The following general guidelines from the SPTC Master Plan are applicable to the development of the Proposed Project.

1. Trails will be open from dawn to dusk.

2. **Figure 3.8-1** identifies design considerations for at grade crossings as presented within the SPTC Master Plan. Design for individual road crossings would consider these alternatives in light of traffic volumes and vertical and horizontal sight distance.

3. **Figure 3.8-2** identifies construction guidelines for paved trails as presented within the SPTC Master Plan.

4. Several types of signage will be used to properly implement uses of the corridor. Signs would serve many purposes:

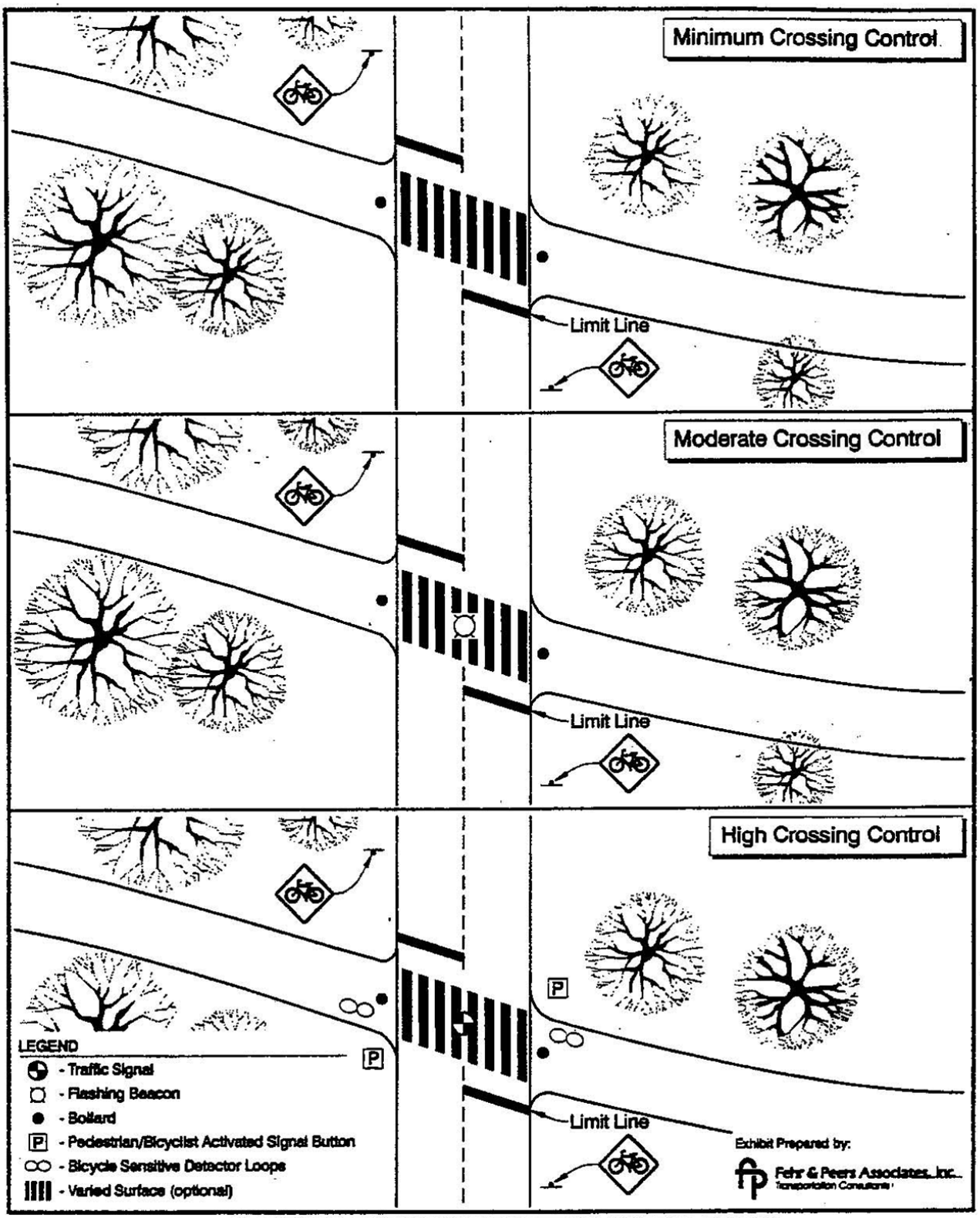
   - Identify permitted uses, regulations, and penalties for unsafe and unlawful uses;
   - Identify potential hazards or unsafe conditions;
   - Identify proper etiquette for shared uses;
   - Provide directions and information regarding historic landmarks and destinations; and
   - Control opposing and cross traffic.

5. Maintenance, vegetation control, and other fire prevention/control actions would periodically be undertaken within the SPTC.

   Maintenance includes those activities necessary to preserve the value of the SPTC and the infrastructure. This includes those activities related to maintaining proper drainage. Maintaining assets directly related to private ventures will be required of and paid for by the applicable private enterprise. Other maintenance will be performed by the County on a routine basis. In addition to routine preventative maintenance, this also includes consistent removal of trash, debris, and other refuse.

   Vegetation within the SPTC will be properly maintained to protect the integrity of rail and trail infrastructure, and to ensure that the corridor will serve as a “fire break” for fires that are in the immediate vicinity of the corridor.

6. The project will comply with the American With Disabilities Act (ADA) criteria.




MAP DOES NOT IMPLY GEOMETRIC CONFIGURATION

EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING PROJECT - DESIGN CONSIDERATIONS FOR AT-GRADE CROSSINGS

| | | | |
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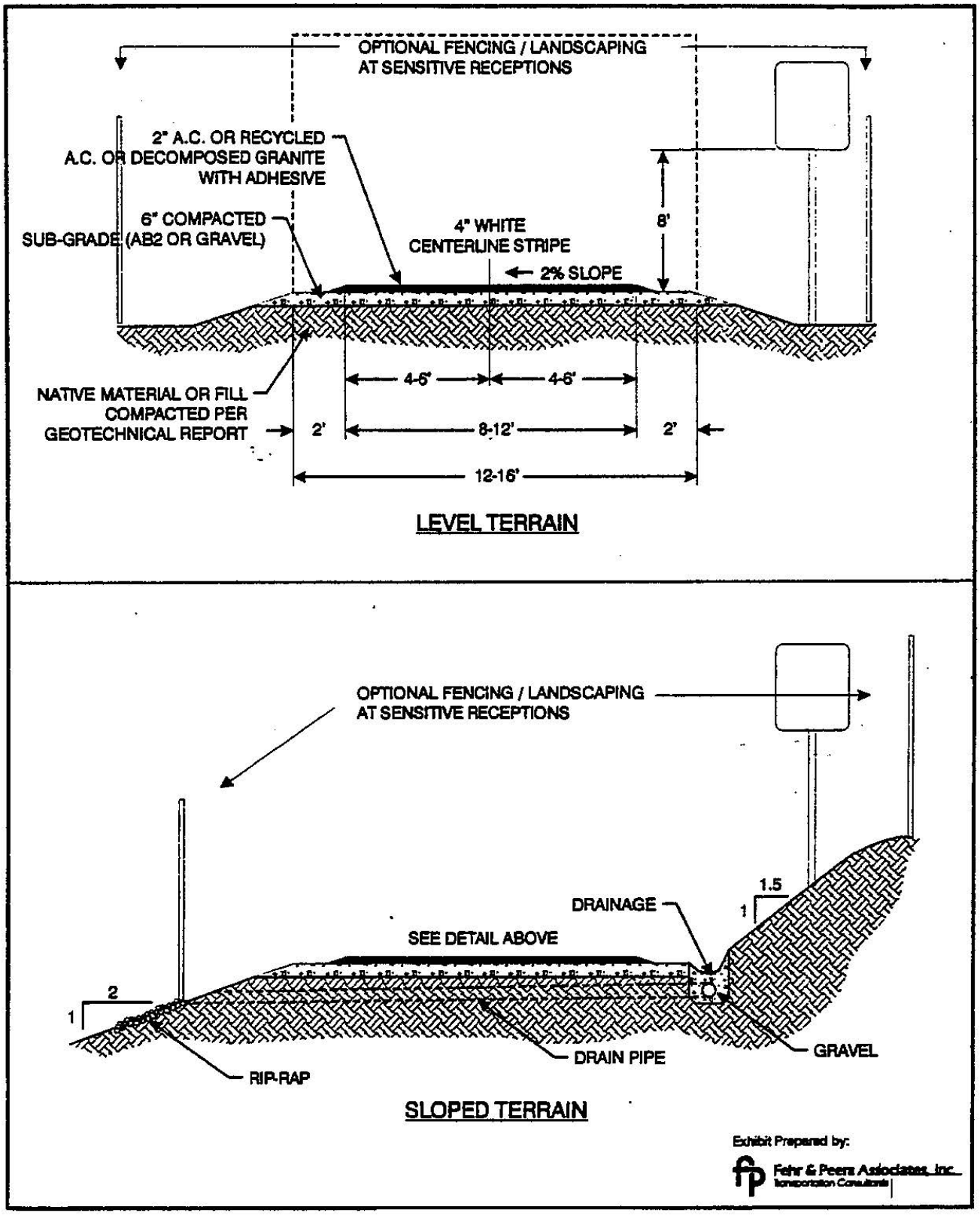
| FOOTHILL ASSOCIATES<br>ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE | NO SCALE<br>© 2017 | Layout By: CTGH<br>Date: 01/10/17 | FIGURE 3.8-1 |




EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING PROJECT - TYPICAL CROSS SECTION: PAVED TRAIL

| | | | |
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## 3.9. Safety Enforcement of Proper Uses

It is a priority to ensure that the paved Class 1 multi-use bicycle and pedestrian trail within the SPTC is used properly. To ensure proper use, the County will:

- Work with volunteers and public safety agencies to establish patrols for the purpose of educating trail users on proper shared trail etiquette, environmental stewardship, and safe trail use.
- Install bollard and gated fences at access points to keep motorized vehicles out; removable bollards and restricted-access gates will allow access for maintenance and emergency vehicles.

## 3.10. Guidelines for Environmental Protection and Enhancement Strategies

### *3.10.1. Fencing and Landscaping*

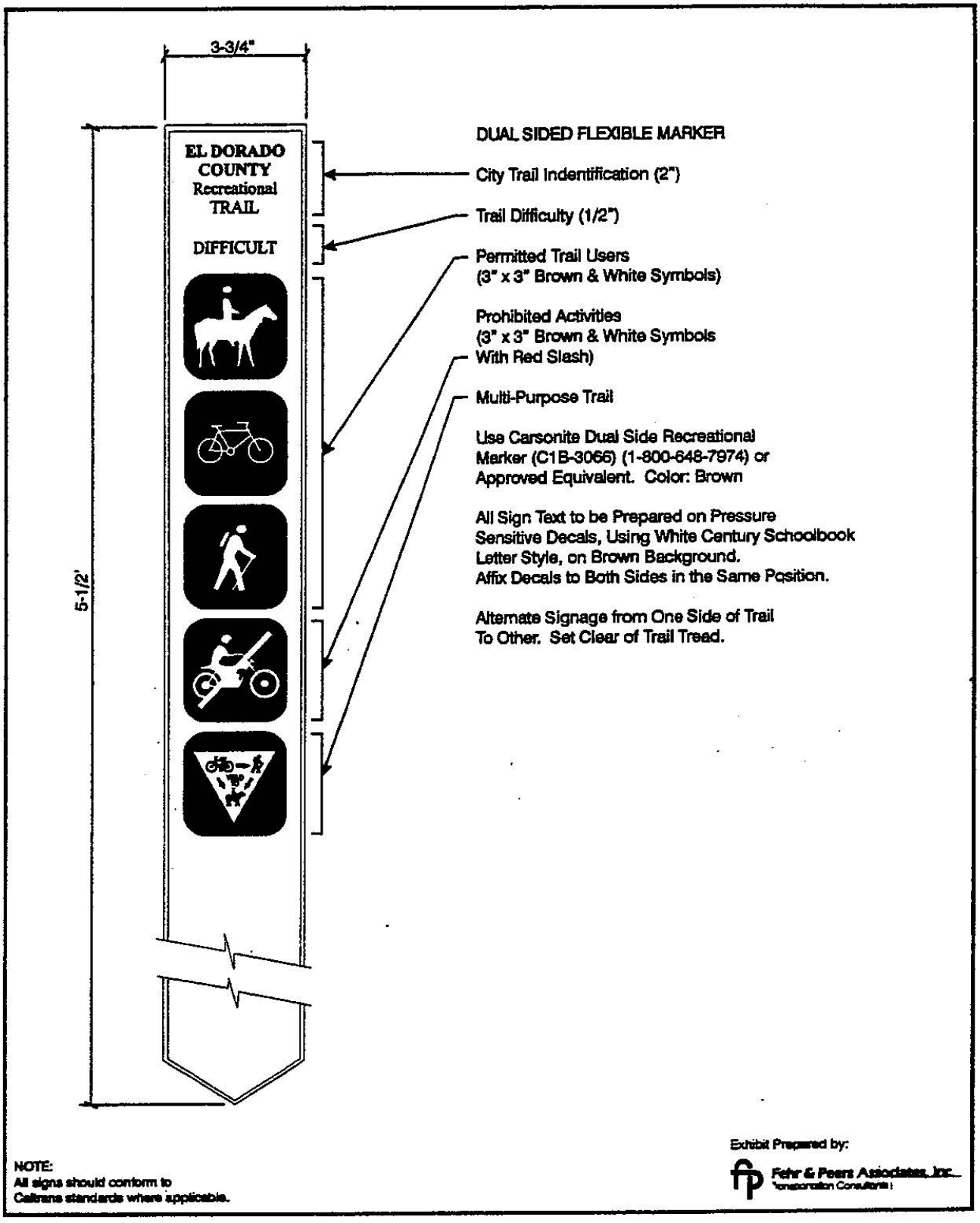
Fencing provided in whole or in part for safety reasons will be designed and constructed with maximum consideration to standards shown in **Figure 3.8-2** for rail and trail projects. Other types of fencing intended for aesthetic reasons will give consideration to the natural surroundings.

Landscaping will consist of trees shrubs and other flora native to the area. Maximum consideration will be given to those plants that are most drought resistant and that require the least amount of maintenance.

### *3.10.2. Signing*

Signs will follow adopted local State and Federal requirements. Additional signage will be included along trails in the corridor, generally consistent with the SPTC Master Plan (**Figure 3.10-1**).

Additional, interpretive trail signs may be included in project designs to enhance the experience for users.




EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING PROJECT - TYPICAL SIGNAGE

| | | | |
|---|---|---|---|
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# 4.0 INITIAL STUDY CHECKLIST

## 4.1. Aesthetics

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| ***Would the Project:*** | | | | |
| a) Have a substantial adverse effect on a scenic vista? | ☐ | ☐ | ☐ | ☒ |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | ☐ | ☐ | ☐ | ☒ |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings? | ☐ | ☐ | ☒ | ☐ |
| d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area? | ☐ | ☐ | ☒ | ☐ |

### *4.1.1. Impact Analysis*

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

**No Impact**. The Proposed Project would result in the development of a multi-use Class I bicycle and pedestrian trail and bicycle/pedestrian overcrossing within the SPTC. The natural topography immediately adjacent to the Rail Corridor has historically been periodically altered by the development of the railroad. Surrounding topography in the vicinity of the Project Site is generally level and no scenic vistas overlook the Proposed Project. Therefore, ***no impact*** would result from implementation of the Proposed Project.

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

**No Impact**. The only designated state scenic highway in El Dorado County is U.S Highway 50 from west of Placerville to Tahoe (mileposts 16 to 74) (Caltrans 2016). The Proposed Project is not within the view shed of that designated portion of U.S. Highway 50. Development of the Proposed Project would therefore have ***no impact*** on a scenic highway.

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

**Less Than Significant Impact**. The Proposed Project would implement the development of approximately 2.2 miles of an 8-foot wide paved Class 1 multi-use bicycle and pedestrian trail, with signage and a road crossing at Missouri Flat Road. The proposed bike/pedestrian overcrossing would consist of the construction of a 12-foot-wide concrete deck with approaches to connect the existing El Dorado Trail at its existing terminus just east of Missouri Flat Road with the proposed trail segment west of Missouri Flat Road. A Visual Impact Assessment (VIA) was prepared for the 37-acre Project Site identifying visual resources within the project area, assessing the amount of change that would occur as a result of the Proposed Project, and predicting how the affected public would respond to or perceive those changes.

As detailed within the *El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project, Visual Impact Assessment,* prepared by Foothill Associates February 9, 2017 (**Appendix B**). The existing highway corridor along Missouri Flat Road does not follow a cohesive design aesthetic. Buildings include a range of styles including light-industrial shed-type structures, big box commercial, historic mining-town recreations, and standard contemporary peaked-roof structures. If there is a predominant structure type, it is probably flat-roofed with awnings. The visual character of the Proposed Project would be compatible with the existing visual character of the corridor. Trail development would introduce a linear feature parallel to the existing rail line and surfaced with asphaltic pavement. Given the presence of the existing informal trail, proposed construction of the Class I trail would largely formalize the existing informal alignment through increased breadth and the introduction of darkened coloration and smooth surface textures. Development of the pedestrian overcrossing would introduce an arc element not dissimilar to existing street light poles, surfaced with metal and geologic-resembling façade and earth-tone colors, similar in hue to surrounding geologic materials and rail line facilities. Additionally, the overcrossing would be representative of railroad and other bridges seen along Highway 49 south of Placerville and fits the historic mining vernacular of the area.

The visual quality of the existing corridor would not be negatively altered by the Proposed Project. The materials and forms of the Proposed Project would be consistent with the goals and objectives outlined in the *Diamond Springs-El Dorado Mobility and Livable Community Plan* (El Dorado County Transportation Commission 2014) and would help to unify the disparate architectural elements along the corridor under a historic-mining motif.

***Construction Impacts***

Temporary construction impacts to visual resources would primarily arise from heavy equipment operating in and around the Project Site, as well as construction-related safety barricades and landscape disturbance. Construction of the trail would likely involve standard construction equipment, including dozers, scrapers, graders, dump trucks and paving equipment to excavate the subgrade, establish the proper grade, and install subbase materials and asphaltic concrete. Safety fencing may be used to restrict pedestrians from construction areas. Construction of the overpass, abutments, and approaches will likely require excavators,

backhoes, dozers, graders, concrete mixers, cranes, paving equipment, and dump trucks, as well as, concrete forms and braces. Safety fencing and cones would also be utilized to protect pedestrians and direct traffic. In addition to visual impacts from construction equipment, forms and fencing, dust and other airborne particulate matter have the potential to impact aesthetics in the area. Additional potential visual impacts would include excavations, disturbance from clearing and grubbing operations, and glare from lighting if work is conducted before dawn or after dusk.

***Permanent Impacts***

*Trail*

Permanent impacts from the trail would primarily be related to trail use. An unimproved trail currently exists in the Rail Corridor. Some viewers, particularly residents, may perceive the paved trail as more visually intrusive than the existing unpaved trail; however, due to screening by existing vegetation and the fact that the majority of trail users would see the new trail as an improvement, permanent impacts from the trail to visual character are considered less than significant.

*Pedestrian Overcrossing*

The overpass structure would have a greater potential to result in long-term impacts to visual character. The overpass will be highly visible to travelers, residents, and businesses for some distance along Missouri Flat Road due to the structure's elevation and position with respect to direction of travel. Additionally, the proposed improvements would be viewed by thousands of people per day.[2] However, the forms, colors and textures of the overpass and abutments would be consistent with the historic character of the area, and these elements would have the potential to improve upon the visual character of the corridor by reflecting the design aesthetic goals in the *Diamond Springs-El Dorado Mobility and Livable Community Plan* (El Dorado County Transportation Commission 2014). Additionally, both motorists and trail users may view the structure in a positive light, the former because the overcrossing would represent less pedestrian-related impacts to the roadway, and the latter because it would be an extension of the trail. Therefore, the potential impact to visual character from the proposed overcrossing structure is considered less than significant.

***Conclusion***

The Proposed Project has the potential to impact visual character; however, the following measures to avoid or minimize visual impacts would be incorporated into project design: truss bridge design to reflect historic railroad bridge forms; rock cladding on bridge abutments;) low-level safety lighting on bridge; minimum disturbance areas when grading trail; preservation of screening trees wherever possible; use of opaque construction security fencing where feasible; and minimization of construction after dusk and before dawn to reduce use of construction

[2] Weekday PM peak hour traffic volume was measured at 2,030 vehicles/hour in 2013 (El Dorado County Transportation Commission 2014).

lighting. Implementation of these avoidance and minimization measures would reduce impacts to visual character to less than significant.

Implementation of Proposed Project would not substantially degrade the existing visual character or quality of the Project Site and its surroundings. Therefore, impacts resulting from implementation of the Proposed Project are anticipated to be ***less than significant***.

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

**Less Than Significant Impact**. As proposed, trail use would be limited to 7:00 A.M. and 7:00 P.M. (Monday through Friday), 8:00 A.M. and 5:00 P.M. (weekends), although recreational users may access the trail at night and use headlamps or flashlights while on the trail. These irregular uses and light sources would not be expected to significantly affect nighttime views. In addition, the Proposed Project may include lighting for the overcrossing as an added safety feature. However, if used, a low-level walkway illumination system, such as a handrail tube lighting would likely be utilized. Although lighting would remain on overnight, sources of light would be designed to only illuminate the walking surfaces of the overcrossing deck, minimizing any light protruding beyond the overcrossing structure. Therefore, impacts resulting from implementation of the Proposed Project are anticipated to be ***less than significant***.

### *4.1.2. Mitigation Measures*

No mitigation is warranted.

## 4.2. Agriculture and Forestry Resources

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| ***Would the Project:*** | | | | |
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to 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, or non-agricultural use or conversion of forest land to non-forest use? | ☐ | ☐ | ☒ | ☐ |

### *4.2.1. Impact Analysis*

*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?*

**Less Than Significant Impact**. The Division of Land Resource Protection of the California Department of Conservation has developed the Farmland Mapping and Monitoring Program (FMMP) which monitors the conversion of the State's farmland to and from agricultural use. Data is collected at the county level to produce a series of maps identifying eight land use classifications using a minimum mapping unit of 10 acres. According to the 2012 FMMP data, the boundaries of the Proposed Project include land categorized as Farmland of Local Importance, Urban and Built-Up Land, and Other Land (**Figure 4.2-1**).

Although the majority of the Project Site is mapped as "Other Land" or "Urban and Built-Up Land," a small segment of the proposed trail alignment is mapped as "Farmland of Local Importance" (**Figure 4.2-1**). This small segment mapped as Farmland of Local Importance is within a segment of the SPTC, which is designated as a Rail Corridor and would therefore not be used as farmland. Therefore, impacts are anticipated to be ***less than significant*** related to conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland).

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

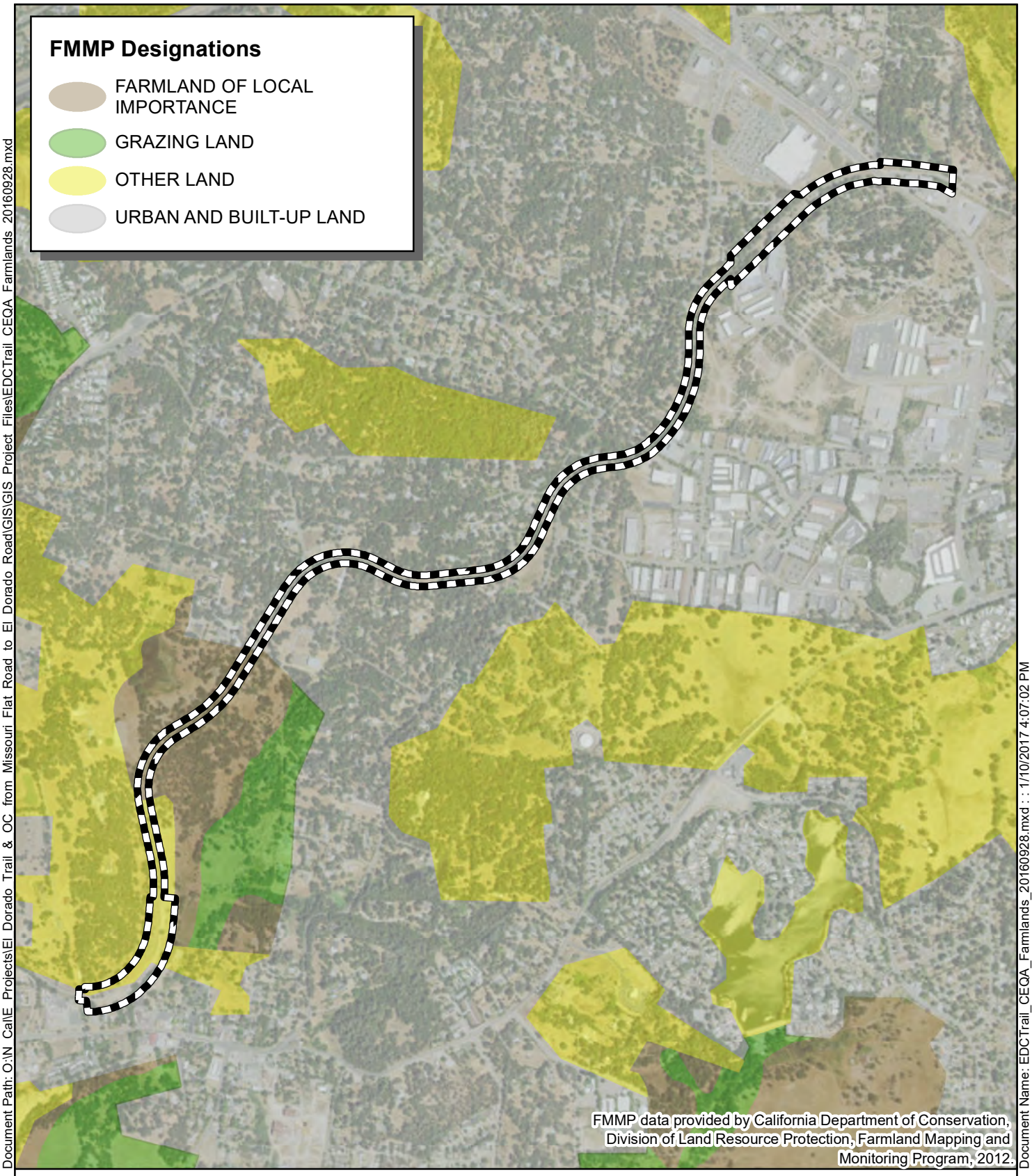
**No Impact**. Land within the Project Site is mapped as Farmland of Local Importance, Urban and Built-Up Land, and Other Land by the Farmland Mapping and Monitoring Program (**Figure 4.2-1**). The Project Site is located within the *Transportation Corridor District* of the El Dorado County Zoning Ordinance (County of El Dorado 2016). There is no agricultural zoning designation within the Project Site. Similarly, the project alignment lies entirely within SPTC Rail Corridor and is therefore not under a Williamson Act contract. Development of the Proposed Project would not impact agricultural zoned land or land currently under Williamson Act contract. ***No impact*** would result from project development.

*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))?*

**No Impact**. No forest lands exist within the project vicinity. Therefore, ***no impact*** related to 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)) would result from development of the Proposed Project.

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

**No Impact**. No forested areas are located within the vicinity of the Proposed Project. Therefore, development of the Proposed Project would not result in the loss of any forest land or conversion of forest land to non-forest use, and ***no impact*** would result from development of the Proposed Project.




Document Path: O:\N Cal\E Projects\El Dorado Trail & OC from Missouri Flat Road to El Dorado Road\GIS\GIS Project Files\EDCTrail CEQA Farmlands 20160928.mxd

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# EL DORADO TRAIL EXTENSION – MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING PROJECT FARMLAND

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE



N

0 600 1,200
Feet
1 inch = 1,200 feet

Drawn By: MUB
QA/QC:
Date: 01/10/2017

FIGURE 4.2-1

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

**Less Than Significant Impact**. Project development would occur entirely within SPTC Rail Corridor. The only designated farmland within the Project Site is a small segment of the SPTC Rail Corridor located at the western end of the Project Site, which is mapped by the FMMP as Farmland of Local Importance. This segment of farmland is within the SPTC and would therefore not be considered viable for operational agricultural practices due to its location within the existing Rail Corridor. No other farmland is present or mapped within the Project Site. Proposed Class I trail development would not result in conversion of existing surrounding agricultural lands, nor would project development preclude surrounding lands from commencing agricultural operations. No forested lands are present within the Project Site. Therefore, impacts from the Proposed Project are anticipated to be ***less than significant***.

### *4.2.2. Mitigation Measures*

No mitigation is warranted.

## 4.3. Air Quality

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| ***Where available, the significance criteria established by the applicable air quality management or air pollution control district is relied upon to make the following determinations. Would the Project:*** | | | | |
| 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 projected region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)? | ☐ | ☒ | ☐ | ☐ |
| d) Expose sensitive receptors to substantial pollutant concentrations? | ☐ | ☒ | ☐ | ☐ |
| e) Create objectionable odors affecting a substantial number of people? | ☐ | ☐ | ☒ | ☐ |

### *4.3.1. Impact Analysis*

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

**No Impact**. The El Dorado County Air Quality Management District (EDCAQMD) is the primary local agency responsible for protecting human health and property from the harmful effects of air pollution in the County. EDCAQMD is required to adopt an Air Quality Attainment Plan and establish and enforce air pollution control rules and regulations in order to attain and maintain all State and federal ambient air quality standards. The EDCAQMD regulates, permits, and inspects stationary sources of air pollution. Among these sources are industrial facilities, gasoline stations, auto body shops, and dry cleaners (KD Anderson & Associates 2016).

While the State is responsible for emission standards and controlling actual tailpipe emissions from motor vehicles, the EDCAQMD is required to regulate agricultural burning and industrial emissions, implement transportation control measures and recommend mitigation measures for new growth and development designed to reduce the number of cars on the road, and promote the use of cleaner fuels (KD Anderson & Associates 2016).

Development of the Proposed Project would not conflict with or obstruct implementation of any applicable air quality plan. Construction and operation of the Proposed Project would be implemented consistent with applicable regulatory standards and requirements, including consistency with all EDCAQMD rules and thresholds. Therefore, ***no impact*** is anticipated and no mitigation is required.

*b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?*

**Less Than Significant With Mitigation Incorporated**. The Proposed Project is located within the Mountain Counties Air Basin (MCAB). The climate of the MCAB is influenced by the foothill and mountainous terrain in the MCAB. Air quality is affected by the rate, amount, and location of pollutant emissions and the associated meteorological conditions that influence movement and dispersal of pollutants. Atmospheric conditions including wind speed, wind direction and air temperature, in combination with local surface topography (i.e., geographic features such as mountains and valleys), are used to determine air pollutant impacts on local air quality (KD Anderson & Associates 2016).

Air quality in the project area is influenced by pollutant transport from upwind areas, such as the Sacramento and San Francisco Bay metropolitan areas, and also by local emissions sources, such as wood burning stoves and fireplaces during the winter months and vehicles using area roadways and U.S. Highway 50 (KD Anderson & Associates 2016).

Both the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB or ARB) have established ambient air quality standards for common pollutants. These ambient air quality standards indicate levels of contaminants that represent safe levels, to avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called “criteria” pollutants because the health and other effects of each pollutant are described in criteria documents. The federal and State ambient standards were developed independently with differing purposes and methods, 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, as is the case for ozone, $PM_{10}$, and $PM_{2.5}$ (KD Anderson & Associates 2016).

There are three basic designation categories: nonattainment, attainment, and unclassified. A “nonattainment” designation indicates the air quality violates an ambient air quality standard. Although a number of areas may be designated as nonattainment for a particular pollutant, the severity of the problem can vary greatly. To identify the severity of the problem and the extent of planning required, nonattainment areas are assigned a classification that is commensurate with the severity of their air quality problem (e.g., moderate, serious, severe). In contrast to nonattainment, an “attainment” designation indicates the air quality does not violate the established standard. Finally, an “unclassified” designation indicates there are insufficient data for determining attainment or nonattainment. EPA combines unclassified and attainment into one designation for ozone, CO, $PM_{10}$ and $PM_{2.5}$ (KD Anderson & Associates 2016).

The Project Site is designated a State and federal "non-attainment" area for ozone. The Project Site is a state "non-attainment" area for inhalable particulate matter smaller than 10 microns in diameter (designated $PM_{10}$), and a federal unclassified/attainment area for $PM_{10}$. The Project Site is in a "non-attainment" area for the federal standard for fine particulate matter smaller than 2.5 microns in diameter ($PM_{2.5}$), and an unclassified area for the State $PM_{2.5}$ standard. The area is designated attainment or unclassified for carbon monoxide (CO) (KD Anderson & Associates 2016).

***Construction Emissions***

Implementation of the Proposed Project would result in construction activity, which would generate air pollutant emissions. Construction activities such as grading, excavation and travel on unpaved surfaces would generate dust, and can lead to elevated concentrations of $PM_{10}$ and $PM_{2.5}$. The operation of construction equipment results in exhaust emissions. A substantial portion of the construction equipment is powered by diesel engines, which produce relatively high levels of $NO_x$ emissions.

Construction exhaust emissions would be generated from construction equipment, earth moving activities, construction worker commutes, and construction material hauling. These activities would involve the use of diesel- and gasoline-powered equipment that would generate emissions of criteria pollutants. Project construction activities also represent sources of fugitive dust, which includes PM emissions. Construction-related activities remain of potential concern due to the fact that the County of El Dorado is currently designated as "non-attainment" for ozone and PM standards (KD Anderson & Associates 2016).

Air pollutant emissions associated with construction of the Proposed Project were estimated by applying version 8.1.0 of the *Road Construction Emissions Model* (Sacramento Metropolitan Air Quality Management District 2016). This model, developed for the SMAQMD, specifically analyzes emissions associated with construction of linear project, including roadway improvement projects, bridges and overcrossings, trails and paths, and pipelines.

Project-specific information (e.g., the linear and spatial size of the project, amount and type of construction equipment used, and the anticipated schedule for the project) were used in the *Road Construction Emissions Model*. These values are presented in the technical appendix of **Appendix C** of this document. Other than those values shown in the technical appendix, default assumptions included in the model were used.

During construction of the Proposed Project, various phases of construction would result in the use of different groups of equipment, resulting in the generation of different amounts of emissions during the various construction phases. Air quality analyses for the Proposed Project assessed construction emissions during various phases of construction. The *Road Construction Emissions Model* analyzes each of these phases separately. A description of equipment used in the construction of the Proposed Project was provided by the County of El Dorado (Harrington pers. comm.), and was used in the *Road Construction Emissions Model*. Construction-related emissions resulting from implementation of the Proposed Project are summarized below in **Table 4.3-1**.

**Table 4.3-1 — Proposed Project Construction-Related Emissions**

| Construction Phase | Reactive Organic Gas *(ROG)* | Carbon Monoxide *(CO)* | Nitrogen Oxides *(NO)* | Inhalable Particulate Matter *($PM_{10}$)* |
|---|---|---|---|---|
| ***Trail Extension*** | | | | |
| Grubbing/Land Clearing | 1.11 | 9.72 | 11.01 | 3.97 |
| Grading/Excavation | 1.64 | 14.14 | 16.54 | 4.28 |
| Drainage/Utilities/Sub-Grade | 0.29 | 3.08 | 2.46 | 3.59 |
| Paving | 0.53 | 4.51 | 5.54 | 0.26 |
| **Maximum for Trail Extension** | **1.64** | **14.14** | **16.54** | **4.28** |
| ***Pedestrian Overcrossing*** | | | | |
| Grubbing/Land Clearing | 1.31 | 12.28 | 13.11 | 7.53 |
| Drainage/Utilities/Sub-Grade | 0.40 | 4.45 | 2.78 | 7.11 |
| **Maximum for Pedestrian Overcrossing** | **1.31** | **12.28** | **13.11** | **7.53** |
| Combined Maximum | 2.95 | 26.42 | 29.65 | 11.81 |
| Significance Thresholds | 82 | | 82 | |
| **Significant Impact?** | **No** | | **No** | |

Note: All values are in pounds per day.
Source: Roadway Construction Emissions Model, Version 8.1.0 (**Appendix C**)

*Ozone Precursors*

Construction of the Proposed Project would result in the generation of air pollutant emissions. Combining the largest amount of daily emissions for both the trail portion and overcrossing portion of the Proposed Project would result in the following amounts of ozone precursor emissions:

- 2.95 pounds per day (ppd) of ROG; and
- 29.65 ppd of $NO_x$.

Based on Table 3.2 of the *Guide to Air Quality Assessment – Determining Significance of Air Quality Impacts Under the California Environmental Quality Act*, construction-related ozone precursor emissions (ROG and $NO_x$) would be considered a significant impact if implementation of the Proposed Project would generate emissions exceeding:

- 82 ppd of ROG; or
- 82 ppd of $NO_x$.

Because the amount of ROG emissions and $NO_x$ emissions would be less than the 82 ppd significance threshold, the generation of construction-related ozone precursor emissions is considered a less than significant impact. No mitigation measures are required (KD Anderson & Associates 2016).

*Fugitive Dust Particulate Matter*

Section 4.2.3 of the *Guide to Air Quality Assessment – Determining Significance of Air Quality Impacts Under the California Environmental Quality Act* states:

> "*Mass emissions of fugitive dust PM10 need not be quantified, and may be assumed to be not significant, if the project includes mitigation measures that will prevent visible dust beyond the project property lines, in compliance with Rule 403 of the South Coast AQMD. See Section C.6 in Appendix C-1, where the mitigation measures in Rule 403 are set forth.*"

Construction of the Proposed Project would generate fugitive dust $PM_{10}$ and $PM_{2.5}$ emissions. Based on procedures presented in the *Guide to Air Quality Assessment – Determining Significance of Air Quality Impacts Under the California Environmental Quality Act*, these emissions are considered a significant impact which would be reduced to a less than significant level with implementation of measures presented in Section C.6 in Appendix C-1 of the Guide. Therefore, impacts associated with $PM_{2.5}$ and $PM_{10}$ emissions are considered less than significant with mitigation incorporated.

Construction of the Proposed Project would generate fugitive dust $PM_{10}$ and $PM_{2.5}$ emissions, contributing to the County's existing non-attainment status for these pollutants. Implementation of **Mitigation Measure AQ — 1** would require construction contractors to effectively implement one or more measures to ensure no visible dust leaves the Project Site and would minimize the project's contributions to the existing non-attainment status for $PM_{10}$ and $PM_{2.5}$ to less than significant levels.

*Diesel Exhaust Particulate Matter*

Diesel exhaust particulate matter has been identified as a toxic air contaminant (TAC). Section 4.2.1 of the *Guide to Air Quality Assessment – Determining Significance of Air Quality Impacts Under the California Environmental Quality Act* states:

> *"…the District has determined that keeping total construction phase fuel use under the limits shown in Table 4.2, below, will not result in a health risk from Diesel particulate matter that exceeds the significance criteria for toxic air contaminants (1 in 1 million if T-BACT is not used; 10 in 1 million if T-BACT is used.)*"

Table 4.2 of the EDCAQMD guide is presented in Appendix A as Table 9 of the Air Quality Study (**Appendix C**). As shown in Table 9, the significance criteria for construction equipment fleets with Best Available Control Technology for TACs (T-BACT) engines is 37,000 gallons of diesel fuel used during the construction phase. T-BACT engines are defined as those in 1996 or later model year equipment. The significance criteria for equipment fleets without T-BACT (pre-1996 model year) is 3,700 gallons of diesel fuel used. The importance of 1996 is that it is the year in which "Tier 1" emission control standards applied to many construction equipment engines (California Air Resources Board 2016). Tier 2 standards applied stricter limits to many construction equipment engines in 2003. Tier 3 standards applied even stricter limits in 2007.

As noted in Table 4.2 of the EDCAQMD guide, "Maximum gallons of fuel may be interpolated between 37,000 and 3,700 gallons based on the fraction of T-BACT and non-T-BACT engines." Based on information from CARB (California Air Resources Board 2006), 92 percent of construction equipment in the year 2020 would comply with Tier 1 or stricter standards. Applying interpolation of values presented in Table 4.2 of the EDAQMD guide results in a maximum of 34,336 gallons of diesel fuel consumption during the construction phase in the year 2020. Because the Proposed Project would be constructed in the year 2020, the maximum of 34,336 gallons of diesel fuel consumed is used in the Air Quality Study (**Appendix C**) as a significance threshold.

Estimated consumption of diesel fuel during construction of the Proposed Project was based on a description of equipment used in the construction of the Proposed Project, provided by the County of El Dorado (Harrington pers. comm.).

Construction of the Proposed Project would generate diesel exhaust particulate matter emissions. Based on construction equipment information provided by the County of El Dorado (Harrington pers. comm.), construction of the Proposed Project would result in the use of 3,854 gallons of diesel fuel. This amount is less than the interpolated significance threshold of 34,336 gallons presented in Section 4.1.3 of the Air Quality Study (**Appendix C**). Therefore, this impact is considered less than significant. No mitigation measures are required.

***Operational Emissions***

Operational emissions of ROG, $NO_x$, $PM_{2.5}$, and $PM_{10}$ are generated by mobile and stationary sources, including day-to-day activities such as vehicle trips to and from a given site, heavy equipment operation, natural gas combustion from heating mechanisms, landscape maintenance equipment exhaust, and consumer products (e.g., deodorants, cleaning products, spray paint, etc.).

Development of the Proposed Project would not directly generate vehicle trips. However, the Proposed Project would result in some vehicle trips due to bicycle and pedestrian users driving to the trail. In addition, project-related maintenance would also result in some vehicle trips. Offsetting these project-related trips would be a reduction in vehicle trips as people who would otherwise drive vehicles would, instead, use bicycles or walk to make the trip.

Overall, the Proposed Project is not expected to result in a substantial change in roadway traffic volumes or capacity. As a result, the project would not affect long-term operational emissions of ozone precursors (i.e., ROG and $NO_x$), particulate matter (i.e., $PM_{10}$ and $PM_{2.5}$), or CO.

Because the project would not affect long-term operational emissions, impacts are considered less than significant and no operational mitigation measures are required.

***Conclusion***

Because the amount of ROG emissions and $NO_x$ emissions would be less than the 82 ppd significance threshold, the generation of construction-related ozone precursor emissions is

considered a less than significant impact. No mitigation measures are required (KD Anderson & Associates 2016).

Construction of the Proposed Project would generate diesel exhaust particulate matter emissions. Based on construction equipment information provided by the County of El Dorado (Harrington pers. comm.), construction of the Proposed Project would result in the use of 3,854 gallons of diesel fuel. This amount is less than the interpolated significance threshold of 34,336 gallons presented in Section 4.1.3 of the Air Quality Study (**Appendix C**). Therefore, this impact is considered less than significant. No mitigation measures are required.

Because the project would not affect long-term operational emissions, operational impacts are considered less than significant and no operational mitigation measures are required.

However, construction of the Proposed Project would generate fugitive dust $PM_{10}$ and $PM_{2.5}$ emissions, contributing to the County's existing non-attainment status for these pollutants. Implementation of **Mitigation Measure AQ — 1** would require construction contractors to effectively implement one or more measures to ensure no visible dust leaves the Project Site and would minimize the project's contributions to the existing non-attainment status for $PM_{10}$ and $PM_{2.5}$ to less than significant levels. Therefore, impacts are considered ***less than significant with mitigation incorporated****.*

*c) 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 that exceed quantitative thresholds for ozone precursors)?*

**Less Than Significant Impact With Mitigation Incorporated**. The Project Site is currently designated as "non-attainment" for ozone, and $PM_{10}$ (KD Anderson & Associates 2016). Projected growth and combined population, vehicle usage, and business activity within the County, in combination with other past, present, and reasonably foreseeable projects within the County and surrounding areas, could either delay attainment of established standards or require the adoption of additional controls on existing and future air pollution sources to offset emission increases.

Implementation of the Proposed Project would not result in exceedance of threshold for ozone precursors, CO, or diesel particulate matter. However, construction of the Proposed Project would generate fugitive dust $PM_{10}$ and $PM_{2.5}$ emissions. Implementation of **Mitigation Measure AQ — 1** would require construction contractors to effectively implement one or more measures to ensure no visible dust leaves the Project Site and would minimize the project's contributions to the existing non-attainment status for $PM_{10}$ and $PM_{2.5}$ to less than significant levels. Proposed improvements would not require frequent maintenance and would not result in a substantial increase in long-term operational emissions. Construction emissions would be short-term in duration. Accordingly, although the incremental contribution of the Proposed Project's unmitigated construction-related emissions would further contribute to the County's existing non-attainment status for $PM_{10}$ and $PM_{2.5}$, measures would be required through

implementation of **Mitigation Measure AQ — 1** to ensure the project's contributions are minimized and impacts associated with project development would not be considered cumulatively considerable. Therefore, impacts are considered ***less than significant with mitigation incorporated.***

*d) Expose sensitive receptors to substantial pollutant concentrations?*

**Less Than Significant with Mitigation Incorporated**. Development of the Proposed Project would not involve on-site operations other than recreational use by pedestrians and bicyclists. Construction of the Proposed Project would generate diesel exhaust particulate matter emissions. Based on construction equipment information provided by the County of El Dorado (Harrington pers. comm.), construction of the Proposed Project would result in the use of 3,854 gallons of diesel fuel. This amount is less than the interpolated significance threshold of 34,336 gallons. Therefore, this impact is considered less than significant. No mitigation measures are required.

Project development would not introduce sensitive receptors to the area, and, thus, would not expose new sources of sensitive receptors to any existing sources of substantial pollutant concentrations. However, the CARB promulgated the Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations (17 CCR 93105). This ATCM regulates asbestos associated with construction projects. The ATCM is a statewide regulation triggered prior to the ground-disturbing activities in certain areas of California, and applies to any size construction project, although there are more stringent mitigation requirements for projects that exceed one acre.

In addition to criteria pollutants, a pollutant of concern for the project is asbestos. Asbestos is a term used for several types of naturally occurring fibrous minerals. Naturally occurring asbestos is found in many parts of California. The most common type of asbestos is chrysotile, but other types are also found in California.

When rock containing asbestos is broken or crushed, asbestos fibers may be released and become airborne. Exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest, and abdominal cavity), and asbestosis (a non-cancerous lung disease which causes scarring of the lungs). Sources of asbestos emissions include: unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present (KD Anderson & Associates 2016).

Ground-disturbing activities within the Project Site would have the potential to result in the risk of exposure to NOA. Therefore, impacts related to exposing sensitive receptors to substantial pollutant concentrations are considered a less than significant impact with mitigation incorporated.

The map, Areas More Likely to Contain Natural Occurrences of Asbestos in Western El Dorado County, California (California Department of Conservation 2000) shows areas more likely to contain NOA. Soil-disturbing construction activity in these areas would result in an elevated risk

of entraining NOA. The asbestos map shows the western portion of Project Site crosses the El Dorado Fault, which indicates an elevated risk of the presence of NOA (KD Anderson & Associates 2016).

On-site sampling of soil at the Project Site would be needed to confirm the presence of NOA. However, based on information presented in the *Areas More Likely to Contain Natural Occurrences of Asbestos in Western El Dorado County, California Map*, this impact is considered to be potentially significant. Implementation of SPTC MP EIR **Mitigation Measure PHS-1.1** combined with **Mitigation Measures AQ — 2 through AQ — 6** would prohibit the generation of fugitive dust beyond the project limits, and would require the development and implementation of and adherence to an Asbestos Dust Mitigation Plan, as well as, testing for all excavated materials and subsequent surface applications of those materials according to CARB Airborne Toxic Control measures. With implementation of these measures, impacts would be considered ***less than significant with mitigation incorporated***.

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

**Less Than Significant Impact**. While offensive odors rarely cause any physical harm, they can be unpleasant, leading to considerable distress among members of the public and often generating citizen complaints to local governments and air districts. Project-related odor emissions would be limited to times when equipment would be utilized for construction and emissions from equipment may be evident in the immediately surrounding area. Construction activities would be short-term and would not result in the creation of long-term objectionable odors. Therefore, due to the short-term nature of proposed construction activities, combined with the limited exposure to sensitive receptors, impacts associated with development of the Proposed Project are considered ***less than significant***. No mitigation is required.

### *4.3.2. Mitigation Measures*

The SPTC MP EIR (Jones & Stokes 2000) identifies the following project-related Mitigation Measure to reduce potential impacts to air quality relevant to the Proposed Project:

**Mitigation Measure PHS-1.1:** **Implement Asbestos Hazard Dust Mitigation Plan**
Before the start of construction or operations having ground disturbance, the project proponent [County] shall prepare an asbestos hazard dust mitigation plan (as required by County ordinance) to be approved by the County's Environmental Management Department and the local air quality management district. If a plan has been previously prepared and approved for the site, the proponent shall comply with the findings and mitigations contained in this plan. An Asbestos Hazard Dust Mitigation Plan shall contain the following measures:

- During grading activities, the contractor shall implement dust control measures, such as wetting

down exposed serpentine and covering areas exposed to vehicle traffic with on-asbestos material. Employees must be notified of the potential health risk of airborne asbestos and the County's new requirements. Additionally, the contractor and construction workers shall take every precaution possible to reduce the exposure to potential airborne asbestos, such as appropriate clothing and respiratory devices.

- Vehicle access and speed shall be limited and reduced to the least feasible number of vehicles in construction areas containing serpentine rock. Areas along vehicle travel routes that are exposed to serpentine rock shall be covered with non-asbestos material.

- During construction activities, construction vehicles shall be rinsed before leaving the construction sites to reduce the dispersion of asbestos dust.

- During construction, any excavated material containing serpentine rock shall be covered to reduce wind erosion and particulate dispersion. Disturbed surfaces and stockpiles shall be maintained with high-moisture conditions or applied with a binder to seal fibers.

- Any exposed serpentine soils along the corridor shall be covered with clean soils to reduce potential health hazards.

- Vegetation shall be planted to reclaim disturbed serpentine rock areas where feasible.

**Mitigation Measures AQ — 1** through **AQ — 6** are identified by the analyses within this IS/MND to reduce potential impacts related to air quality to less than significant levels:

**Mitigation Measure AQ — 1:** During construction, the contractor shall ensure no visible dust extends beyond the project property lines by implementing one or more of the applicable measures identified by Rule 403 of the South Coast AQMD, Section C.6 in Appendix C-1 (**Appendix A**, **MMRP**, **Attachment 1**).

**Mitigation Measure AQ — 2:** Project construction shall comply with EDCAQMD Rule 223, prohibiting the generation of visible fugitive dust beyond the Project Site limits.

**Mitigation Measure AQ — 3:** Project construction shall comply with EDCAQMD Rule 223-1, preparing and submitting to the EDCAQMD a Fugitive Dust Control Plan.

**Mitigation Measure AQ — 4:** Project construction shall comply with EDCAQMD Rule 223-2, preparing and submitting to the EDCAQMD an Asbestos Dust Mitigation Plan.

**Mitigation Measure AQ — 5:** Project construction shall comply with CARB Airborne Toxic Control Measure (ATCM) 93105, *Asbestos ATCM for Construction, Grading, Quarrying, and Surface Ming Operations*.

**Mitigation Measure AQ — 6:** Project construction shall comply with CARB ATCM 93106, *Asbestos ATCM for Surfacing Applications*.

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## 4.4. Biological Resources

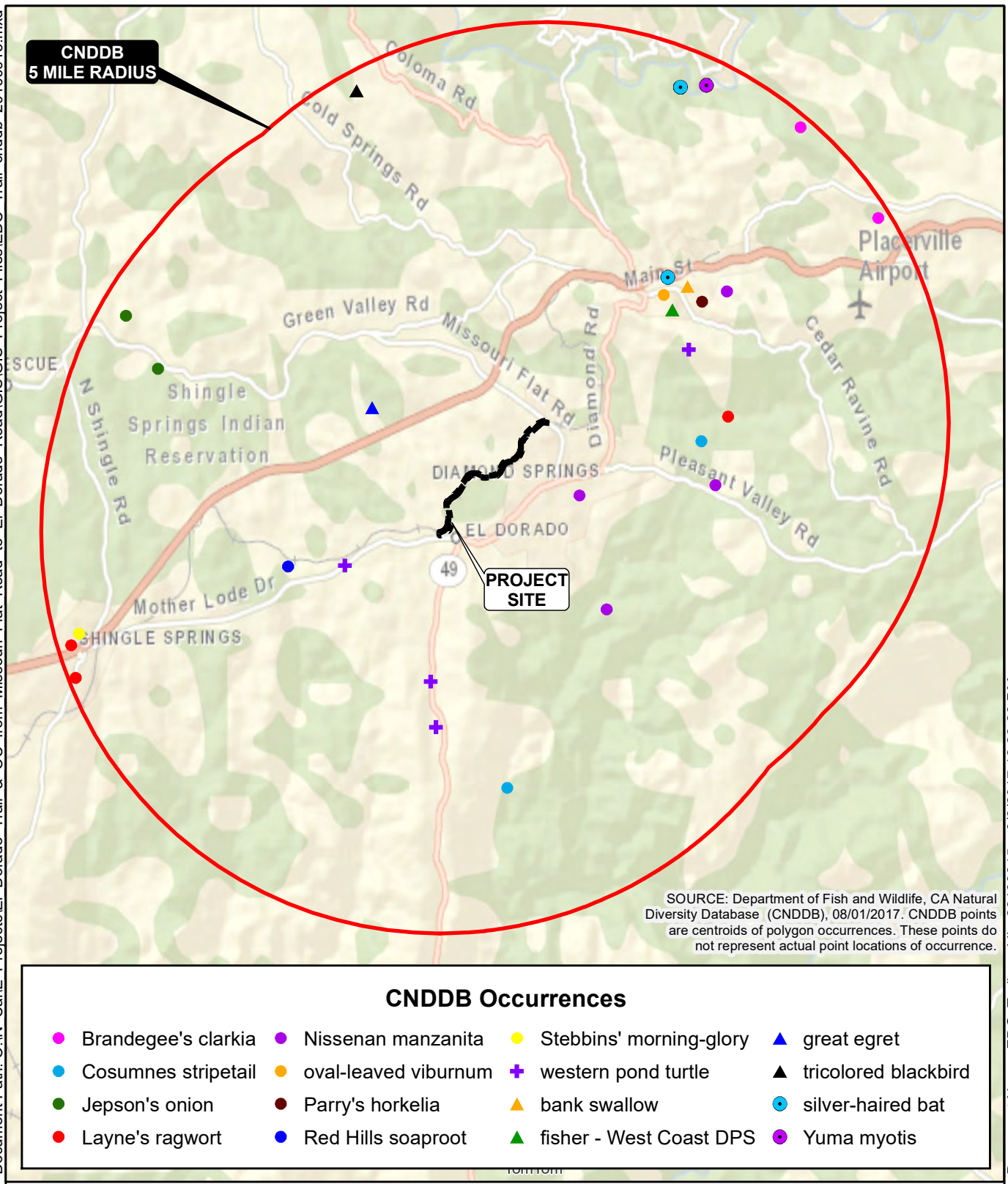
| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| ***Would the Project:*** | | | | |
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? | ☐ | ☒ | ☐ | ☐ |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. 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 wetlands, 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? | ☐ | ☐ | ☐ | ☒ |

### *4.4.1. Impact Analysis*

*a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

**Less Than Significant with Mitigation Incorporated**. The Proposed Project would implement the development of approximately 2.2 miles of an 8-foot wide paved Class 1 multi-use bicycle and pedestrian trail, with signage and a road crossing at Missouri Flat Road; and a bike/pedestrian overcrossing would to be constructed of a 12-foot-wide concrete deck with approaches to connect the existing El Dorado Trail at its existing terminus just east of Missouri Flat Road with the proposed trail segment west of Missouri Flat Road.

In order to assess potential impacts to project-specific biological resources, and in accordance with SPTC MP EIR **Mitigation Measure BIO-1.1**, a Natural Environmental Study (NES) was prepared for the 37-acre Project Site. A table identifying regionally occurring special-status species was compiled based on the California Natural Diversity Database (CNDDB), the U.S. Fish and Wildlife Service (USFWS) Information and Planning Conservation (IPaC), and the California Native Plant Society (CNPS) lists. The CNDDB special-status species occurrences in the project vicinity are shown on **Figure 4.4-1** and are described in detail within the *El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project, Natural Environmental Study,* prepared by Foothill Associates July 2017 (**Appendix D**). Biological surveys were conducted to determine whether regionally occurring special-status species occur or have the potential to occur within the Project Site based on the presence of the species or presence of habitat required by the species. The following set of criteria has been used to determine each species potential for occurrence within the Project Site: Habitat Present (HP), have no habitat or potential for occurrence (Absent, A), or are present (Present, P).

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# El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project CNDDB

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE



N

0 1 2
SCALE IN MILES

Drawn By: MUB
QA/QC: CTG
Date: 08/03/2017

FIGURE 4.4-1

***Listed and Special-Status Plants***

*Brandegee's Clarkia*

Brandegee's clarkia is ranked as a CNPS 4 species. It is an annual herb found often in roadcuts within chaparral, cismontane woodland, and lower montane coniferous forest habitats from 246 to 3,001 feet (75 to 915 meters) above MSL. The identification period for this species is from May through July. There are two documented CNDDB records of this species occurring within five miles of the Project Site (**Figure 4.4-1**) (CDFW 2016a). The oak woodland and foothill pine woodland within the Project Site provide habitat for this species. Since biological surveys were conducted outside of the evident and identifiable period for this species, Brandegee's clarkia could potentially be present within the Project Site.

*Ewan's Larkspur*

Ewan's larkspur is ranked as a CNPS 4 species. It is a perennial herb found in rocky soils in cismontane woodland and valley and foothill grassland from 197 to 1,969 feet (60 to 600 meters) above MSL. The identification period for this species is from March through May. There are no documented CNDDB records for this species occurring within five miles of the Project Site (CDFW 2016a). The oak woodland and non-native annual grassland within the Project Site provide habitat for this species. Since biological surveys were conducted outside of the evident and identifiable period for this species, Ewan's larkspur could potentially be present within the Project Site.

*Humboldt Lily*

Humboldt lily is ranked as a CNPS 4 species. It is a perennial bulbiferous herb found in openings in chaparral, cismontane woodland, and lower montane coniferous forest from 295 to 4,199 feet (90 to 1,280 meters) above MSL. The identification period for this species is from May through July. There are no documented CNDDB records for this species occurring within five miles of the Project Site (CDFW 2016a). The oak woodland and foothill pine woodland within the Project Site provide habitat for this species. Since biological surveys were conducted outside of the evident and identifiable period for this species, Humboldt lily could potentially be present within the Project Site.

*Oval-Leaved Viburnum*

Oval-leaved viburnum is ranked as a CNPS 2B species. It is a perennial deciduous shrub found in cismontane woodland, lower montane coniferous forest, and chaparral from 705 to 4,593 feet (215 to 1,400 meters) above MSL. The identification period for this species is from May through June. There is one documented CNDDB record for this species occurring within five miles of the Project Site (**Figure 4.4-1**) (CDFW 2016a). The oak woodland and foothill pine woodland within the Project Site provide habitat for this species. Since biological surveys were conducted outside of the evident and identifiable period for this species, oval-leaved viburnum could potentially be present within the Project Site.

*Red Hills Soaproot*

Red Hills soaproot is ranked as a CNPS 1B species. It is a perennial bulbiferous herb found gabbro, serpentine, or other soils in chaparral, cismontane woodland, and lower montane coniferous forest from 804 to 4,068 feet (245 to 1,240 meters) above MSL. The identification period for this species is from May through June. There is one documented CNDDB record for this species occurring within five miles of the Project Site (**Figure 4.4-1**) (CDFW 2016a). The oak woodland and foothill pine woodland within the Project Site provide habitat for this species. Since biological surveys were conducted outside of the evident and identifiable period for this species, Red Hills soaproot could potentially be present within the Project Site.

*Sierra Clarkia*

Sierra clarkia is ranked as a CNPS 4 species. It is an annual herb found in cismontane woodland and lower montane coniferous forest from 1,312 to 5,299 feet (400 to 1,615 meters) above MSL. The identification period for this species is from May through August. There are no documented CNDDB records for this species occurring within five miles of the Project Site (CDFW 2016a). The oak woodland and foothill pine woodland within the Project Site provide habitat for this species. Since biological surveys were conducted outside of the evident and identifiable period for this species, Sierra clarkia could potentially be present within the Project Site.

*Streambank Spring Beauty*

Streambank spring beauty is ranked as a CNPS 4 species. It is an annual herb found in rocky habitat within cismontane woodland from 820 to 3,937 feet (250 to 1,200 meters) above MSL. The identification period for this species is from February through May. There are no documented CNDDB records for this species occurring within five miles of the Project Site (CDFW 2016a). The oak woodland within the Project Site provides habitat for this species. Since biological surveys were conducted outside of the evident and identifiable period for this species, streambank spring beauty could potentially be present within the Project Site.

*True's Manzanita*

True's manzanita is ranked as a CNPS 4 species. It is a perennial evergreen shrub found in chaparral and lower montane coniferous forests, and sometimes found along roadsides from 1,394 to 4,560 feet (425 to 1,390 meters) above MSL. The identification period for this species is from February through July. There are no documented CNDDB records for this species occurring within five miles of the Project Site (CDFW 2016a). The foothill pine woodland within the Project Site provides marginal habitat for this species. Since biological surveys were conducted outside of the evident and identifiable period for this species, True's manzanita could potentially be present within the Project Site.

***Listed and Special-Status Wildlife***

*Coast Horned Lizard*

Coast horned lizard is a California Species of Special Concern. Coast horned lizard inhabits open areas of sandy soil and low vegetation in valleys, foothills, and semiarid mountains from sea

level to 8,000 feet above MSL. It is typically found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. This species is often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills (Zeiner *et. al.* 1988). There are four CNDDB records for this species within five miles of the Project Site (**Figure 4.4-1**) (CDFW 2016a). The non-native annual grassland, foothill pine woodland, and oak woodland communities provide habitat for this species.

*Western Pond Turtle*

Western pond turtle is a California Species of Special Concern. The western pond turtle is typically found along quiet streams and ponds with basking sites and muddy bottoms, feeding on aquatic plants, fishes, and invertebrates (Zeiner *et al.* 1988 and Rosenberg *et. al*. 2009). They are generally associated with permanent or nearly permanent water sources (CDFW 2016b) and prefer areas of deep water with low velocity and high temperatures (Reese and Hartwell 1997a). Upland habitats adjacent to creeks and ponds are used throughout the year for nesting and overwintering. Turtles may also overwinter within a pond by burrowing into the mud on the pond bottom (CDFW 2016b and Riensche *et al.* 2013). Although studies have shown that the typical terrestrial use area can extend up to 500 meters from the edge of the aquatic habitat, the weighted average of recorded terrestrial use is 94 meters, or approximately 300 feet. Western pond turtles prefer to overwinter in areas with moderate woody vegetation and leaf litter, and are unlikely to use annual grasslands (Reese and Hartwell 1997b, Davis 1998, Pilliod *et al.* 2013, and Rathbun *et al.* 2002). Eggs are laid between May and August and hatch in approximately 80 days. Hatchlings often stay in or around the nest through the winter. Nests are generally found within 30 meters (100 feet) of water in areas with little vegetative cover and good sun exposure (Rathbun *et al*. 2002). Little is known about dispersal patterns of western pond turtles, but genetic analysis shows most movement is along drainages (Riensche *et al.* 2013). There are four CNDDB records for this species within five miles of the Project Site (**Figure 4.4-1**) (CDFW 2016a). The riparian woodland community along the intermittent drainage provides upland overwintering habitat for this species.

*Migratory Birds and other Bird of Prey*

All raptors, including common species not considered special-status, are protected under the California Fish and Game Code (Section 3503.5). Removal or destruction of an active raptor nest is considered a violation of the Fish and Game Code. In addition, migratory birds are protected under the MBTA of 1918 (16 U.S.C §§ 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Several CNDDB occurrences are documented within five miles of the Project Site (**Figure 4.4-1**) (CDFW 2016a).

***Conclusion***

Several special-status plants and wildlife species have been identified and/or have the potential to occur within the Project Site. If present during construction, development of the Proposed Project would have the potential to impact special-status species. Implementation of SPTC MP EIR **Mitigation Measure BIO-1.2** would require a biological monitor for construction activities

within areas of sensitive biological resources. Implementation of SPTC MP EIR **Mitigation Measure BIO-12.1** would require compensation for loss or disturbance to special-status plant species. Implementation of **Mitigation Measure BIO — 1** through **Mitigation Measure BIO — 5** would require pre-construction surveys prior to implementation of construction activities ensuring no adverse effects to special-status species. These measures would reduce potential impacts to special-status species to a less than significant level. Therefore, impacts to special-status species are considered to be ***less than significant impact with mitigation incorporated***.

*b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

**Less Than Significant with Mitigation Incorporated**. Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code, or Section 404 of the Clean Water Act. The Project Site includes the following biological communities and resources: non-native annual grassland, Foothill pine woodland, oak woodland, riparian woodland, and waters of the U.S. (including depressional seasonal wetlands, ephemeral drainages, intermittent drainages, and ditches).

***Terrestrial Communities***

*Non-Native Annual Grassland*

Non-native annual grassland occurs throughout the Project Site (**Figure 3.2-2**). Non-native annual grassland is characterized primarily by an assemblage of non-native grasses and herbaceous species. Scattered patches of coyote brush (*Baccharis pilularis*) are present throughout the non-native annual grassland. Dominant vegetation observed within this vegetation community includes: wild oat (*Avena fatua*), bur chervil (*Anthriscus caucalis*), rose clover (*Trifolium hirtum*), and yellow star-thistle (*Centaurea solstitialis*). This habitat demonstrates evidence of human disturbance, including pedestrian and non-vehicular traffic (i.e. bicycles), and trash.

*Foothill Pine Woodland*

Foothill pine woodland includes a mixed overstory of coniferous trees including ponderosa pine (*Pinus ponderosa*) and foothill pine (*Pinus sabiniana*). Typical understory species include toyon (*Heteromeles arbutifolia)*, manzanita (*Arctostaphylos manzanita*), and coyote bush (*Baccharis pilularis*). Foothill pine woodland occurs primarily in the northeastern portion of the Project Site (**Figure 3.2-2**).

*Oak Woodland*

Oak woodland occurs throughout the Project Site (**Figure 3.2-2**). It is comprised of a variety of native oak trees and shrubs, including valley oak (*Quercus lobata*), interior live oak (*Quercus wislizeni*), blue oak (*Quercus douglasii*), oracle oak (*Quercus* x *morehus*), and California black oak (*Quercus kelloggii*). Understory consists of species described in the non-native annual grassland community, toyon, and coyote brush.

*Riparian Woodland*

Riparian woodland occurs along the intermittent drainage in the southwestern portion of the Project Site (**Figure 3.2-2**). It is comprised of a variety of native oak trees and shrubs, including valley oak and willow (*Salix* sp.). Understory consists of Himalayan blackberry (*Rubus armeniacus*), poison oak (*Toxicodendron diversilobum*), and greater periwinkle (*Vinca major*).

***Waters of the U.S.***

*Depressional Seasonal Wetlands*

One depressional seasonal wetland occurs within the central portion of the Project Site (**Figure 3.2-2**). This feature was primarily dominated by Himalayan blackberry, until vegetation management activities were conducted by the California Conservation Corp (CCC) in January, 2017. During the February 2017 site survey, this feature was dominated by annual wetland plants, such as curly dock (*Rumex crispus*) and rye grass (*Festuca perennis*).

*Ephemeral Drainages*

Ephemeral drainages occur throughout portions of the Project Site (**Figure 3.2-2**). These features are generally comprised of herbaceous vegetation occurring along the banks, however, some features lacked vegetation altogether. Dominant vegetation observed within these features include: rye grass, yellow star-thistle, and curly dock.

*Intermittent Drainages*

Intermittent drainages occur within the southwestern and northeastern portions of the Project Site (**Figure 3.2-2**). These features have a defined bed and bank, with minimal herbaceous vegetation. Dominant vegetation observed within these features include: pennyroyal (*Mentha pulegium*), wild fennel (*Foeniculum vulgare*), and curly dock.

*Ditches*

Three ditches occur within the southwestern and central portions of the Project Site (**Figure 3.2-2**). Vegetation observed within these features include: plant species identified within the non-native annual grassland terrestrial community.

***Conclusion***

Development of the Proposed Project would have the potential to result in impacts to riparian habitat or other sensitive natural communities identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or USFWS. Implementation of SPTC MP EIR **Mitigation Measures BIO-1.4** would require avoided sensitive resources to be protected during construction through the establishment of barrier fencing, stakes and flags and buffers, where applicable. Implementation of SPTC MP EIR **Mitigation Measure BIO-1.2** would require a biological monitor for construction activities within areas of sensitive biological resources. Implementation of **Mitigation Measures BIO-6.1**, **BIO-6.2**, **BIO-7.1**, and **BIO-9.1** from the SPTC MP EIR would require the appropriate permits from the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and the CDFW. As part of the permitting process, mitigation for impacts to sensitive habitats would be

developed in coordination with the individual agencies with jurisdiction over the applicable resource ensuring no net loss of aquatic resource functions and values and adequate mitigation to offset impacts to other sensitive habitats. In addition, compliance with SPTC MP EIR **Mitigation Measure BIO-1.6** would require that areas disturbed by construction be replanted with native plantings reflecting onsite habitats prior to disturbance. Therefore, impacts to sensitive natural communities within the Project Site are considered ***less than significant with mitigation incorporated***.

*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 wetlands, etc.), through direct removal, filling, hydrological interruption or other means?*

**Less Than Significant with Mitigation Incorporated**. In accordance with the requirements of SPTC MP EIR **Mitigation Measure BIO-1.1**, a delineation of potentially jurisdictional waters was conducted within the project area. Waters of the U.S. identified in the Project Site include: depressional seasonal wetland, ephemeral drainage, intermittent drainage, and ditch. Proposed trail amenities may include small culvert crossings. Implementation of **Mitigation Measures BIO-6.1**, **BIO-6.2**, and **BIO-7.1** from the SPTC MP EIR would require the appropriate permits be obtained from the USACOE, RWQCB, and the CDFW, and possibly USFWS. Compliance with these measures would ensure that impacts to federally jurisdictional waters, including wetlands, as well as other aquatic resources are implemented in a manner consistent with current regulatory standards and that impacts are offset through applicable regulatory standards, ensuring no-net-loss of aquatic functions and values. Therefore, impacts to federally-protected wetlands within the Project Site are considered ***less than significant with mitigation incorporated***.

*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?*

**Less Than Significant Impact**. According to the Project NES (2017) there are no fish species known to occur within the Project Site. The Project Site is not part of a major or local wildlife corridor/travel route because it does not connect two significant habitats. The trail alignment runs parallel and south-southwest along the Southern Pacific Rail line. The SPTC is bisected by multiple roadways, including Oriental Street, Blanchard Road, Forni Road, and Missouri Flat Road, which fragment any areas of natural habitat within the corridor. Additionally, residential and industrial developments are located adjacent to the SPTC to the north and south of the Proposed Project. Impacts are therefore considered ***less than significant.***

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

**Less Than Significant with Mitigation Incorporated**. Biological communities mapped within the Project Site (**Figure 3.2-2**) include: Foothill pine woodland, oak woodland, riparian habitat, and waters of the U.S (depressional seasonal wetland, ephemeral drainage, intermittent drainage, and ditch). Oak woodland occurs throughout the SPTC (**Figure 3.2-2**), and is comprised of a variety of native oak trees and shrubs, including valley oak, interior live oak, blue oak, and

California black oak. Foothill pine woodland occurs primarily in the northeastern portion Rail Corridor and includes mixed overstory of coniferous trees as described in detail within the *El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project, Oak Woodland Analysis,* prepared by Foothill Associates June 22, 2017 (**Appendix E**).

The *El Dorado County General Plan*, *Conservation and Open Space Element* currently regulates impacts to tree canopy under General Plan Policy 7.4.4.4. All oak trees, of all sizes, are included in the measurement of oak canopy. All new development projects on parcels greater than one acre with at least one percent canopy cover must adhere to the retention standard described in **Table 4.4-1** below.

**Table 4.4-1 — Allowable Oak Canopy Impacts Per Option A of the General Plan**

| Percent Existing Canopy Cover | Canopy Cover to be Retained |
|---|---|
| 80-100 | 60% of existing canopy |
| 60-79 | 70% of existing canopy |
| 40-59 | 80% of existing canopy |
| 20-39 | 85% of existing canopy |
| 10-19 | 90% of existing canopy |
| 1-9 for parcels >1 acre | 90% of existing canopy |

In addition to preservation of existing oak woodland canopy, mitigation for impacts to oak woodland canopy is required at a 1:1 ratio. Application of the policy is described in the Interim Interpretive Guidelines for *El Dorado County General Plan* Policy 7.4.4.4 (Option A), which was last amended on October 12, 2007. The policy states that mitigation can be in the form of on-site or off-site planting of oak trees or acorns, or obtaining an offsite conservation easement to protect existing oak woodland habitat in-lieu of planting. As per the Guidelines, a Monitoring and Reporting Plan needs to be prepared and is subject to maintenance and monitoring for up to ten years.

The County is in the process of revising the *El Dorado County Oak Resources Management Plan* (ORMP). The ORMP was reviewed by the Planning Commission and Board of Supervisors in September 2017 and is expected to be adopted by the end of 2017. Under the proposed new plan, an oak woodland removal permit will be required prior to removal of oak trees that are part of an oak woodland. Mitigation requirements will be based on the percentage of existing oak woodland removed and is outlined below in **Table 4.4-2**.

**Table 4.4-2 — Oak Woodland Mitigation Ratios**

| Percent of Oak Woodland Impact | Oak Woodland Mitigation Ratio |
|---|---|
| 0 – 50% | 1:1 |
| 50.1 – 75% | 1.5:1 |
| 75.1 – 100% | 2:1 |

Under the new plan, mitigation may be completed with a combination of the following options: acquisition of an off-site conservation easement, payment of in-lieu fees, or either on-site or off-site replacement planting of up to 50 percent of the required mitigation area.

As also required under the new plan, a tree removal permit would be required prior to the removal of any individual native oak tree not located in an oak woodland and for the removal of all Heritage trees. A Heritage tree is defined as any living native oak of the genus *Quercus*, including blue oak (*Quercus douglasii*), valley oak (*Quercus lobata*), California black oak (*Quercus kelloggii*), interior live oak (*Quercus wislizeni*), canyon live oak (*Quercus chrysolepis*), Oregon oak (*Quercus garryana*), oracle oak (*Quercus* x *morehus*), or hybrids thereof, with a single main trunk or a multiple trunk with an aggregate diameter measuring 36" or greater at breast height. Mitigation for individual trees and Heritage trees will be based on an inch-for-inch standard. Replacement plantings for Heritage trees would be at ratios based on the total diameter inches removed and include: 2:1 for 1-gallon sized trees, 1.5:1 for 5-gallon sized trees, or 1:1 for 15-gallon sized trees. Mitigation may be completed with on- or off-site plantings, payment of in-lieu fees, or a combination of these options.

The oak canopy within the Project Site consists primarily of interior live oak (*Quercus wislizeni*) and valley oak (*Quercus lobata*); however occasional black oaks (*Quercus kelloggii*) were observed primarily within the northeastern portion of the Project Site and scattered blue oaks (*Quercus douglasii*) were observed within the southwestern portion of the Project Site. The vegetation understory consists primarily of non-native annual grassland, with areas of brush consisting of coyote bush (*Baccharis pilularis*), poison oak (*Toxicodendron diversiloba*), manzanita (*Arctostaphylos manzanita*), and oak saplings.

The oak woodland canopy to be removed is fragmented due to bisecting roadways, residential and industrial development, and the existing active El Dorado Trail. The oak canopy is not part of a larger habitat corridor, due to the fragmented nature of the oak woodland to be removed.

A total of approximately 12.62 acres of oak canopy are found within the Project Site, which equates to approximately 34 percent canopy cover within the Project Site. Therefore, according to General Plan Policy 7.4.4.4, the project must retain 85 percent (10.73 acres) of the existing canopy. It is estimated that permanent impacts from the Proposed Project will remove approximately 213 trees and result in the loss of approximately 1.06 acres (8 percent) of existing oak canopy as a result of grading, paving, and stormwater improvements. It is estimated that the project will preserve approximately 11.56 acres of the existing oak canopy. Oak canopy located within staging areas will be fenced and preserved onsite. Therefore, since the total anticipated impact to oak canopy is less than 15 percent, the Proposed Project adheres to the retention standards as outlined under current standards (General Plan policy 7.4.4.4).

The Proposed Project has the potential to remove approximately 213 trees and result in the loss of approximately 1.06 acres (8 percent) of existing oak canopy and riparian communities. **Mitigation Measures BIO — 6** and **Mitigation Measure BIO-1.5** from the SPTC MP EIR would ensure development from the Proposed Project would be implemented in a manner consistent

with local policies and ordinances protecting biological resources. Therefore, impacts are considered ***less than significant with mitigation incorporated*.**

*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?*

**No Impact**. There are no Habitat Conservation Plans, Natural Conservation Community Plans, or other adopted plans applicable to the Proposed Project. Therefore, ***no impact*** would result from development of the Proposed Project and no mitigation is required.

### *4.4.2. Mitigation Measures*

The SPTC MP EIR (Jones & Stokes 2000) identifies the following project-related Mitigation Measures to reduce potential impacts to biological resources relevant to the Proposed Project:

**Mitigation Measure BIO-1.1:** **Conduct Additional Botanical and Wetland Resource Surveys and Studies**

The project proponent [County] will retain appropriate resource personnel to conduct the following surveys and studies before design and construction of the proposed project:

- Surveys and mapping of special-status plants during appropriate identification periods;
- Mapping and quantification of habitat loss; and
- Delineation and quantification of waters of the United States, including wetlands, using the Corp's [USACE] 1987 wetland delineation manual (Environmental Laboratory 1987).

**Mitigation Measure BIO-1.2:** **Retain Environmental Monitor**

The project proponent [County] will retain a qualified biologist to monitor construction activities in sensitive biological resource areas. The biologist must be familiar with all special-status plant and wildlife species, sensitive habitat resources in the project area, and have the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service permits to handle special-status wildlife species. The biologist will be responsible for:

- Determine the placement of orange barrier fencing;
- Maintain fences;

- Monitoring implementation of the conditions contained in state and federal permits to be obtained pertaining to protection of biological and wetland resources in the project area;
- Determining the location of temporary sedimentation barriers, such as sandbags or siltation fencing, that will be installed to minimize siltation into drainages;
- Removing any special-status wildlife that enter the construction zone;
- Providing environmental briefings to construction crews; and
- Providing status reports, if needed, to the project proponent, the County, and other resource agencies (e.g., California Department of Fish and Wildlife).

**Mitigation Measure BIO-1.4:** **Avoid or Minimize Impacts on Sensitive Biological Resources before and during Construction**

Sensitive biological resources located in and adjacent to the constriction corridor will be protected by placing orange construction barrier fencing or stakes and flags, including buffer zones where appropriate and depending on the type of resource. Adjacent resources that may require protection include oak woodland, riparian woodland and scrub vegetation, drainages, vernal pools and swales, other wetlands, native grassland, special-status species populations, and elderberry shrubs. Buffer zones should be 250 feet around vernal pools and swales and wetlands, 100 feet beyond the upper bank edge of perennial drainages and the outer edge of riparian woodland and scrub canopies, 100 feet beyond the canopy of elderberry shrubs or clusters of elderberry shrubs, and 50 feet beyond special-status species populations and the upper bank edge of ephemeral drainages. The locations of these resources will be clearly identified on the construction drawings and marked in the field by the environmental monitor. Fencing or other barriers will remain in place until all construction and restoration work that involves heavy equipment is complete. In cases where woody riparian vegetation must be cleared, the vegetation will be trimmed rather than uprooted, where possible, to allow resprouting. Woody vegetation will be cut no more than 1 foot above ground level to encourage resprouting.

**Mitigation Measure BIO-1.5:** **Minimize Impacts to Oak Trees**

If tree removal cannot be avoided in oak woodland habitat, the project proponent [County] shall develop and implement a mitigation plan in compliance with the *El Dorado County General Plan* to ensure canopy retention or replacement according to the standards set forth in Policy 7.4.4.4 of the *El Dorado County General Plan* (El Dorado County Planning Commission 1995) and, if adopted, to currently proposed El Dorado County oak woodlands guidelines, which provide additional guidance to the General Plan policies.

**Mitigation Measure BIO-1.6:** **Minimize Biological Impacts through Replacement Plantings**

All areas disturbed by project construction that are not part of a planned facility shall be replanted with native trees and shrubs that reflect the habitats that were present on the project site before construction disturbance began.

**Mitigation Measure BIO-6.1:** **Limit Construction Activities to the Dry Season**

Construction activities will be prohibited during the wet season (October 15 to April 15) in the 100-year floodplain of any drainage in the project corridor to reduce the potential for siltation impacts on vernal pools and swales, other wetlands, and drainages.

**Mitigation Measure BIO-6.2:** **Compensate for the Loss or Disturbance of Jurisdictional Waters of the United States, Including Wetlands, at a Minimum Creation Ratio of 1:1**

The project proponent [County] will compensate for the loss or disturbance of waters of the United States. This acreage does not include wetlands that contain habitat suitable for fairy shrimp. For loss of disturbance of wetlands with suitable fairy and tadpole shrimp habitat, see Mitigation Measure BIO-13.1. Specific mitigation requirements will be determined as part of the Corps' [USACE] Section 404 permitting process.[3]

[3] Mitigation Measure BIO-13.1 form the SPTC MP EIR is not relevant to the Proposed Project as documented within the July 2017 NES prepare by Foothill Associates, due to the absence of potential habitat for vernal pool invertebrates within the project area, and has therefore not been identified within this Initial Study.

**Mitigation Measure BIO-7.1:** **Compensate for Permanent Impacts on Woody Riparian Vegetation**

The project proponent [County] will compensate for the loss of any riparian woodland and scrub habitat by enhancing or creating similar habitat qualities and quantities at a ratio to be determined in consultation with CDFW and possibly USFWS. Depending on the project and review by regulatory agencies, mitigation may be necessary at a compensation ratio of 2:1 or 3:1 (2 or 3 acres created or enhanced for every 1 acre removed).

Potential mitigation sites that could be used to create or enhance riparian woodland and scrub habitat include the following:

- Riparian areas that currently support non-native, weedy species (e.g. tree of haven and giant reed) that could be cleared and replanted with riparian species; and

- Sparsely vegetated or degraded riparian areas that could be enhanced through planting.

Potential mitigation sites must be evaluated as part of a formal habitat mitigation plan before the suitability of these sites to sustain riparian plantings can be determined. The following factors would be assessed as part of this mitigation plan: soils, hydrology (including groundwater levels and surface inundation), land use, potential disturbances, habitat functions, costs associated with maintaining the plantings, and overall potential for survival.

The habitat mitigation plan will include a list of recommended species, design specifications, an implementation plan, a maintenance program, and a monitoring program. A minimum of 5 years of monitoring (or longer if required as a condition of permits) will be conducted to document the degree or failure in achieving success criteria and it identify remedial actions. Annual monitoring reports will be submitted to CDFW, the project proponent [County], and other interested agencies. Each report will summarize data collected during the monitoring period, describe how the habitats are

progressing in terms of success criteria, and discuss any remedial actions performed.

**Mitigation Measure BIO-9.1:** **Develop and Implement a Stormwater Pollution Prevention Plan and Minimize Disturbances to Perennial and Ephemeral Drainages**

The project contractor will develop a stormwater pollution prevention plan (SWPPP), as required under Section 401 of the Clean Water Act (in support of an NPDES permit). The contactor will be directed to follow the plan and implement measures to ensure that petroleum products are not discharged into perennial drainages or any flowing water within ephemeral drainages.

In addition to preparation of a stormwater pollution prevention plan, the following measures will be implemented to minimize disturbances to perennial and ephemeral drainages and waters of the U.S. These measures will be included in the plan specifications and will be the responsibility of the contractor.

- All substances will be stored in designated staging areas at least 100 feet from perennial and ephemeral drainages with flowing water and 50 feet from ephemeral drainages without flowing water.

- Refueling and vehicle maintenance will be performed at least 100 feet from perennial and ephemeral drainages with flowing water, and 50 feet from ephemeral drainages without flowing water.

- Operation of heavy equipment in all drainages will be minimized to the extent possible.

- Temporary sedimentation barriers, such as sandbags or siltation fencing, will be installed to minimize siltation in both perennial and ephemeral drainages. The locations of these barriers will be determined by the resident engineer and environmental monitoring and will be clearly marked in the field before construction activities begin.

- Avoid sidecasting material into or near drainages that may contain standing or flowing water at the time of construction.

- Restore to grade beds and banks of all drainages that are disturbed during construction to the preconstruction contours and replace the topsoil (top 12 inches of the profile.)

Additional specific measures may be included in the CDFW streambed alteration agreement the Corps [USACE] Section 404 permit to be obtained and implemented as part of the project. Impacts on wetland or riparian vegetation in drainages are mitigated through implementation of Mitigation Measures BIO-1.1, BIO-1,2, BIO-1.3, BIO-1.5, BIO-6.2, and BIO-7.1.

**Mitigation Measure BIO-12.1:** **Compensate for Unavoidable Impacts to Special-Status Species**

The project proponent [County] shall compensate for loss or disturbance to special-status plant species. Compensation will be implemented under a mitigation plan developed in conjunction with CDFW and USFWS. The requirement for a mitigation plan for non-listed species will depend on the species affected by the project and the extent of effects on the populations. If required, species-specific mitigation plans would be developed through consultation with CDFW and other appropriate land management agencies.

**Mitigation Measures BIO — 1 through BIO — 6** are identified as project-specific measures by the analyses within this IS/MND to reduce potential impacts related to biological resources to less than significant levels:

**Mitigation Measure BIO — 1:** The non-native annual grassland, oak woodland, and foothill pine habitats within the Project Site provides habitat for potentially occurring special-status plants including: Brandegee's clarkia (blooms May through July), Ewan's larkspur (blooms March through May), Humboldt lily (blooms May through July), Oval-leaved viburnum (blooms May through June), Red Hills soaproot (blooms May through June), Sierra clarkia (February through May), Streambank spring beauty (February through July), and True's manzanita (blooms February through July). Prior to commencement of construction activities, a qualified

biologist shall conduct two botanical surveys of the Project Site one in March and one in June, within the blooming period for potentially occurring special status plants. A letter report shall be submitted to the County within 30 days following the bloom survey to document the results. If no special-status plants are observed, then no additional measures are recommended.

If any of the special-status plants occur within the Project Site, they shall be avoided to the extent feasible. The plant locations shall be identified on a map, and a 10-foot buffer shall be established around the plants with high visibility construction fencing. The construction fencing shall remain intact until construction is complete.

If the special-status plants cannot be avoided, a mitigation plan shall be prepared in consultation with the CDFW. At minimum, the mitigation plan will include locations where the plants will be transplanted in suitable habitat adjacent to the Project Site, success criteria, and monitoring activities. The CDFW must approve the mitigation plan prior to transplantation and commencement of construction activities.

**Mitigation Measure BIO — 2:** A qualified biologist shall conduct a pre-construction survey within 14 days prior to the start of construction activities for the coast horned lizard. If no coast horned lizards are observed, a letter report documenting the results of the survey shall be submitted to the County for their records, and no addition measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is required.

If coast horned lizards are found, additional avoidance measures are required including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present within the Project Site during initial ground-clearing and grading activities for the purpose of relocating any coast horned lizards found within the construction footprint to suitable habitat away from the construction zone, but within the Project Site.

If coast horned lizard individuals are killed during construction, work will stop in the vicinity and the biological monitor will be contacted. The biological monitor will work with the contractor to determine the cause of death and identify and implement measures to avoid further casualties.

**Mitigation Measure BIO — 3:** If construction is proposed within areas of riparian woodland and/or intermittent drainage, a qualified biologist shall be present on-site during initial ground-clearing and grading activities for the purpose of relocating any western pond turtles found within the construction footprint within suitable habitat to suitable habitat away from the construction zone, but within the Project Site.

If western pond turtle individuals are killed during construction, work will stop in the vicinity and the biological monitor will be contacted. The biological monitor will work with the contractor to determine the cause of death and identify and implement measures to avoid further casualties.

**Mitigation Measure BIO — 4:** If construction is proposed during the nesting season for non-raptor migratory birds (February 1 through August 31), a pre-construction survey shall be conducted by a qualified wildlife biologist with knowledge of avian life history within 14 days of the start of project-related activities. If nests of migratory birds are detected onsite, or within 100 feet of the Project Site, the County shall consult with CDFW to determine the size of a suitable buffer. The buffer(s) shall be determined based upon the life history of the individual species, including their sensitivity to noise, vibration, ambient levels of human activity and general disturbance, the current site conditions (screening vegetation, terrain, etc.) and the various project-related activities necessary to implement the project.

If, during the course of carrying out the project, an active nest is identified or becomes established, that was not previously identified during a breeding bird survey, a buffer or installation of appropriate barriers shall be established between the construction activities and the active nest so that nesting activities are not interrupted.

The buffer shall be delineated and shall be in effect throughout construction or until the nest is no longer active. The appropriate buffer shall be established according to the criteria described above.

**Mitigation Measure BIO — 5:** Vegetation clearing operations, including pruning or removal of trees and shrubs, shall be completed between September 1 and January 31, if feasible, to avoid migratory birds protected under 50 CFR 10 of the MBTA and/or Section 3503 of the California Fish and Game Code. If construction is proposed during the raptor breeding season (March 1 through August 31), a pre-construction raptor nest survey shall be conducted within 14 days prior to beginning of construction activities by a qualified biologist. If no active nests are found during the pre-construction survey, no further mitigation is required. If active nests are found, a qualified biologist shall mark the buffer zone with construction tape or pin flags and maintain the buffer zone until the end of breeding season or until the young have successfully fledged. Buffer zones are typically 250 feet for raptor nests, but shall be based on site-specific conditions.

If project-related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season (approximately March 1 through August 31), then an onsite biologist/monitor experienced with raptor behavior shall be retained by the County to monitor the nest, and shall along with the County, consult with the CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed to proceed within the temporary nest disturbance buffer if raptors are not exhibiting agitated behavior. The designated onsite biologist/monitor shall be onsite daily or less if approved by CDFW while construction-related activities are taking place and shall have the authority to stop work if raptors are exhibiting agitated behavior. Once it has been determined that the nest is no longer active, then a letter report would be submitted to the County and the CDFW for their records.

**Mitigation Measure BIO — 6:** Standard tree protection measures shall be implemented to protect trees to remain. These include:

- Tree Protection Fencing, consisting of four-foot tall, brightly-colored, high-visibility plastic fencing, shall be placed around the perimeter of the tree protection zone (TPZ) (dripline radius +1 foot) of all protected trees within 20 feet of the project footprint. The TPZ is the minimum distance for placing protective fencing. Tree protection fencing should be placed as far outside of the TPZ as possible. Signs shall be placed along the fence denoting this as a Tree Protection Zone that shall not be moved until construction is complete. Trees or tree clusters with canopy extending beyond 50 feet from proposed project boundaries may be fenced only along sides facing the project. In cases where proposed work infringes on TPZ, fence shall be placed at edge of work.
- Whenever possible, fence multiple trees together in a single TPZ.
- Tree protection fencing shall not be moved without prior authorization from the Project Arborist and the County of El Dorado.
- No parking, portable toilets, dumping or storage of any construction materials, grading, excavation, trenching, or other infringement by workers or domesticated animals is allowed in the TPZ.
- No signs, ropes, cables, or any other item shall be attached to a protected tree, unless recommended by an ISA-Certified Arborist.
- Underground utilities should be avoided in the TPZ, but if necessary shall be bored or drilled. If boring is impossible, all trenching will be done by hand under the supervision of an ISA-Certified Arborist.
- No cut or fill within the dripline of existing native oak is permitted. If cut or fill within the dripline is unavoidable, any mitigation requirements shall be determined by the County.
- Pruning of living limbs or roots over two inches in diameter shall be done under the supervision of an ISA-Certified Arborist.

- Appropriate fire prevention techniques shall be employed around all significant trees to be preserved. This includes cutting tall grass, removing flammable debris within the TPZ, and prohibiting the use of tools that may cause sparks, such as metal bladed trimmers or mowers.

## 4.5. Cultural Resources

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| ***Would the Project:*** | | | | |
| a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5? | ☐ | ☒ | ☐ | ☐ |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? | ☐ | ☒ | ☐ | ☐ |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature? | ☐ | ☒ | ☐ | ☐ |
| d) Disturb any human remains, including those interred outside of dedicated cemeteries? | ☐ | ☒ | ☐ | ☐ |

### *4.5.1. Impact Analysis*

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

**Less Than Significant With Mitigation Incorporated**. The identification, recordation, and evaluation efforts for historical archaeological resources and built resources within the Project Site are documented within the June 2017 *Historic Property Survey Report El Dorado Trail from Missouri Flat Rd to El Dorado Rd, El Dorado County, California*, prepared by InContext, June 2017 *Archaeological Survey Report El Dorado Trail At Missouri Flat Road Bike/Pedestrian Overcrossing [CML 5925 (132)]*, prepared by Ric Windmiller, August 2017 *Historical Resources Evaluation Report* [prepared for the] *El Dorado Trail from Missouri Flat Rd to El Dorado Rd*, *El Dorado County, California*, prepared by InContext (InContext 2017a), and the June 2017 *Archaeological Property Survey Report El Dorado Trail from Missouri Flat Road to El Dorado [CML 5925 (129)] El Dorado County, California*, prepared by Ric Windmiller.

As summarized in **Table 4.5-1**, total of five historical archaeological resources were identified within the Area of Potential Effect (APE) (InContext 2017a).

**Table 4.5-1 — El Dorado Trail Extension Historical Archaeological Resources**

| Primary | Trinomial | Name | Component(s) within APE | Findings |
|---|---|---|---|---|
| P-9-1242 | CA-Eld-971H | Sacramento-Placerville Railroad | El Dorado to Missouri Flat segment[4] | Considered eligible (Criterion A) /No adverse effect. |
| | | | El Dorado Depot [5] | Considered eligible/ ESA. |
| P-9-1829 | CA-Eld-135H | Chinese Occupation Area/Chinese Camp | Archaeological site | Considered eligible/ ESA. |
| P-9-1242 | CA-Eld-971-H | Sacramento-Placerville Railroad | Missouri Flat Road east segment | Determined not eligible for listing in the NRHP under Criteria A-C through SHPO consensus (Neuenschwander 2007, Peak 2008)/ Not historical resources for the purposes of CEQA (InContext 2017a). |
| P-9-1830 | CA-Eld-1346H | Dunlop Ranch | Previously unrecorded placer mining tailings | Exempt from Evaluation / Not historical resources for the purposes of CEQA. |
| P-9-5850 | N/A | Diamond Ridge Ditch | Three short discontiguous segments | Exempt from Evaluation / Not historical resources for the purposes of CEQA. |

***Eligible Historical Archaeological Resources Within or Adjacent to the Project Impact Area***

*El Dorado to Missouri Flat Portion of the Sacramento to Placerville Railroad (P-9-1242 / CA-Eld-971H)*

This resource is a 2.2-mile segment of the Shingle Springs to Placerville Railroad segment of the Sacramento to Placerville Railroad located within the SPTC right-of-way, within and adjacent to the proposed impact area. Associated features consist of the railroad (defined as the grade, ties, tracks, spurs, berm, and cut banks), six culverts, and the site of the El Dorado Railroad Depot (described below). The railroad was constructed using standard gauge and is almost entirely intact. All but approximately 500 feet of the railroad grade includes railroad ties and tracks that are situated on a built-up gravel berm or within cut banks. The only portion of the SPTC that is void of original ties and tracks is the heavily disturbed or developed area on both sides of Missouri Flat Road. Each of the culverts is unique in materials, size, and design.

The El Dorado to Missouri Flat Road segment retains excellent integrity of location, design, setting, feeling, and association. Although some outlying areas in which the railroad travels have been developed, the development has not encroached upon this portion to the extent that its setting, feeling, and association have been diminished. The segment also retains adequate integrity of materials and workmanship. Although some materials and features (such as culverts and signals) have been upgraded or replaced, these actions were part of the ongoing

[4] Built environment resource includes spurs and six culverts.

[5] Historic site with listed, but not described or mapped resources.

maintenance of the railroad to retain its functionality and do not diminish from its overall historic integrity (InContext 2017a).

*El Dorado Depot*

The El Dorado Depot is a component of P-9-1242/CA-Eld-971H and is identified as Locus A. The site is located within the SPTC right-of-way, but outside of the proposed impact area. This locus is described as an archaeological site with privy pits, siding grade, and pipeline; however, no map has been created for this locus and the reported privy locations have not been physically documented (InContext 2017a).

*Spinardi Ranch, Feature H2, Chinese Occupation Area (P-09-001828)/Chinese Camp (P-09-001829)*

A feature of Spinardi Ranch and also given its own Primary Number by the information center, this historic Chinese Site consists of two loci that were separated by construction of the railroad at El Dorado Station. The northwest (hill) portion of the Chinese Site consists of cabin or shanty flats, Chinese cemetery and sparse artifacts including Chinese opium tin fragments and cut square nails associated with each of the shanty locations. Construction of the railroad at El Dorado Station destroyed a portion of the hill portion of the Chinese Site, as well as a portion of the southeast area of the Project Site. The remaining southeast periphery of the site adjacent to China Creek, which is the flat portion of the site, includes sparse, widely scattered surface artifacts.

Construction of the railroad at El Dorado Station included terracing of the hill slope within the railroad right-of-way, which cut into the hill portion of the Chinese Site. Metal detecting identified two flats partly taken out by excavation of the upper terrace during construction phase(s) of the railroad. Presence of these artifacts discovered by metal detecting was used as the primary basis for identifying the location of shanty flats on the sketch map accompanying the site record for P-09-001829, according to the record's author (Dana Supernowicz, personal communication 2016 within Windmiller 2017b).

Excavation of the upper terrace by the railroad appears to have removed the cultural deposit to the Chinese site's sub-surface. Remaining evidence of the Chinese Site is limited to sparse, widely scattered pieces of crushed glass on the terrace surface. Modern "buried cable" markers just inside the APE attest to additional disturbances along the current extent of the Chinese Site at the northwest edge of the APE. Construction and subsequent operation of the railroad caused severe damage to the physical integrity of the entire southeast portion of the Chinese Site (P-9-001829) within the project area (Windmiller 2017b).

***Properties Exempt from Evaluation***

*Placer Mining Features of the Dunlop Ranch (P-9-1830 / CA-Eld-1346H)*

These features were not identified when the approximately 20-acre Dunlop Ranch site was recorded in 1995 (Lindstrom 1995). The ranch, which included five buildings, one structure, and an assemblage of defunct farming equipment, was determined not a historical resource for the purpose of CEQA and was subsequently destroyed as part of the construction of the Walmart store that exists now. These placer mining features have no associated structural remains or

archaeological deposits and qualify as Archaeological Property Types and Features Exempt from Evaluation as described in the Caltrans Section 106 PA/5024 Memorandum of Understanding (MOU) (InContext 2017b; Windmiller 2017a; Windmiller 2017b).

*Discontiguous Segments of the Diamond Ridge Ditch (P-9-5850)*

Three discontiguous segments of the Diamond Ridge Ditch predating construction of this portion of the railroad are located in the vicinity of the proposed Forni Road crossing. One segment lies on the north side of the railroad within the Project Site, but outside of the impact area. Two segments lie on the south side of the railroad within the proposed impact area. Each segment has sustained considerable damage by railroad construction and maintenance. The ditch meanders several miles to Diamond Springs. The three isolated segments of ditch in and around the Forni Road crossing of the railroad clearly illustrate that segments of the ditch that once connected with the surviving three segments have been destroyed by construction of the railroad and by the modern Forni Road (Windmiller 2017a). These segments are classified as roadside drainage ditches and/or secondary agricultural ditches, which qualify them as Property Type 1: Minor, ubiquitous, or fragmentary water conveyance features that are Exempt from Evaluation as described in the Caltrans Section 106 PA/5024 MOU and are also not considered historical resources under CEQA (InContext 2017b).

*Sacramento to Placerville Railroad — Missouri Flat Road East Segment*

CA-ELD-971-H (Shingle Springs to Placerville Railroad): segment from Missouri Flat Road east was determined not eligible for listing in the NRHP under Criteria A-C through SHPO consensus (Neuenschwander 2007; Peak 2008). This section of the Railroad was converted into a pedestrian trail, which resulted in the removal of rails and alteration of the setting, feeling, and association. As a result, it is not considered a significant resource under CEQA (InContext 2017a).

***Conclusions***

Five historical archaeological resources were identified within the SPTC within the project area. Of the five historical archaeological resources identified within the Project Site, two of these resources, the Placer Mining Features of the Dunlop Ranch and the (3) discontiguous Diamond Ridge Ditch segments, have been determined not to be eligible for listing under the California Register of Historic Places (CRHP) criteria and CEQA, and have been determined to be exempt from consideration under the National Register of Historic Places (NRHP) under the Caltrans programmatic Agreement. The fifth resource, the Missouri Flat Road East Segment of the Railroad, was determined not eligible for NRHP listing by SHPO and is not considered a significant resource under CEQA. Impacts to the Missouri Flat Road East segment of the Railroad would be limited to removal of a redwood culvert, wherein the removed redwood material would be reused associated with proposed long-term improvements related to the SPTC. Development of the Proposed Project would not impact the Placer Mining Features of the Dunlop Ranch. However, the three discontinuous segments of the Diamond Ridge Ditch are located within the impact area and would be impacted by project development. However, as these features are not considered historic resources under CEQA, impacts are considered less than significant.

Development of the Proposed Project would not impact the El Dorado Depot. The site would be established as an Environmentally Sensitive Area and would be fenced with exclusion fencing. No impact would occur to this resource.

Similarly, the southeastern portion of the Chinese Site, located south of the rail line, would also be established as an Environmentally Sensitive Area and would be fenced with exclusion fencing. No impact would occur to this resource.

Development of the Proposed Project would not impact the El Dorado to Missouri Flat segment of the Sacramento to Placerville Railroad within the Project Site. No impact would result from project development.

The southeastern portion of the Chinese Site would be established as an Environmentally Sensitive Area and no project activities would occur within this area. No impact would occur to the southeastern portion of the Chinese Site.

The portion of the Chinese Site that overlaps the northwestern project limits has been subject to ongoing periodic minor to substantial ground disturbance, including the construction and maintenance of the railroad, the construction of the high-voltage transmission towers, and the installation of an underground telephone cable. These activities have occurred over the area of the site that is proposed for trail construction. Based on the extent of historic disturbance in this area of the Chinese Site, it is not anticipated that development of the Proposed Project would result in significant impacts to Site P-09-001829. Although this area of the Project Site has experienced periodic historical ground disturbance and Environmentally Sensitive Area boundaries would be established for other resources within or adjacent to the project impact area, project development would have the potential to result in the inadvertent discovery of an historical resource. Impacts are therefore considered ***less than significant with mitigation incorporated***.

**Mitigation Measure CR — 1** would require the establishment an Environmentally Sensitive Area boundary with exclusion fencing prior to commencement of construction in order to ensure no impacts to Site P-09-001829 and P-9-1242/CA-Eld-971H, Locus A. Compliance with **Mitigation Measure CR — 2** would require construction activities to cease in the event of inadvertent discovery of historical or archaeological resources and would require that the County of El Dorado be immediately contacted for inadvertent discovery of resources associated with project construction. In the event of inadvertent discovery of historical or archaeological resources, **Mitigation Measure CR — 2** would require coordination with County of El Dorado and the project archaeologist to assist with the proper treatment of discovered resources.

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

**Less Than Significant With Mitigation Incorporated**. Five historical archaeological resources were identified within the SPTC within the project area. Of the five historical archaeological resources identified within the Project Site, two of these resources, the Placer Mining Features

of the Dunlop Ranch and the (3) discontiguous Diamond Ridge Ditch segments, have been determined not to be eligible for listing under the California Register of Historic Places (CRHP) criteria and CEQA, and have been determined to be exempt from consideration under the National Register of Historic Places (NRHP) under the Caltrans programmatic Agreement. Development of the Proposed Project would not impact the Placer Mining Features of the Dunlop Ranch. Similarly, the Missouri Flat Road East Segment of the Railroad was determined not eligible for NRHP listing by SHPO and is not considered a significant resource under CEQA. Impacts to the Missouri Flat Road East segment of the Railroad would be limited to removal of a redwood culvert, wherein the removed redwood material would be reused associated with proposed long-term improvements related to the SPTC. The three discontinuous segments of the Diamond Ridge Ditch are located within the impact area and would be impacted by project development. However, as these features are not considered historic resources under CEQA, impacts are considered less than significant.

Development of the Proposed Project will not impact the El Dorado Depot. The site will be established as an Environmentally Sensitive Area and would be fenced with exclusion fencing. No impact would occur to this resource.

Similarly, the southeastern portion of the Chinese Site, located south of the rail line, would also be established as an Environmentally Sensitive Area and would be fenced with exclusion fencing. No impact would occur to this resource.

Development of the Proposed Project would not impact the El Dorado to Missouri Flat segment of the Sacramento to Placerville Railroad within the Project Site. No impact would result from project development.

The southeastern portion of the Chinese Site would be established as an Environmentally Sensitive Area and no project activities would occur within this area. No impact would occur to the southeastern portion of the Chinese Site.

The portion of the Chinese Site that overlaps the northwestern project limits has been subject to ongoing periodic minor to substantial ground disturbance, including the construction and maintenance of the railroad, the construction of the high-voltage transmission towers, and the installation of an underground telephone cable. These activities have occurred over the area of the site that is proposed for trail construction. Based on the extent of historic disturbance in this area of the Chinese site, it is not anticipated that development of the Proposed Project would result in significant impacts to Site P-09-001829. Although this area of the Project Site has experienced periodic historical ground disturbance and Environmentally Sensitive Area boundaries would be established for other resources within or adjacent to the project impact area, project development would have the potential to result in the inadvertent discovery of an historical resource. Impacts are therefore considered less than significant with mitigation incorporated.

**Mitigation Measure CR-1.1** from the SPTC MP EIR requires surveys and the evaluation of cultural resources within the SPTC. **Mitigation Measure CR — 1** would require the

establishment an Environmentally Sensitive Area boundary with exclusion fencing prior to commencement of construction in order to ensure no impacts to Site P-09-001829 and P-9-1242/CA-Eld-971H, Locus A. Compliance with **Mitigation Measure CR — 2** would require construction activities to cease in the event of inadvertent discovery of historical or archaeological resources and would require that the County of El Dorado be immediately contacted for inadvertent discovery of resources associated with project construction. In the event of inadvertent discovery of historical or archaeological resources, **Mitigation Measure CR — 2** would require coordination with local agency planning resources and the project archaeologist to assist with the proper treatment of discovered resources.

Although the Project Site has been subject to previous disturbance and impacts to archaeological resources are not anticipated, grading and excavation activities associated with construction of the Proposed Project would have the potential to unearth or otherwise expose previously unidentified archaeological resources. Therefore, impacts are considered ***less than significant with mitigation incorporated***.

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

**Less Than Significant With Mitigation Incorporated**. No paleontological localities are identified by the University of California, Museum of Paleontology's database within the USGS Placerville 7.5' quadrangle (Windmiller 2015). No unique geologic features are known within the Project Site. However, grading and excavation activities associated with construction of the Proposed Project would have the potential to unearth or otherwise expose previously unidentified paleontological resources or unique geologic features. Therefore, impacts are considered ***less than significant with mitigation incorporated***.

Compliance with **Mitigation Measure CR — 3** would require construction activities to cease in the event of inadvertent discovery of paleontological resources and would require that the County of El Dorado be contacted for inadvertent discovery of resources associated with Project construction. In the event of inadvertent discovery of paleontological resources, **Mitigation Measure CR — 3** would require coordination with local agency planning resources and a qualified archaeologist to assist with the proper treatment of discovered resources.

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

**Less Than Significant With Mitigation Incorporated**. No known grave sites or burial grounds are known to be present within the Project Site. Based on tribal coordination efforts conducted in compliance with AB 52, no tribal resources have been identified within the Project Site. Grading and excavation activities associated with construction of the Proposed Project may have the potential to inadvertently unearth or otherwise expose previously unidentified human remains or burial grounds. Therefore, impacts are considered ***less than significant with mitigation incorporated***.

Compliance with **Mitigation Measure CR — 4** would require coordination with the El Dorado County Coroner in compliance with CEQA (Section 1064.5) and the California Health and Safety

Code (Section 7050.5), as well as the NAHC who will notify and appoint a Most Likely Descendent (MLD), thereby reducing potential impacts to less than significant levels.

### *4.5.2. Mitigation Measures*

The SPTC MP EIR (Jones & Stokes 2000) identifies the following project-related Mitigation Measure to reduce potential impacts to cultural resources relevant to the Proposed Project:

**Mitigation Measure CR-1.1:** **Implement a plan to address the discovery of unanticipated cultural resources.**

The County shall ensure that the following measures are implemented before development of the Master Plan.

- Conduct Surveys of Unsurveyed Areas. Before implementation of project activities in the Master Plan corridor, complete pedestrian surveys should be conducted to locate and record cultural resources.
- Evaluate Resources within the Project Corridor. Resources within the project corridor that cannot be avoided should be evaluated. Additional research and test excavations, where appropriate, should be undertaken to determine whether the resource(s) meets CEQA and/or NRHP significance criteria. Impacts on significant resources that cannot be avoided will be mitigated in consultation with the lead agency for the project. Possible mitigation measures include:
    - A data recovery program consisting of archaeological excavation to retrieve the important data from archaeological sites;
    - Development and implementation of public interpretation plans for both prehistoric and historic sites;
    - Preservation, rehabilitation, restoration, or reconstruction of historic structures according to the Secretary of Interior Standards for Treatment of Historic Properties;
    - Construction of new structures in a manner consistent with the historic character of the region; and
    - Treatment of historic landscapes according to the Secretary of Interior Standards for Treatment of Historic Landscapes.

**Mitigation Measures CR — 1** through **CR — 4** are identified by the analyses within this IS/MND to reduce potential impacts related to cultural resources to less than significant levels:

**Mitigation Measure CR — 1:** Prior to commencement of ground disturbing activities, an Environmentally Sensitive Area boundary shall be established with exclusion fence consistent with the site boundary for Site P-09-001829 and P-9-1242/CA-Eld-971H, Locus A where the site boundary overlies the project area. The Environmentally Sensitive Boundary for the northwestern area of P-09-001829 shall be established at the existing fence line along the project alignment.

**Mitigation Measure CR — 2:** Should buried historical or archaeological deposits or artifacts be inadvertently exposed during the course of construction activities, work shall immediately cease within a 100-foot radius of the find and the County of El Dorado shall be immediately contacted. A qualified archaeologist shall be retained to document the find, assess its significance, and recommend further treatment. Work on the Project Site shall not resume until the archaeologist has had a reasonable time to conduct an examination and implement mitigation measures deemed appropriate and necessary by the County of El Dorado in consultation with the qualified archaeologist to reduce impacts to a less than significant level.

**Mitigation Measure CR — 3:** If evidence of a paleontological site is uncovered during grading or other construction activities, work shall be halted within 100 feet of the find and the County of El Dorado shall be contacted immediately. A qualified paleontologist shall be retained to conduct an on-site evaluation and provide recommendations for removal and/or preservation. Work on the Project Site shall not resume until the paleontologist has had a reasonable time to conduct an examination and implement mitigation measures deemed appropriate and necessary by the County of El Dorado in consultation with the qualified paleontologist to reduce impacts to a less than significant level.

**Mitigation Measure CR — 4:** In the event that any human remains or any associated funerary objects are encountered during Project construction, all work shall cease within the vicinity of the discovery and the County of El Dorado shall be

immediately contacted. In accordance with CEQA (Section 1064.5) and the California Health and Safety Code (Section 7050.5), the El Dorado County coroner shall be contacted immediately. If the human remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, who will notify and appoint a Most Likely Descendent (MLD). The MLD will work with a qualified archaeologist to decide the proper treatment of the human remains and any associated funerary objects. Construction activities in the immediate vicinity will not resume until a notice-to-proceed is issued.

## 4.6. Geology and Soils

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| ***Would the Project:*** | | | | |
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death, involving: | | | | |
| I. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? | ☐ | ☐ | ☐ | ☒ |
| 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 wastewater disposal systems where sewers are not available for the disposal of wastewater? | ☐ | ☐ | ☐ | ☒ |

### *4.6.1. Impact Analysis*

*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?*

**No Impact**. Geological literature indicates that no major active faults delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map transect El Dorado County (Bryant and Hart 2007). Therefore, there would be ***no impact*** from strong seismic groundshaking.

*II. Strong seismic ground shaking?*

**No Impact**. According to mapping prepared by the California Division of Mines and Geology, the potential for seismic ground shaking hazards within the vicinity of the Project Site is low, and the Project Site is not located within the vicinity of an Alquist-Priolo Earthquake Fault Zone. The closest Alquist-Priolo Earthquake Fault Zone is the West Tahoe Fault, located in El Dorado County 50 miles to the east of the Project Site (Seitz 2016). There are several fault systems mapped within El Dorado County such as the El Dorado Fault and East Bear Mountain Fault, but none of these faults are active. Therefore, the Proposed Project is not expected to experience strong ground shaking, and ***no impacts*** related to strong seismic ground shaking are anticipated.

*III. Seismic-related ground failure, including liquefaction?*

**No Impact**. Liquefaction is a loss of soil strength related to seismic ground shaking and is most commonly associated with soil deposits characterized by water-saturated, well sorted, fine gran sands and silts. The potential for seismic related ground failure due to liquefaction is low. The Project Site is not within the vicinity of a fault zone. Therefore, ***no impacts*** are anticipated and no mitigation is required.

*IV. Landslides?*

**No Impact**. The general topography of the Project Site has been largely influenced by the construction of the railroad, including areas of major historical cuts through adjacent slopes. The immediate area adjacent to the railroad is mildly sloping, with a few areas along the central portion of the Rail Corridor that are moderately sloped with the railroad at the base. Elevations range from 1,604 feet above mean sea level (MSL) in the southwestern portion of the Project Site to 1,795 feet above MSL in the northeastern portion of the Project Site. Project-related grading and excavation activities would require from one to up to four feet of required excavations. Development of the Proposed Project would occur within an SPTC segment exhibiting stable banks and slopes. Anticipated ground disturbance would not require substantial cuts. Therefore, ***no impacts*** related to landslides would result from development of the Proposed Project and no mitigation is required.

*b) Result in substantial soil erosion or the loss of topsoil?*

**Less Than Significant with Mitigation Incorporated**. As shown on **Figure 4.6-1**, the Proposed Project is characterized by eight soil units including: Argonaut Gravelly Loam, 2 to 15 Percent Slopes; Auburn Silt Loam, 2 to 30 Percent Slopes; Auburn Very Rocky Silt Loam, 2 to 30 Percent Slopes; Boomer Very Rocky Loam, 3 to 30 percent slopes; Diamond Springs Very Fine Sandy Loam, 9 to 15 Percent Slopes; Placer Diggings; Sobrante Silt Loam, 3 to 15 Percent Slopes; and Tailings (USDA, NRCS 1974 and 2016).

***Argonaut Gravelly Loam***

This soil is well-drained and underlain by metabasic or basic rocks at depth of 20 to 40 inches. Permeability is very slow. It is undulating to moderately steep on broad ridges from 500 to 1,600 (sometimes up to 2,500) feet in elevation (USDA, NRCS 1974 and 2016). This soil has hydric inclusions in alluvial fan remnants.

***Auburn Silt Loam Series***

Soils included in this series include Auburn silt loam and Auburn very rocky silt loam, 2 to 30 percent slopes. This series consists of soils that are well-drained and underlain by hard metamorphic rock at depths of 12 to 96 inches. Permeability is moderate. These soils are undulating to very steep on foothills typically located between 500 to 1,800 feet above MSL (USDA, NRCS 1974 and 2016). There are no hydric inclusions in this soil series.

***Boomer Very Rocky Loam***

This soil is well-drained and typically adjacent to major drainageways and depth to the parent rock is of 24 to 40 inches. It is undulating to very steep consisting of hillslopes, ridges and mountain slopes (USDA, NRCS 1974 and 2016). There are no hydric inclusions in this soil.

***Diamond Springs Very Fine Sandy Loam***

This soil is well-drained and formed from metamorphed igneous rocks and underlain by fine-grained acid igneous rocks at depths of 24 to 50 inches. It is undulating to very steep on uplands typically located between 1,200 to 2,000 feet above MSL (USDA, NRCS 1974 and 2016). There are no hydric inclusions in this soil series.

***Placer Diggings***

This land type consists of areas of stony, cobbly, and gravelly material, commonly in beds of creeks and other streams or of areas that have been placer mined and contain enough fine sand or silt to support some grass for grazing. The material that makes up this land type is a mixture of rocks and is commonly stratified or poorly sorted with the depth of the soil material being variable and ranging from six inches to more than five feet (USDA, NRCS 1974 and 2016). This land type includes hydric soil inclusions in man-made channels.

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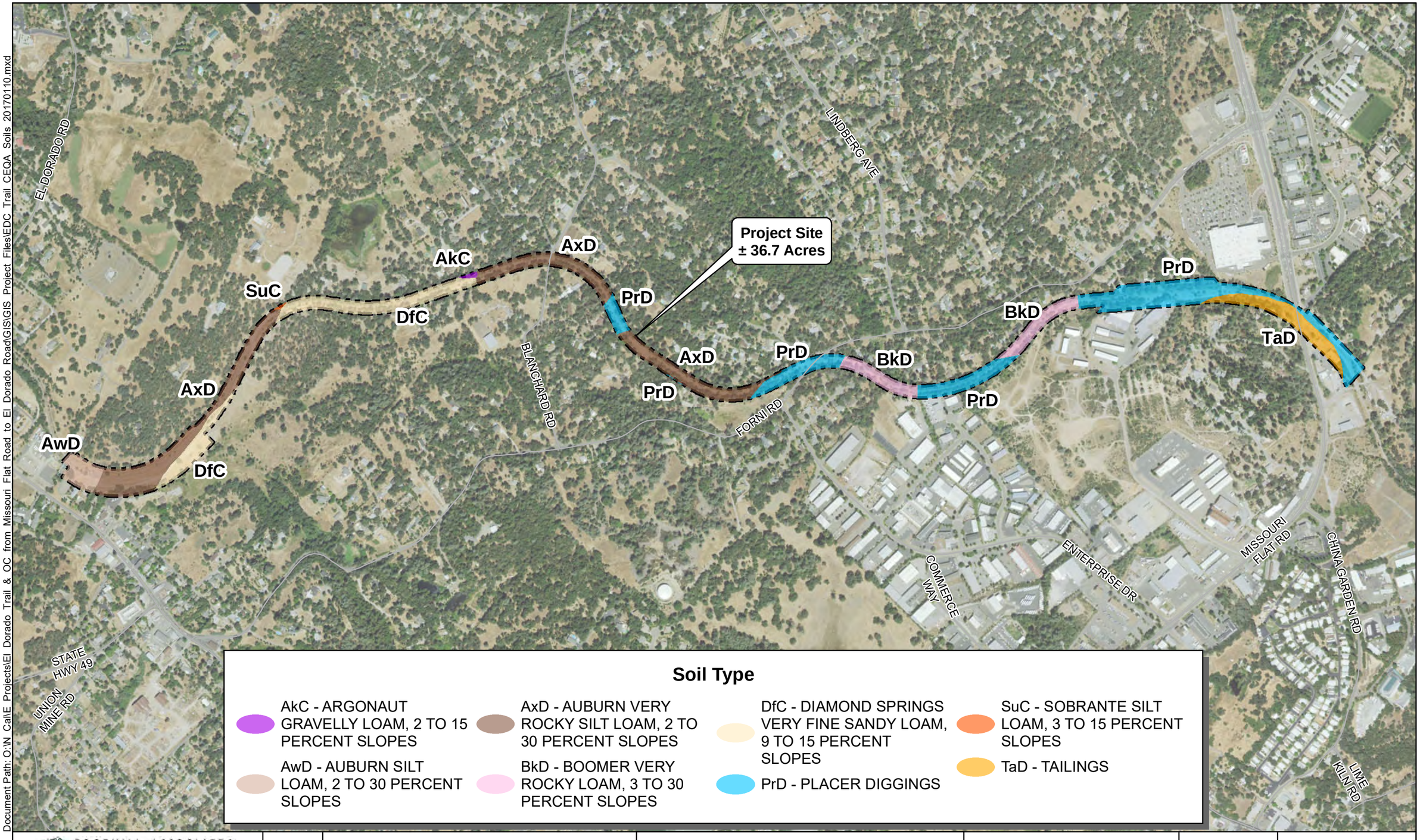
Document Path: O:\N Cal\E Projects\El Dorado Trail & OC from Missouri Flat Road to El Dorado Road\GIS\GIS Project Files\EDC Trail CEQA Soils 20170110.mxd




## Soil Type

- AkC - ARGONAUT GRAVELLY LOAM, 2 TO 15 PERCENT SLOPES
- AxD - AUBURN VERY ROCKY SILT LOAM, 2 TO 30 PERCENT SLOPES
- DfC - DIAMOND SPRINGS VERY FINE SANDY LOAM, 9 TO 15 PERCENT SLOPES
- SuC - SOBRANTE SILT LOAM, 3 TO 15 PERCENT SLOPES
- AwD - AUBURN SILT LOAM, 2 TO 30 PERCENT SLOPES
- BkD - BOOMER VERY ROCKY LOAM, 3 TO 30 PERCENT SLOPES
- PrD - PLACER DIGGINGS
- TaD - TAILINGS

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0 750 1,500
Feet
1 inch = 750 feet

USDA, Soil Conservation Service, digital soil data derived from SSURGO data, El Dorado County CA, 2010

# SOILS

Drawn By: MUB
QA/QC: AMP
Date: 01/10/2017

Figure 4.6-1



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***Sobrante Silt Loam***

This soil is well-drained and underlain by fine-grained metamorphic rocks at a depth of more than 22 to 36 inches. It is undulating to hilly and found in the foothills, typically located between 800 to 1,800 feet above MSL (USDA, NRCS 1974 and 2016). There are no hydric inclusions in this soil.

***Tailings***

This land type consists of cobbly and stony tailings from dredge and hydraulic mining and in hard rock mine dumps. All the soil matter has either been washed away from hydraulic mining or has been buried from dredge mining or mine dumps. The depth to the underlying rock is more than 48 inches (USDA, NRCS 1974 and 2016). This land type has hydric inclusions in drainageways and depressions.

***Conclusion***

State regulations pertaining to the management of erosion and sedimentation target the protection of surface water resources from the effects of land development (such as turbidity caused by sedimentation), measures included in such regulations and standards also reduce the potential for erosion and soil loss. Such regulations include, but are not limited to, the National Pollutant Discharge Elimination System (NPDES) program for management of construction and municipal stormwater runoff, which is part of the federal Clean Water Act and the State Porter-Cologne Water Quality Act and is implemented at the State and local level through issuance of permits and preparation of site-specific Storm Water Pollution Prevention Plans (SWPPP).

Project development would be required to comply with the standards established by the County of El Dorado's Storm Water Management Plan (SWMP). Project-related grading activities would also be subject to the requirements of the California Regional Water Quality Control Board for filing a Notice of Intent (NOI) to comply with the Construction General Permit for projects over an acre or for projects that are part of a larger common plan of development that is over one acre. Notice of Intent applicants are required to develop a SWPPP specifying individual Best Management Practices (BMPs), as well as, scheduling for regular monitoring and maintenance of said BMPs for effectiveness.

Project related ground disturbance would have the potential to result in erosion and sediment loss. However, it is anticipated that compliance with existing enforceable regulatory requirements applicable to ground-disturbing activities as required by **Mitigation Measure BIO-9.1** identified within the SPTC MP EIR, combined with implementation of **Mitigation Measure GEO-1.2**, would reduce potential impacts to less than significant levels.

Implementation of **Mitigation Measure BIO-9.1** from the SPTC MP EIR would require that the County comply with applicable NPDES requirements in effect at the time of construction. Compliance with **Mitigation Measure GEO-1.2** would ensure that the trail is monitored for erosion resulting from long-term trail usage. Impacts are therefore considered ***less than significant with mitigation incorporated***.

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?*

**No Impact**. Lateral spreading, a phenomenon associated with liquefaction, subsidence, or other geologic or soils conditions that could create unstable subsurface conditions are not anticipated. No impacts related to unstable soils including lateral spreading or collapse resulting from seismic-induced ground shaking are anticipated due to the distance from an active fault, the low potential for ground shaking hazards, and overall stable soil conditions in the area. Subsidence is generally characterized by the gradual settling of the earth's surface with little or no horizontal motion, and typically occurs in formations overlaying an aquifer subject to a gradual and consistently decreasing withdraw of groundwater. The Proposed Project is not located on a geologic unit or soil that is unstable. ***No impacts*** are anticipated and no mitigation is required.

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?*

**No Impact**. The Project Site is not located in an area of expansive soils and would not expose people to risk related to expansive soils. Therefore, ***no impact*** would result from project development and no mitigation is required.

e) *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

**No Impact**. Project development would not involve septic tank installation or the use of alternative waste water disposal systems. Therefore, ***no impact*** on soils related to the use of septic tanks would occur. No mitigation is required.

### *4.6.2. Mitigation Measures*

Implementation of **Mitigation Measures BIO-9.1** (see **Section 4.4.2**) and **Mitigation Measure GEO-1.2** identified within the SPTC MP EIR (Jones & Stokes 2000) would reduce potential impacts geology and soils relevant to the Proposed Project:

**Mitigation Measure GEO-1.2:** **Conduct Long-Term Maintenance of Corridor**
Annually, before the start of the rainy season, the County shall inspect and repair cut slopes and off-trail use areas within the corridor. Repairs should be targeted at eliminating improper drainage and areas likely to form gullies during the rainy season.

## 4.7. Greenhouse Gas Emissions

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| ***Would the Project:*** | | | | |
| 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? | ☐ | ☐ | ☐ | ☒ |

### *4.7.1. Impact Analysis*

*a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

**Less Than Significant Impact**. Relatively recently, global climate change, also known as global warming, has been recognized as an important environmental issue. Documented impacts of climate change include rising sea levels, glacier retreat, shortening of frost seasons, and increases in precipitation, among other events. Climate change is considered to be heavily influenced by the rising concentration of greenhouse gases (GHG), primarily atmospheric carbon dioxide ($CO_2$). Burning of fossil fuels, including oil, natural gas, gasoline, and coal, is a major contributor to rising GHG levels. Transportation, electric power, and industrial are the larger major source categories of GHG emissions in California.

GHG emissions are expressed as "million tons of $CO_2$ equivalent" per year. One ton is sometimes referred to as a "metric ton," and is equal to 2,204.6 pounds.

While $CO_2$ is the most common component of GHG, several different compounds are components of overall GHG. The different compounds contribute to climate change with varying intensities. The term "$CO_2$ equivalent" ($CO_2e$) refers to a weighted composite of these several compounds, expressed as the equivalent amount of $CO_2$.

***Significance Thresholds***

The EDCAQMD participated in a joint process with other air districts in the region to develop CEQA significance thresholds for GHG emissions. The other air districts were the SMAQMD, Placer County Air Pollution Control District, Feather River Air Quality Management District, and Yolo-Solano Air Quality Management District. The Board of Directors of the SMAQMD adopted the GHG thresholds in October 2014 (Sacramento Metropolitan Air Quality Management District 2016). The EDCAQMD is recommending use of the GHG emissions significance

thresholds adopted by the SMAQMD (Baughman pers. comm.). The SMAQMD GHG significance thresholds are applied for the purpose of these analyses.

Project-related GHG emissions will be considered a significant impact if the amount of emissions exceeds 1,100 metric tons per year of GHG emissions. If project-related GHG emissions exceed this threshold, measures to reduce or offset the GHG emissions should be considered. Measures that reduce the amount of GHG emissions to less than the thresholds are considered to reduce the impact to *less than significant levels*.

***Methodology***

GHG emissions associated with construction of the Proposed Project were estimated by applying version 8.1.0 of the *Road Construction Emissions Model* (Sacramento Metropolitan Air Quality Management District 2016). This model, developed for the SMAQMD, specifically analyzes emissions associated with construction of roadway improvement projects and other linear projects such as trails.

Project-specific information (e.g., the linear and spatial size of the project, amount and type of construction equipment used, and the anticipated schedule for the project) were used in the Road Construction Emissions Model. These values are presented in the technical appendix of **Appendix C** of this document. Other than those values shown in the technical appendix, default assumptions included in the model were used.

During construction of the Proposed Project, various phases of construction would result in the use of different groups of equipment, resulting in the generation of different amounts of emissions during the various construction phases. Air quality analyses for the Proposed Project assessed construction emissions during various phases of construction. The *Road Construction Emissions Model* analyzes each of these phases separately.

As summarized below in **Table 4.7-1**, construction activities associated with implementation of the Proposed Project would result in 139.81 MT per year of $CO_2e$ emissions. The amount of construction-related GHG emissions would be less than the 1,100 MT per year significance threshold. Therefore, this impact is considered *less than significant* and no mitigation measures are required.

**Table 4.7-1 — Project Estimated Annual Construction Related GHG Emissions**

| Project Component | $CO_2$ emissions ($MTCO_2e$) |
|---|---|
| Trail | 105.38 |
| Overcrossing | 34.43 |
| **Total Construction GHG Emissions** | **139.81** |

Source: KD Anderson & Associates 2016.

As presented in **Table 4.7-1**, annual construction-related GHG emissions associated with development of the Proposed Project are estimated to total 139.81 MT/yr. $CO_2e$. The SMAQMD

adopted annual threshold of 1,100 $MTCO_2e$ is applicable to the construction phase for the Proposed Project. The Proposed Project's construction-related emissions would be substantially below the SMAQMD thresholds of significance for construction phase GHG emissions. Therefore, the Proposed Project's construction-related GHG emissions are not expected to result in a significant impact.

***Operational Emissions***

Operational emissions related to GHG are generated by mobile and stationary sources, including day-to-day activities such as vehicle trips to and from a given site, heavy equipment operation, natural gas combustion from heating mechanisms, landscape maintenance equipment exhaust, and consumer products (e.g., deodorants, cleaning products, spray paint, etc.). The Proposed Project would result in minor vehicle trips due to bicycle and pedestrian users driving to the trail and project-related maintenance. However, offsetting these project-related trips would reduce the number of vehicle trips as people who would otherwise drive to the trail, would, instead, use bicycles or walk as a mode of transportation (KD Anderson & Associates 2016). The Proposed Project is not expected to result in a substantial change in roadway traffic volumes or capacity, and is not expected to affect long-term operational emissions. Therefore, the project is considered to have a *less than significant impact* on long-term operational GHG emissions and no mitigation measures are required.

***Conclusion***

Although the Proposed Project would contribute to GHG levels during construction of the Proposed Project, the contribution to cumulative GHG emissions and global climate change would be minor and well below established thresholds defined by the region. Therefore, the Proposed Project's contribution to global climate change through GHG emission are considered ***less than significant***.

*b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

**No Impact**. On March 25, 2008, the County of El Dorado Board of Supervisors adopted the Environmental Vision for El Dorado County Resolution No. 29-2008, brought forward by the Youth Commission. The Resolution sets forth goals and calls for implementation of positive environmental changes to reduce global impact, improve air quality and reduce dependence on landfills, promote alternative energies, increase recycling, and encourage local governments to adopt green and sustainable practices.

Implementation of the Proposed Project would not conflict with or obstruct implementation of any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Construction and operation of the Proposed Project would be implemented consistent with applicable regulatory standards and requirements, including consistency with all applicable EDCAQMD and SMAQMD rules and thresholds. Therefore, ***no impact*** is anticipated and no mitigation is required.

### *4.7.2. Mitigation Measures*

No mitigation is warranted.

## 4.8. Hazards and Hazardous Materials

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| ***Would the Project:*** | | | | |
| a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials? | ☐ | ☐ | ☒ | ☐ |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | ☐ | ☐ | ☒ | ☐ |
| c) Emit hazardous emissions or 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 § 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 area or, where such a plan has not been adopted, within two miles of a public airport or a 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? | ☐ | ☐ | ☐ | ☒ |

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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? | ☐ | ☐ | ☒ | ☐ |

### *4.8.1. Impact Analysis*

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

**Less Than Significant Impact**. The Proposed Project would involve construction of approximately 2.2 miles of a Class 1 multi-use bicycle and pedestrian trail, within the SPTC and a bike/pedestrian overcrossing to connect the El Dorado Trail at its existing terminus just east of Missouri Flat Road. Some of these activities will involve the use of heavy equipment, which would contain fuels, oils, lubricant, solvents, and various other possible contaminants. The transport, storage, and disposal of any hazardous materials associated with project development would be subject to federal, State, and local regulations.

The County of El Dorado Department of Environmental Management, Hazardous Waste Division, is approved by the California Environmental Protection Agency (Cal-EPA) as the Certified Unified Program Agency (CUPA) for El Dorado County. As the CUPA the County of El Dorado Department of Environmental Management, Hazardous Waste Division regulates the use, storage, and disposal of hazardous materials and is available to respond to hazardous materials complaints or emergencies, if any, during construction and routine maintenance of the trail.

The County of El Dorado Department of Environmental Management, Hazardous Waste Division administers the Hazardous Materials Business Plan (HMBP) for any facility handling a hazardous material or mixture containing a hazardous material to protect public health and the environment. Businesses that handle/store at least 55 gallons of hazardous liquids, 500 pounds of hazardous solids, and 200 cubic feet (at standard temperature and pressure) of compressed gases must complete a HMBP for the safe storage and use of chemicals.

The handling, use, and storage of hazardous materials during construction and routine maintenance of the trail would be required to be implemented compliant with the County of El Dorado Department of Environmental Management, Hazardous Waste Division standards. Therefore, impacts related to the creation of a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials are considered ***less than significant*** and no mitigation is required.

*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?*

**Less Than Significant Impact**. During construction and maintenance activities associated with the Proposed Project, the possibility of upset or accident conditions involving the release of hazardous materials into the environment exists.

The handling, use, and storage of hazardous materials during construction and maintenance of the trail and overcrossing would be required to be compliant with standards set forth by current State and federal regulatory standards as well as standards specified by the County of El Dorado Department of Environmental Management, Hazardous Waste Division. However, if an accident involving the release of hazardous materials should occur, the County of El Dorado Department of Environmental Management, Hazardous Waste Division is available to respond to an emergency relating to hazardous materials. Impacts are therefore considered ***less than significant*** and no mitigation is required.

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

**Less Than Significant With Mitigation Incorporated**. The Project Site is within the Mother Lode Union School District and El Dorado Union High School District (EDCOE 2017). Herbert Green Middle School is located approximately 0.35 miles northwest of the Project Site and Union Mine High School is approximately 0.60 miles east of the Project Site. There are no public or private schools located within one-quarter mile of the Project Site nor are there any schools planned to be developed within one-quarter mile of the Project Site because the El Dorado area is not listed by the *El Dorado County General Plan, Public Utilities and Services Element* as an area with high average student yield (El Dorado County 2015c).

Ground-disturbing activities associated with project development would have the potential to result in the risk of exposure from naturally occurring asbestos (NOA). The *Areas More Likely to Contain Natural Occurrences of Asbestos in Western El Dorado County, California* map (California Department of Conservation 2000) shows areas more likely to contain NOA. Soil-disturbing construction activity in these areas would result in an elevated risk of encountering NOA. The western portion of the Project Site crosses the El Dorado Fault, indicating an elevated risk of the presence of NOA (KD Anderson & Associates 2016).

Naturally occurring asbestos (NOA) is found in many parts of California. The most common type of asbestos is chrysotile, but other types are also found in California. When rock containing asbestos is broken or crushed, asbestos fibers may be released and become airborne. Exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest and abdominal cavity), and asbestosis (a non-cancerous lung disease which causes scarring of the lungs). Sources of asbestos emissions include: unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present (KD Anderson & Associates 2016).

Ground-disturbing activities within the Project Site would have the potential to result in the risk of exposure to NOA. Therefore, impacts related to exposing sensitive receptors to hazardous emissions are considered a less than significant impact with mitigation incorporated.

On-site sampling of soil at the Project Site would be needed to confirm the presence of NOA. However, based on information presented in the *Areas More Likely to Contain Natural Occurrences of Asbestos in Western El Dorado County, California Map*, this impact is considered to be potentially significant. Implementation of **Mitigation Measures AQ — 2** through **AQ — 6** would prohibit the generation of fugitive dust beyond the project limit, and would require the development of and adherence to an Asbestos Dust Mitigation Plan, as well as testing for all excavated materials and subsequent surface applications of those materials according to CARB Airborne Toxic Control measures. With implementation of these measures, impacts would be considered less than significant.

Implementation of **Mitigation Measure PHS-1.1** from the SPTC MP EIR in addition to project specific **Mitigation Measures AQ — 2** through **AQ — 6** would reduce the potential risk from exposure to NOA, thereby reducing impacts from hazardous emissions and hazardous materials within one-quarter mile of an existing school to **less *than significant with mitigation incorporated***.

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

**Less Than Significant Impact**. There are no sites within the Proposed Project that are listed in the *State of California Hazardous Waste and Substances Site List* (Cortese List) (CDTSC 2017a). A Remedial Action Report prepared for the Rail Corridor concluded all sites requiring remediation have been cleaned up and no follow-up action is needed (Jones and Stokes, Inc. 2000). However, a recent records search of the California Department of Toxic Substances Control *EnviroStor Database* lists five hazardous sites in the vicinity of the Proposed Project: L&P Truck Dismantlers (09500005), approximately 0.20 miles from the Project Site; Celebrity Plating (09340001), Celebrity, Inc. (7100346), and Teter's Auto Wreckers (09500006) approximately 0.30 miles from Project Site; and Foothill Auto Repair (09750002) approximately 0.50 miles from the Project Site (CDTSC 2017). Celebrity Plating has a cleanup status of "No Further Action Required," Celebrity, Inc. has a cleanup status of "No Action Required," Foothill Auto Repair has a cleanup status of "Refer: RWQCB," and L&P Truck Dismantlers and Teter's Auto Wreckers both have a cleanup status of "Refer: Other Agency." The sites identified on the *EnviroStor Database* are outside of the Project Site and would therefore not affect project development and trail users. The Proposed Project would not create a significant hazard to the public or environment, therefore, impacts are considered ***less than significant*** and no mitigation is required.

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

**No Impact**. The west slope of El Dorado County operates three public airports: Cameron Airpark Airport, Georgetown Airport, and Placerville Airport. The Proposed Project is not located within an airport land use plan area for any of these airports (El Dorado County Transportation Commission 2017). The Project Site is not located within two miles of any airport and would not result in a safety hazard for people residing or working in the project vicinity. Therefore, ***no impact*** would result from development of the Proposed Project and no mitigation is required.

*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?*

**No Impact**. The Project Site is not located within the vicinity of a private airstrip and would not result in a safety hazard for people residing or working in the project vicinity. Therefore, ***no impact*** would result from development of the Proposed Project and no mitigation is required.

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

**No Impact**. The Proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, ***no impact*** would result from development of the Proposed Project and no mitigation is required.

*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?*

**Less Than Significant Impact**. Wildland fires are those fires that pose a threat to the more rural areas of the County. Wildland fires result from intentional and unintentional human activities as well as natural processes. The Project Site is located within both moderate and high fire hazard severity zones as defined by Cal Fire (Cal Fire 2007) and is located within the El Dorado County Fire District (EDCFD 2017). Fire suppression responsibilities are shared between the El Dorado County Fire District, Cal Fire, and the U.S. Forest Service (USFS). The Proposed Project is serviced by Station 28 in Shingle Springs and Station 25 in Placerville which are staffed 24 hours a day, seven days a week (EDCFD 2017). Cal Fire Station 43 within the Amador – El Dorado Unit is located just south of the Town of El Dorado (Cal Fire 2017).

As described within **Section 3.8**, **General Trail Guidelines**, the SPTC Master Plan includes the following specifications:

5. Maintenance, vegetation control, and other fire prevention/control actions would periodically be undertaken within the SPTC.

   Maintenance includes those activities necessary to preserve the value of the SPTC and the infrastructure. This includes those activities related to maintaining proper drainage. Maintaining assets directly related to private ventures will be

required of and paid for by the applicable private enterprise. Other maintenance will be performed by the County on a routine basis. In addition to routine preventative maintenance, this also includes consistent removal of trash, debris, and other refuse.

Vegetation within the SPTC will be properly maintained to protect the integrity of rail and trail infrastructure and to ensure that the corridor will serve as a "fire break" for fires that are in the immediate vicinity of the corridor.

According to **Section 3.8**, **General Trail Guidelines**, the County would implement vegetation management and other fire control/prevention activities to ensure that activities (or inactivity) within the corridor do not contribute to wildfires.

The **General Trail Guidelines** includes provisions established to minimize the risk from wildland fires. Therefore, project development would not increase exposure of people or structures to a significant fire risk. Impacts are considered ***less than significant*** and no mitigation is required.

### *4.8.2. Mitigation Measures*

Implementation of **Mitigation Measure PHS-1.1** from the SPTC MP EIR (Jones & Stokes 2000) (see **Section 4.3.2**) in addition to project specific **Mitigation Measures AQ — 2** through **AQ — 6** (see **Section 4.3.2**) identified would reduce potential impacts to air quality to less than significant levels.

## 4.9. Hydrology and Water Quality

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| ***Would the Project:*** | | | | |
| 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 that 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? | ☐ | ☐ | ☐ | ☒ |

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| h) Place within a 100-year flood hazard area structures that 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 a failure of a levee or dam? | ☐ | ☐ | ☐ | ☒ |
| j) Inundation by seiche, tsunami or mudflow? | ☐ | ☐ | ☐ | ☒ |

### *4.9.1. Impact Analysis*

*a) Violate any water quality standards or waste discharge requirements?*

**Less Than Significant with Mitigation Incorporated**. Implementation of the Proposed Project would result in the development of approximately 2.2 miles of Class 1 multi-use bicycle and pedestrian trail, within the SPTC from northwest of Southern Pacific Railroad milepost 143 to east of Southern Pacific Railroad Milepost 144, including a 12-foot-wide bike/pedestrian overcrossing to connect the El Dorado Trail at its existing terminus just east of Missouri Flat Road. Development of the Proposed Project would not result in any wastewater-generating uses, nor would construction result in the generation of wastewater. However, project development would have the potential to result in potential impacts to water quality.

***Construction-Related Impacts***

Any discharge of pollutants to aquatic resources is unlawful unless the discharge is implemented in compliance with the National Pollutant Discharge Elimination System (NPDES) permit. The Statewide General Construction Permit and the NDPES General Construction Activity Stormwater Permit (General Permit) are applicable to requiring the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) that specifies erosion and sediment control construction and post-construction BMPs to reduce or eliminate construction-related and operational impacts on receiving water quality. The SWPPP identifies structural and non-structural BMPs to uphold water quality and waste discharge requirements.

Chapter 15.14 of the El Dorado County Code establishes the Grading, Erosion, and Sediment Control Ordinance. A Grading Permit is required for all grading projects in El Dorado County unless exempt under Section 15.14.140. The grading must also be consistent with Section B of the Grading, Erosion, and Sediment Control chapter of the Grading Design Manual adopted by the County of El Dorado Board of Supervisors, which relates to water quality. The Grading, Erosion, and Sediment Control Ordinance was established to "safeguard life, health, property, and public welfare; to avoid pollution of watercourses; and to ensure that the intended grading site is consistent with the *El Dorado County General Plan*, any Specific Plans, the adopted Storm

Water Management Plan, California Fire Safe Standards, and the California Building Code" (County of El Dorado 2010).

The County of El Dorado has adopted a Storm Water Management Plan (SWMP) to reduce the discharge of pollutants associated with storm water drainage systems and identify how the County will comply with the provisions of the NPDES permits (County of El Dorado 2004). The SWMP outlines program management for permit monitoring and reporting. Additionally, the SWMP addresses how the County will manage planning, design, and construction projects.

Implementation, monitoring, and maintenance of construction and post-construction BMPs required to comply with existing enforceable County Ordinances, combined with compliance with current State and federal regulations and standards relevant to maintaining water quality objectives, would ensure that project development would not result in substantial erosion or siltation violating water quality standards and discharge requirements.

For all aquatic features within the Project Site that are determined to be subject to federal jurisdiction, any fill proposed within aquatic features delineated within the Proposed Project would be subject to 401 Water Quality Certification. In addition, the discharge of fill into aquatic features that are not subject to federal jurisdiction would require compliance with the State Porter-Cologne Water Quality Control Act through the issuance of waste discharge requirements (WDRs).

It is anticipated that implementation of both project-specific mitigation measures and those identified by the SPTC MP EIR, would reduce potential impacts to less than significant levels.

***Operational Impacts***

Ongoing use by trail users would have the potential to result in areas within the trail alignment that may exhibit erosion and sediment loss. Potential impacts associated with trail operation are considered ***less than significant with mitigation incorporated***.

Project related ground disturbance would have the potential to result in erosion and sediment loss. However, it is anticipated that compliance with existing enforceable regulatory standards and requirements applicable to ground disturbing activities as required by **Mitigation Measure BIO-9.1** identified within the SPTC MP EIR, combined with implementation of **Mitigation Measure GEO-1.2**, would reduce potential impacts to less than significant levels.

***Conclusion***

Implementation of **Mitigation Measure BIO-9.1** from the SPTC MP EIR would require that the County comply with applicable NPDES requirements in effect at the time of construction. Compliance with SPTC MP EIR **Mitigation Measure GEO-1.2** would ensure that the trail is monitored for erosion resulting from long-term trail usage. Impacts are therefore considered ***less than significant with mitigation incorporated***.

*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)?*

**No Impact**. Project development would not result in an increased demand for or use of groundwater. The Proposed Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table. Therefore, ***no impact*** related to substantial depletion of groundwater supplies or interference with groundwater recharge would result from project development. No mitigation is required.

*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?*

**Less Than Significant Impact with Mitigation Incorporated**. Within the Project Site, several drainages and a ditch segment have been mapped as components of the aquatic resource delineation. The Proposed Project would require grading within the proposed trail alignment as well as some areas of cut and fill. Post-construction stormwater management principles would be incorporated into proposed design, including the integration of berms and swales to minimize erosion and direct runoff.

Development of the Proposed Project would require ground disturbance within the proposed trail alignment, including areas of cut and fill. In addition, development of the Proposed Project would include the introduction of impermeable surfaces within the Rail Corridor with the potential to increase stormwater runoff volume and velocity. Post-construction stormwater management principles would be incorporated into proposed design, including the integration of berms and swales to minimize erosion and direct runoff. Implementation of **Mitigation Measure WR-1.1** from the SPTC MP EIR would ensure that storm water drainage design incorporates and complies with County-specified design standards. Therefore, impacts are considered ***less than significant with mitigation incorporated***.

*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 that would result in flooding on- or off-site?*

**Less Than Significant Impact with Mitigation Incorporated**. Within the Project Site, several drainages and a ditch segment have been mapped. Development of the Proposed Project would have the potential to result in impacts to these aquatic features. However, these aquatic features would not be altered in a way that would substantially increase the amount of surface runoff and result in flooding because these convey a minimal volume of water and are dry during the summer months when construction is most likely to occur. Development of the Proposed Project would involve the construction of approximately 2.2 miles of new impermeable surfaces, which would have the potential to result in an increase in the rate and/or volume of surface water runoff.

Development of the Proposed Project would require ground disturbance within the proposed trail alignment, including areas of cut and fill. In addition, development of the Proposed Project would include the introduction of impermeable surfaces within the Rail Corridor with the potential to increase stormwater runoff volume and velocity. Post-construction stormwater management principles would be incorporated into proposed design, including the integration of berms and swales to minimize erosion and direct runoff. Implementation of **Mitigation Measure WR-1.1** from the SPTC MP EIR would ensure that storm water drainage design incorporates and complies with County-specified design standards minimizing potential storm water-related impacts. Therefore, impacts are considered l***ess than significant with mitigation incorporated***.

*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?*

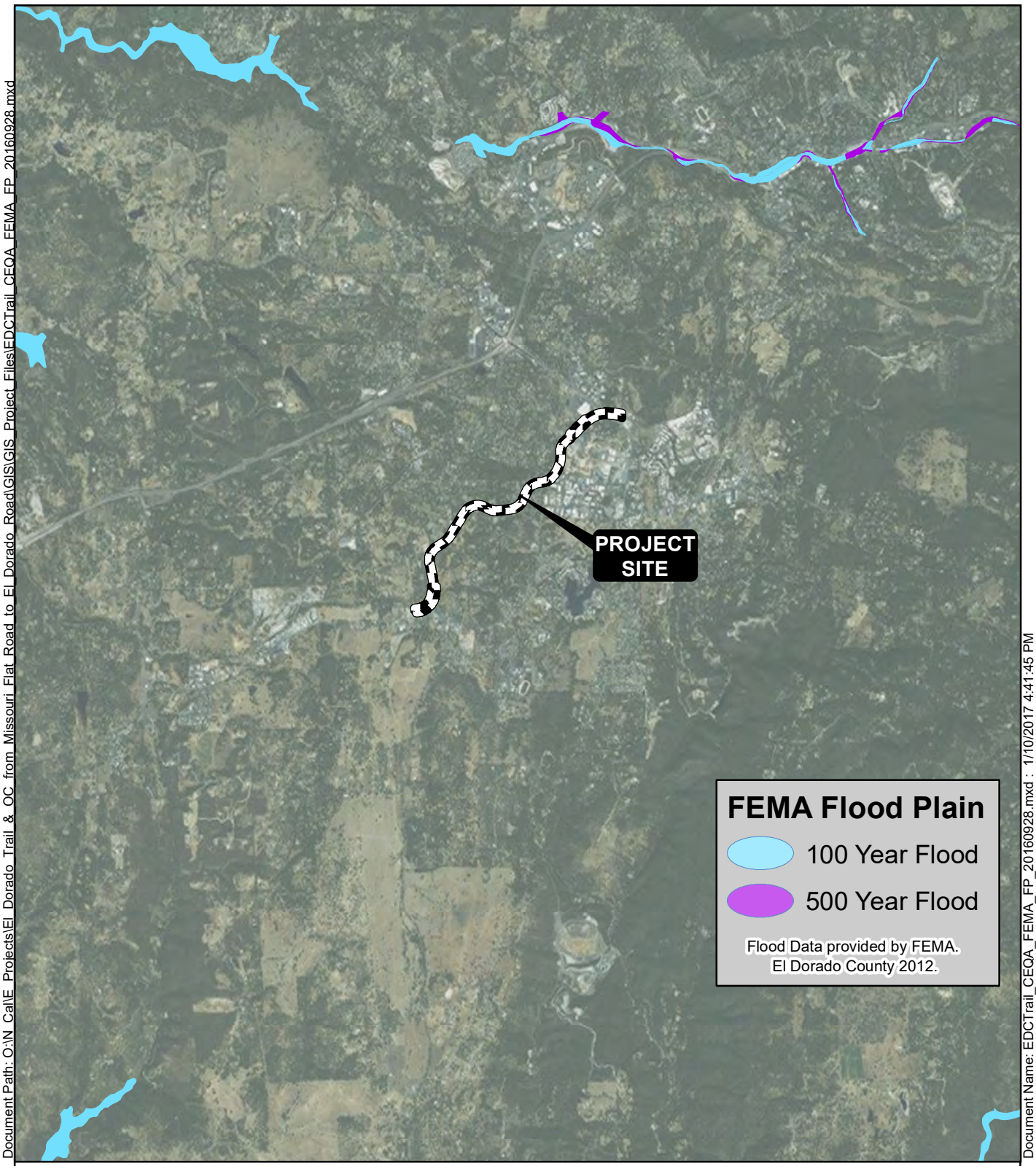
**Less Than Significant Impact**. Development of the Proposed Project would involve the construction of approximately 2.2 miles of new impermeable surfaces, which would have the potential to result in an increase in the rate and/or volume of surface water runoff. Proposed improvements would be used by pedestrians and bicyclists and are not anticipated to result in additional sources of pollutant runoff. Therefore, impacts are considered ***less than significant*** and no mitigation is required.

*f) Otherwise substantially degrade water quality?*

**Less Than Significant Impact**. Construction activities would involve ground disturbance and would therefore have the potential to result in erosion and sediment loss. Implementation, monitoring, and maintenance of construction and post-construction BMPs required to comply with existing enforceable County Ordinances, combined with compliance with current State and federal regulations and standards relevant to maintaining water quality objectives, would ensure that project development would not result in substantial erosion or siltation violating water quality standards and discharge requirements. Construction-related impacts related to project development are therefore considered ***less than significant****.*

*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?*

**No Impact**. The project alignment is not located within a FEMA-designated 100-year flood hazard area (**Figure 4.9-1**). Additionally, the Proposed Project would not involve residential development and would not place housing in special flood hazard areas. Therefore, ***no impact*** would result from project development and no mitigation is required.

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# EL DORADO TRAIL EXTENSION – MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING PROJECT FEMA MAPPED FLOOD ZONES

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE



N

0 0.5 1
Miles

1 inch = 1 miles

Drawn By: MUB
QA/QC:
Date: 01/1/2017

FIGURE 4.9-1

*h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?*

**No Impact**. The Project Site is not located within a FEMA-designated 100-year flood hazard area (**Figure 4.9-1**). Therefore, no structures would be placed within a FEMA-designated 100-year flood hazard area that would impede or redirect flood flows and project development would result in ***no impact*** related to impeding or redirecting flood flows within a FEMA-designated 100-year flood hazard area.

*i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of a failure of a levee or dam?*

**No Impact**. The Project Site is not located within the vicinity of a dam or levee. Therefore, project development would not expose people or structures to a significant risk of loss, injury, or death involving flooding resulting from levee or dam failure. ***No impact*** would result from development of the Proposed Project and no mitigation is required.

*j) Inundation by seiche, tsunami or mudflow?*

**No Impact**. The Project Site is not located near an ocean coast or enclosed body of water that could produce a seiche or tsunami, nor is the site located near areas having steep slopes that would create mudflows. Therefore, ***no impact*** would result from project development and no mitigation is required.

### *4.9.2. Mitigation Measures*

Implementation of **Mitigation Measures BIO-9.1** (see **Section 4.4.2**), **Mitigation Measure GEO-1.2** (see **Section 4.6.2**), and **Mitigation Measure WR-1.1** identified within the SPTC MP EIR (Jones & Stokes 2000) would reduce potential impacts to hydrology and water quality relevant to the Proposed Project:

**Mitigation Measure WR-1.1**: **Prepare Drainage Control Plan and Specifications**
During the design phase of each project, the applicant shall hire an expert to prepare the appropriate drainage control plan and specifications that satisfies El Dorado County standards. If applicable to the area included in the project, damaged or obstructed drainage crossings (i.e. culverts, pipes) that currently exist along in the corridor shall be evaluated by the project engineer for capacity and adequacy to provide drainage flow control. Changes to the potential for flooding would be minimized through the engineered design of flow control structure repair and new construction. The design of new or repaired infiltration following construction of new trail surfaces. Damaged or missing culverts and crossings would be replaced or repaired as necessary. All drainage flow

control structures would provide adequate capacity to pass flood flows to natural drainages.

## 4.10. Land Use and Planning

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| ***Would the Project:*** | | | | |
| 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? | ☐ | ☐ | ☐ | ☒ |

### *4.10.1. Impact Analysis*

*a) Physically divide an established community?*

**No Impact**. Proposed improvements would result in the development of 2.2 miles of Class I trail and a pedestrian overcrossing at Missouri Flat Road to tie into the previously constructed El Dorado Trail segment east of Missouri Flat Road. Project development would result in the development of a connecting segment of the El Dorado Trail for use by local community members as well as trail users within the region. Project development would not physically divide an established community. ***No impact*** would result from development of the Proposed Project and no mitigation is required.

*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?*

**No Impact**. The SPTC is a 53-mile segment of the Southern Pacific Railway Corporation's Placerville Branch railroad right-of-way (Rail Corridor) from Sacramento to Placerville, California. The SPTC Joint Powers Authority (SPTC – JPA) is a public entity formed in 1991 for the purpose of purchasing the SPTC and consists of four-member agencies: the County of El Dorado, the City of Folsom, the County of Sacramento, and the Sacramento Regional Transit District, and one Member-at-Large that serves on the SPTC - JPA Board of Directors.

The SPTC – JPA purchased the 53-mile Rail Corridor segment in 1996 for the purpose of preserving it for transportation uses and coordinating usage and maintenance by the member

agencies. Upon acquiring the Rail Corridor, the SPTC – JPA and its member agencies entered into a Reciprocal Use and Funding Agreement (RUFA) to establish the joint rights and responsibilities for the member agencies with respect to the ownership and use of the Rail Corridor. The RUFA allocates segments of the Rail Corridor among the SPTC – JPA member agencies; each member agency has primary usage rights and maintenance responsibility for its allocation of the Rail Corridor which has been granted through an easement to each member by the SPTC – JPA. The SPTC – JPA has railbanked[6] this portion of the Rail Corridor under the Rails to Trails Act and the corridor remains subject to the jurisdiction of the federal Surface Transportation Board.

The SPTC – JPA granted an Easement Agreement to the County of El Dorado dated September 6, 1996 allowing use of rail corridor between Milepost 94.3, in Sacramento, California to Milepost 147.6 in Placerville, California. Existing agreements for trail development are established within the SPTC. ***No impact*** related to conflicts with land use plans, policies, or regulations would result from development of the Proposed Project and no mitigation is required.

*c) Conflict with any applicable habitat conservation plan or natural community conservation plan?*

**No Impact**. There are no Habitat Conservation Plans, Natural Conservation Community Plans, or other adopted plans applicable to the Proposed Project. Therefore, ***no impact*** would result from development of the Proposed Project and no mitigation is required.

### *4.10.2. Mitigation Measures*

No mitigation is warranted.

[6] Railbanking, as defined by the National Trails System Act, 16 USC § 1247 (d), is a voluntary agreement between a railroad company and a trail agency to use an out-of-service rail corridor as a trail until a railroad might need the corridor again for rail service. Because a railbanked corridor is not considered abandoned, it can be sold, leased or donated to a trail manager without reverting to adjacent landowners (Rails to Trails Conservancy, accessed online May 24, 2015 - http://www.railstotrails.org/build-trails/trail-building-toolbox/railbanking/).

## 4.11. Mineral Resources

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

### *4.11.1. Impact Analysis*

*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?*

**Less than Significant Impact**. According to the Open File Report 2000-03, the County of El Dorado has approximately eleven permitted commercial mines that operate within El Dorado County (Busch 2001). According to the Mineral Resources Zone (MRZ) Map (Plate 5) in the Open File Report 2000-03, the Project Site is located within an MRZ 3a mineral resource area for gold (Busch 2001). MRZ 3a areas are classified as areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present (Busch 2001). However, the Project Site is located within the SPTC Rail Corridor and mineral extraction would not be permitted. Development of the Proposed Project would therefore not result in the loss of availability of a known mineral resource that would be of value to the region, and impacts to mineral resources of regional or statewide importance are considered ***less than significant*** and no mitigation is required.

*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?*

**No Impact**. As stated in the *El Dorado County General Plan*, *Conservation and Open Space Element*, Goal 7.2 provides for the protection of the County's mineral deposits. Objective 7.2.2 protects important mineral resources from incompatible development and outlines different General Plan designations that may be compatible with surface mining (County of El Dorado 2015a). The Project Site is not identified as an important Mineral Resource Area by Figure CO-1 in the General Plan and is not located within a mineral resource overlay on the County's General Plan land use map (County of El Dorado 2004). The Project Site would therefore not result in the loss of availability of a locally important mineral resource recovery site. Therefore, there would be ***no impact*** to mineral resources as a result of development of the Proposed Project and no mitigation is required.

### *4.11.2. Mitigation Measures*

No mitigation is warranted.

## 4.12. Noise

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| ***Would the Project:*** | | | | |
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or of applicable standards of other agencies? | ☐ | ☒ | ☐ | ☐ |
| b) Exposure of persons to or generation of excessive ground borne vibration or ground borne 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 area or, where such a plan has not been adopted, within two miles of a public airport or a 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? | ☐ | ☐ | ☐ | ☒ |

### *4.12.1. Impact Analysis*

*a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or of applicable standards of other agencies?*

**Less Than Significant with Mitigation Incorporated**. Development of the Proposed Project would involve construction of approximately 2.2 miles of an 8-foot wide paved Class 1 multi-use bicycle and pedestrian trail, extending approximately 2.2 miles, with 2-foot shoulders on either side and a bicycle/pedestrian overcrossing. The Proposed Project is located within the jurisdictional limits of El Dorado County and therefore must meet the noise level standards for the County.

The *El Dorado County General Plan, Public Health, Safety, and Noise Element* has established Goals and Policies relating to evaluating noise impacts due to construction projects (County of El Dorado 2015b). The underlying theme in the *Public Health, Safety, and Noise Element* is to protect County residents from any noise beyond those levels considered acceptable. The *Public Health, Safely, and Noise Element* establishes noise standards and maximum allowable noise exposure. Policy 6.5.11.11 identifies numerical standards applicable to construction noise levels affecting various land use types, as follows:

*Policy 6.5.1.1 The standards outlined in Tables 6-3, 6-4, and 6-5 shall not apply to those activities associated with actual construction of a project as long as such construction occurs between the hours of 7 a.m. and 7 p.m., Monday through Friday, and 8 a.m. and 5 p.m. on weekends, and on federally recognized holidays. Further, the standards outlined in Tables 6-6, 6-4, and 6-5 shall not apply to public projects to alleviate traffic congestion and safety hazards.*

**Table 4.12-1 — El Dorado County General Plan Table 6-3 – Maximum Allowable Noise Exposure for Non-Transportation Noise Sources in Community Regions and Adopted Plan Areas – Construction Noise**

| Land Use Designation[1] | Time Period | Noise Level (dB) | |
|---|---|---|---|
| | | $L_{eq}$ | $L_{max}$ |
| Higher Density Residential (MFR, HDR, MDR) | 7:00 AM – 7:00 PM | 55 | 75 |
| | 7:00 PM – 10:00 PM | 50 | 65 |
| | 10:00 PM – 7:00 AM | 45 | 60 |
| Commercial and Public Facilities (C, R&D, PF) | 7:00 AM – 7:00 PM | 70 | 90 |
| | 7:00 PM – 7:00 AM | 65 | 75 |
| Industrial (I) | Anytime | 80 | 90 |

[1] Adopted Plan areas should refer to the land use designations that most closely correspond to the similar General Plan land use designations for similar development.

**Table 4.12-2 — El Dorado County General Plan Table 6-4 — Maximum Allowable Noise Exposure for Non-Transportation Noise Sources in Rural Centers – Construction Noise**

| Land Use Designation | Time Period | Noise Level (dB) | |
|---|---|---|---|
| | | $L_{eq}$ | $L_{max}$ |
| All Residential (MFR, HDR, MDR) | 7:00 AM – 7:00 PM | 55 | 75 |
| | 7:00 PM – 10:00 PM | 50 | 65 |
| | 10:00 PM – 7:00 AM | 40 | 55 |
| Commercial, Recreation, and Public Facilities (C, TR, PF) | 7:00 AM – 7:00 PM | 65 | 75 |
| | 7:00 PM – 7:00 AM | 60 | 70 |
| Industrial (I) | Anytime | 70 | 80 |
| Open Space (OS) | 7:00 AM – 7:00 PM | 55 | 75 |
| | 7:00 PM – 7:00 AM | 50 | 65 |

**Table 4.12-3 — El Dorado County General Plan Table 6-5 – Maximum Allowable Noise Exposure for Non-Transportation Noise Sources in Rural Regions – Construction Noise**

| Land Use Designation | Time Period | Noise Level (dB) | |
|---|---|---|---|
| | | $L_{eq}$ | $L_{max}$ |
| All Residential (LDR) | 7:00 AM – 7:00 PM | 50 | 60 |
| | 7:00 PM – 10:00 PM | 45 | 55 |
| | 10:00 PM – 7:00 AM | 40 | 50 |
| Commercial, Recreation, and Public Facilities (C, TR, PF) | 7:00 AM – 7:00 PM | 65 | 75 |
| | 7:00 PM – 7:00 AM | 60 | 70 |
| Rural Land, Natural Resources, Open Space, and Agricultural Lands (RR, NR, OS, AL) | 7:00 AM – 7:00 PM | 65 | 75 |
| | 7:00 PM – 7:00 AM | 60 | 70 |

The noise environment within the vicinity of the Project Site is primarily defined by traffic noise emanating from Missouri Flat Road and El Dorado Road, and to a lesser extent noise levels at the nearest residences to the Project Site. Approximately 30 noise-sensitive receivers (residences) to the Project Site have been identified. The proximity of these receivers to the Project Site ranges from 60 to 330 feet (Bollard Acoustical Consultants, Inc. 2016).

It is anticipated that the construction-related noise levels would exceed the applicable County of El Dorado noise standards for residential uses at some of the closest residences (Bollard Acoustical Consultants, Inc. 2016). The Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) was utilized to model the various project equipment noise levels at the nearest noise-sensitive locations. For modeling purposes, the trail extension and overcrossing project operations were divided into three separate construction phases. Phase 1 represents construction activities that typically take place during the start of construction. Phase 2 represents construction activities that typically take place during the middle of construction. As summarized in **Table 4.12-4**, analysis of the project generated noise levels indicates that the construction-related noise levels would exceed the applicable County of El Dorado noise standards for residential uses at some of the closest residences (Bollard Acoustical Consultants, Inc. 2016).

**Table 4.12-4 — Summary of Predicted Construction Equipment Noise Levels at Nearest Noise-Sensitive Receivers**

| Receiver[1] | Distance to Project Area *(feet)* | Predicted Noise Levels (dBA) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | *Phase 1* | | | | *Phase 2* | | *Phase 3* | |
| | | *Trail Extension* | | *Overcrossing* | | *Trail Extension/ Overcrossing* | | *Trail Extension/ Overcrossing* | |
| | | $L_{eq}$ | $L_{max}$ | $L_{eq}$ | $L_{max}$ | $L_{eq}$ | $L_{max}$ | $L_{eq}$ | $L_{max}$ |
| 16 | 60 | 79 | 81 | 100 | 93 | 79 | 77 | 83 | 81 |
| 7 | 100 | 75 | 77 | 95 | 89 | 75 | 73 | 79 | 76 |
| 5 | 150 | 71 | 73 | 92 | 85 | 71 | 69 | 76 | 73 |
| 22 | 200 | 69 | 71 | 89 | 83 | 69 | 67 | 73 | 70 |
| 25 | 250 | 67 | 69 | 87 | 81 | 67 | 65 | 71 | 68 |
| 26 | 300 | 65 | 67 | 86 | 79 | 65 | 63 | 69 | 67 |
| 24 | 350 | 64 | 66 | 85 | 79 | 64 | 63 | 69 | 66 |

[1] See Attachment A for receiver locations (Bollard Acoustical Consultants, Inc. 2016).

Implementation of **Mitigation Measure Noise — 1** through **Mitigation Measure Noise — 5** would limit construction hours, require noise-muffling devices/barriers and/or separation for construction-related equipment, and requires noticing of construction schedules for residences adjacent to the project alignment prior to commencement of construction minimizing the potential for noise intrusion to local residents. Therefore, impacts are considered ***less than significant with mitigation incorporated****.*

*b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?*

**Less Than Significant with Mitigation Incorporated**. Construction of proposed improvements may result in vibration and groundborne noise and may have the potential to impact residents adjacent to the Project Site. Primary sources of groundborne noise are anticipated to result from the construction of the paved trail and overcrossing, which would involve construction equipment including, but is not limited to: crane, excavator, jackhammer, grader, front end loader, concrete mixer, roller, and paver (Bollard Acoustical Consultants, Inc. 2016).

Approximately 30 of the closest noise-sensitive receivers (residences) to the project area were identified (sensitive receivers within 60 to 330 feet of the project area) as part of the acoustical analysis conducted by Bollard Acoustical Consultants, Inc. The Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) was utilized to model the various project equipment noise levels at the nearest noise-sensitive locations. For modeling purposes, the trail extension and overcrossing project operations were divided into three separate construction phases. Phase 1 represents construction activities that typically take place during the start of construction. Phase 2 represents construction activities that typically take place during the middle of construction. Analysis of the project generated noise levels indicates that the construction-related noise levels would exceed the applicable County of El Dorado noise standards for residential uses at some of the closest residences (Bollard Acoustical Consultants, Inc. 2016). However, implementation of **Mitigation Measure Noise — 1** through **Mitigation Measure Noise — 5** would limit construction hours, require noise-muffling devices/barriers and/or separation for construction-related equipment, and requires noticing of construction schedules for residences adjacent to the project alignment prior to commencement of construction minimizing the potential for noise intrusion to local residents. Therefore, impacts are considered ***less than significant with mitigation incorporated***.

*c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*

**No Impact**. The noise environment in the project vicinity is primarily defined by traffic noise emanating from Missouri Flat Road and El Dorado Road, the local roadway network, and to a lesser extent by commercial and industrial uses in the vicinity. To quantify existing ambient noise levels at the nearest residence to the proposed construction area, BAC conducted short-term noise surveys September 9, 2016 (Bollard Acoustical Consultants, Inc. 2016). Short-term ambient noise monitoring results are shown in **Table 4.12-5**.

**Table 4.12-5 — Ambient Noise Monitoring Results Summary**

| Time of Day | Measured Noise Level (dBA) | | Noise Monitoring Locations |
|---|---|---|---|
| *Time* | $L_{eq}$ | $L_{max}$ | |
| 9:25 AM | 61 | 70 | Missouri Flat Road traffic, birds |
| 9:45 AM | 46 | 58 | Birds, industrial noise from nearby building |
| 10:06 AM | 42 | 53 | Motorcycle, distant traffic, aircraft |
| 10:29 AM | 50 | 59 | Forni Road traffic, barking dogs, aircraft |
| 10:53 AM | 45 | 54 | Forni Road traffic, aircraft |
| 11:13 AM | 45 | 60 | Blanchard Road traffic, chainsaw |
| 11:36 AM | 46 | 59 | Barking dogs, aircraft |
| 11:57 AM | 45 | 59 | Aircraft, birds |
| 1:53 PM | 42 | 54 | Pleasant Valley Road traffic |
| 2:15 PM | 50 | 59 | El Dorado Road traffic |

[1] Noise monitoring locations can be references in **Appendix F** (Bollard Acoustical Consultants 2016).

Measurement results indicate that ambient conditions in the immediate project vicinity are typical for semi-rural areas affected by local roadway noise (Bollard Acoustical Consultants, Inc. 2016).

Long-term operational use of the trail would include use by bicyclists and pedestrians. These uses currently occur on the existing informal trail within the project alignment and are consistent with the SPTC Master Plan. No additional noise is anticipated as a result of project development. ***No impact*** would result from the development of the Proposed Project and no mitigation is required.

*d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*

**Less Than Significant with Mitigation Incorporated**. The primary source of temporary increased ambient noise levels due to development of the Proposed Project would be construction noise, although construction noise would be temporary and intermittent. Approximately 30 of the closest noise-sensitive receivers (residences) to the project area were identified as part of the acoustical analysis conducted by Bollard Acoustical Consultants, Inc. The proximity of the sensitive receivers to the project area ranges from 60 to 330 feet. The FHWA RCNM was utilized to model the various project equipment noise levels at the nearest noise-sensitive locations. For modeling purposes, the trail extension and overcrossing project operations were divided into three separate construction phases. Phase 1 represents construction activities that typically take place during the start of construction. Phase 2 represents construction activities that typically take place during the middle of construction. Analysis of the project generated noise levels indicates that the construction-related noise levels would exceed the applicable County of El Dorado noise standards for residential uses at some of the closest residences (Bollard Acoustical Consultants, Inc. 2016). However, implementation of **Mitigation Measure Noise — 1** through **Mitigation Measure Noise — 5** would limit construction hours, require noise-muffling devices/barriers and/or separation for construction-related equipment, and

require noticing of construction schedules for residences adjacent to the project alignment prior to commencement of construction minimizing the potential for noise intrusion to local residents. Therefore, impacts are considered ***less than significant with mitigation incorporated***.

*e) For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

**No Impact**. The Proposed Project is not located within an airport land use plan area or within two miles of a public airport or public use airport. Therefore, trail users, as well as people working on the project would not be exposed to aircraft-related excessive noise levels. No residences are proposed as a component of the Proposed Project. ***No impact*** would result from development of the Proposed Project and no mitigation is required.

*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?*

**No Impact**. There are no private airstrips within the vicinity of the Project Site. Therefore, neither trail users nor people working in the Project Site would be exposed to any excessive aircraft-related noise levels. ***No impact*** would result from the development of the Proposed Project and no mitigation is required.

### *4.12.2. Mitigation Measures*

**Mitigation Measures NOISE — 1** through **NOISE — 5** are identified by the analyses within this IS/MND to reduce potential impacts related to noise to less than significant levels:

**Mitigation Measure NOISE — 1:** Project construction activities shall be limited to the hours of 7:00 A.M. and 7:00 P.M. (Monday through Friday), 8:00 A.M. and 5:00 P.M. (weekends), and on federally recognized holidays. Any exceptions to these hours shall be evaluated on a case-by-case basis and require approval by the County of El Dorado.

**Mitigation Measure NOISE — 2:** All internal combustion engines used for construction shall be fitted with manufacturer recommended mufflers.

**Mitigation Measure NOISE — 3:** Residents adjacent to proposed construction activities shall be given advanced notice of project construction schedules, and shall be notified that substantial temporary increases in local noise levels will occur during project construction.

**Mitigation Measure NOISE — 4:** Separation between construction staging areas and the nearest residences shall be maximized.

**Mitigation Measure NOISE — 5:** Generators and compressors required during project construction shall be located as far as possible from existing residents and, if necessary, shielded from view of those residences by portable noise barriers.

## 4.13. Population and Housing

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| ***Would the Project:*** | | | | |
| a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., 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? | ☐ | ☐ | ☐ | ☒ |

### *4.13.1. Impact Analysis*

*a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?*

**No Impact**. The Proposed Project does not propose any residential or commercial development. The Proposed Project would not indirectly induce population growth, as no employment-generating land uses would result from project development, nor would project development indirectly induce population growth due to the extension of roads or other infrastructure. Therefore, ***no impact*** would result from project development and no mitigation is required.

*b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*

**No Impact**. The Proposed Project is located within a 2.2-mile segment of the SPTC. No houses are present within the SPTC Rail Corridor and project development would therefore not displace any existing housing units. ***No impact*** would result from development of the Proposed Project and no mitigation is required.

*c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?*

**No Impact**. The Proposed Project is located within a 2.2-mile segment of the SPTC Rail Corridor and project development would not displace any people. ***No impact*** would result from development of the Proposed Project and no mitigation is required.

### *4.13.2. Mitigation Measures*

No mitigation is warranted.

## 4.14. Public Services

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| ***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 following public services:*** | | | | |
| a) Fire protection? | ☐ | ☒ | ☐ | ☐ |
| b) Police protection? | ☐ | ☒ | ☐ | ☐ |
| c) Schools? | ☐ | ☐ | ☐ | ☒ |
| d) Parks? | ☐ | ☐ | ☐ | ☒ |
| e) Other public facilities? | ☐ | ☐ | ☐ | ☒ |

### *4.14.1. Impact Analysis*

*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 following public services:*

*a) Fire protection?*

**Less Than Significant Impact with Mitigation Incorporated**. The Proposed Project is served by the El Dorado County Fire District. There are currently 15 stations operated by El Dorado County Fire District throughout the County. The Proposed Project is serviced by Station 28 in Shingle Springs and Station 25 in Placerville which are staffed 24 hours a day, seven days a week (EDCFD 2017). Cal Fire Station 43 within the Amador – El Dorado Unit is located just south of the Town of El Dorado (Cal Fire 2017).

The *El Dorado County General Plan, Health and Safety Element* contains objectives relating to fire protection (County of El Dorado 2015b). Goal 6.2.1 pertains to minimizing fire hazards and risks in urban and wildland areas. Objective 6.2.3 pertains to adequate fire protection and Objective 6.2.4 pertains to an area-wide fuel management program to reduce fire hazards. The Project Site is located within both moderate and high fire hazard severity zones as defined by Cal Fire (Cal Fire 2007).

Development of the Proposed Project would not result in increased population and residential structures, and a subsequent need for additional fire protection facilities. Development of the Proposed Project is not anticipated to result in a significant number of additional calls related to fire services or decreased response times for fire protective services. It is therefore anticipated

that existing fire protection facilities in El Dorado County would be able to provide fire protection services for the Proposed Project and maintain acceptable service ratios, response times, and performance objectives.

Implementation of **Mitigation Measures PHS-2.1** and **T-1.1** from the SPTC MP EIR would ensure that emergency vehicle access is provided. Therefore, impacts to fire protection services are considered ***less than significant with mitigation incorporated***.

*b) Police protection?*

**Less Than Significant Impact with Mitigation Incorporated**. Police protection services within the vicinity of the Proposed Project are provided by the El Dorado County Sheriff's Department. In addition, the *El Dorado County General Plan*, *Services and Utilities Element* contains policies relating to police protection (County of El Dorado 2015c). Under Policy 5.7.3.1, all new development shall be reviewed by the Sheriff's Department to determine the ability of the department to provide protection services. If adequate protection services are not available for new development then additional equipment, facilities, and adequate access may be incorporated as conditions for project approval.

The Proposed Project would not involve residential development and would not result in an increase in population. Trail use would be limited to the hours between dawn and dusk. Development of the Proposed Project is not anticipated to result in a significant number of additional calls or decreased response times for police protective services.

Implementation of **Mitigation Measures PHS-2.1** and **T-1.1** from the SPTC MP EIR would ensure that emergency vehicle access is provided. Therefore, impacts related to the provision of police protection services are considered ***less than significant with mitigation incorporated***.

*c) Schools?*

**No Impact**. The Proposed Project would involve construction of a multi-use Class I bicycle and pedestrian trail and bicycle/pedestrian overcrossing within the SPTC Rail Corridor. Residential areas surrounding the Project Site are served by the Mother Lode Union School District and the El Dorado Union High School District. The Mother Lode Union School District serves kindergarten through 8$^{th}$ grade students. The El Dorado Union High School District services 9$^{th}$ through 12$^{th}$ grade students (EDCOE 2017). Development of the Proposed Project would not involve residential development and would not result in increased population and the associated potential need for educational facilities. Therefore, ***no impact*** related to school facilities would result from project development and no mitigation is required.

*d) Parks?*

**No Impact**. Development of the Proposed Project would involve construction of approximately 2.2 miles of a multi-use Class I bicycle and pedestrian trail and bicycle/pedestrian overcrossing within the SPTC Rail Corridor. The Proposed Project would provide additional recreation opportunities in El Dorado County to meet the needs to the local community and cycling enthusiasts and trail users within the region. Development of the Proposed Project would not

involve residential development or employment-generating land uses and would therefore not result in increased population and demand for recreational facilities. Implementation of the Proposed Project is expected to provide increased recreational use for pedestrians and bicyclists. Therefore, there would be ***no impact*** related to park facilities resulting from project development and no mitigation is required.

*e) Other public facilities?*

**No Impact**. The Proposed Project would not involve residential development and would not result in increased population. Therefore, ***no impact*** related to other public facilities such as hospitals or libraries would result from project development and no mitigation is required.

### *4.14.2. Mitigation Measures*

Implementation of **Mitigation Measures T-1.1** (see **Section 4.16.2**) and **Mitigation Measure WR-1.1** identified within the SPTC MP EIR (Jones & Stokes 2000) would reduce potential impacts to public services relevant to the Proposed Project:

**Mitigation Measure PHS-2.1:** **Provide Emergency Vehicle Access**
Controlled vehicle access shall be provided to allow emergency vehicle access to within 0.25 mile of any developed portion of the corridor.

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## 4.15. Recreation

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| ***Would the Project:*** | | | | |
| a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | ☐ | ☐ | ☐ | ☒ |
| b) Include recreational facilities, or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment? | ☐ | ☒ | ☐ | ☐ |

### *4.15.1. Impact Analysis*

*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?*

**No Impact**. Development of the Proposed Project would result in the construction of recreational facilities for public access/use and would not increase the use of other recreational facilities or parks. Therefore, ***no impact*** would result from development of the Proposed Project.

*b) Include recreational facilities, or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?*

**Less Than Significant with Mitigation Incorporated**. As discussed throughout this document, construction of the Proposed Project would have the potential to result in adverse physical effects on the environment related to **Air Quality**, **Biological Resources**, **Cultural Resources**, **Geology and Soils**, **Hazards and Hazardous Materials**, **Hydrology and Water Quality**, **Noise**, **Public Services**, **Transportation/ Traffic**, and **Utilities and Service Systems**. However, mitigation measures are proposed to reduce potentially significant effects resulting from implementation of the Proposed Project to less than significant levels and impacts are therefore considered ***less than significant with mitigation incorporated***.

### *4.15.2. Mitigation Measures*

Compliance with mitigation measures for **Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Public Services, Transportation/ Traffic**, and **Utilities and Service Systems** would reduce potential impacts to a less than significant level.

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## 4.16. Transportation/ Traffic

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| ***Would the Project:*** | | | | |
| a) Cause an increase in traffic that 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)? | ☐ | ☒ | ☐ | ☐ |
| b) Exceed, either individually or cumulatively, a level of service standard 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) Result in inadequate parking capacity? | ☐ | ☒ | ☐ | ☐ |

### *4.16.1. Impact Analysis*

*a) Cause an increase in traffic that 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)?*

**Less Than Signification with Mitigation Incorporated**. According to the *El Dorado County General Plan, Circulation Element* almost 90 percent of all trips within the County are made by automobile (County of El Dorado 2016a). The County is comprised of a rural roadway network with U.S. Highway 50 as the primary transportation corridor running east to west, resulting in elevated automobile use (County of El Dorado 2016a). The Proposed Project aligns with Goal TC-4 of the *El Dorado County General Plan, Circulation Element* to promote alternative modes of transportation that are safe, continuous, and easily accessible for non-motorized

transportation by developing direct connection between trail segments separated by a roadway eliminating the need for trail users to divert from the trail to the nearest signalized intersection.

Policy TC-1w of the *El Dorado County General Plan, Circulation Element* requires parking consideration for improvements to existing roads necessitated by new development (County of El Dorado 2016a). Parking currently exists along Oriental Street at the western end of the Project Site and within an existing parking lot for trail users east of Missouri Flat Road. Construction of the overcrossing would necessitate the relocation of the existing parking lot. A new parking lot is currently proposed as a component of the Diamond Springs Parkway Project, approximately 0.14 miles southeast of the existing parking lot east of Missouri Flat Road. Implementation of **Mitigation Measure T-2.1** from the SPTC MP EIR would ensure that parking design incorporates and complies with County-specified design standards.

Development of the Proposed Project would not conflict with any other components of the circulation system such as existing intersections, streets, highways, freeways, or mass transit. Project development would not conflict with any existing adopted plans, ordinances, or policies establishing performance standards. However, project development would be required to comply with **Mitigation Measure T-2.1** from the SPTC MP EIR. Therefore, impacts considered ***less than significant with mitigation incorporated***.

*b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?*

**No Impact**. Development of the Proposed Project would not result in changes in vehicle circulation patterns nor would it increase vehicle trips in the project vicinity. The Proposed Project would not conflict with applicable congestion management programs, plans, or other established congestion management standards. Therefore, ***no impact*** would result from development of the Proposed Project and no mitigation is required.

*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?*

**No Impact**. Development of the Proposed Project would not result in a change in air traffic patterns. Therefore, ***no impact*** would result from development of the Proposed Project and no mitigation is required.

*d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

**Less Than Significant with Mitigation Incorporated**. Development of the Proposed Project would require two road crossings, one proposed at Forni Road and another at Blanchard Road. The Forni Road crossing would include a High-Intensity Activated Cross Walk (HAWK) Signal, and the Blanchard Road crossing would utilize a flashing beacon crossing system. Both crossings would follow the California MUTCD 2014 design standards, including additional signage and/or striping to ensure that the design features would not increase hazards.

Rail crossings are proposed at Oriental Street, and near Blanchard Road and Forni Road. Each rail crossing would be adequately posted with warning signs and pavement delineations for both trail users and railroad operators in accordance with **Mitigation Measure PHS-4.2** from the SPTC MP EIR, thereby reducing impacts to hazards due to a design features to ***less than significant with mitigation incorporated***.

*e) Result in inadequate emergency access?*

**Less Than Significant with Mitigation Incorporated.** The proposed trail extension would include development of an 8-foot wide paved Class 1 multi-use bicycle and pedestrian trail, extending approximately 2.2 miles, with 2-foot shoulders on either side and a bicycle/pedestrian overcrossing. Emergency vehicle access would also be available along multiple road points of the trail at Oriental Street, Forni Road, and Blanchard Street. Project development would not involve temporary road or lane closures during construction or operation and no emergency access routes would be affected by the project. Implementation of **Mitigation Measure PHS-2.1** from the SPTC MP EIR would ensure that emergency vehicle access is provided. In addition, implementation of **Mitigation Measure T-1.1** would require the County to develop a Traffic Safety Plan and Road Improvement Plan to ensure public safety and ensure that construction activities do not impede emergency access. Therefore, impacts related to emergency access are considered ***less than significant with mitigation incorporated***.

*f) Result in inadequate parking capacity?*

**Less Than Significant With Mitigation Incorporated**. Project development would facilitate use of the SPTC Rail Corridor as an alternative transportation corridor promoting multiple alternative modes of transportation. The SPTC Master Plan identifies multiple uses for the Rail Corridor including bicycle and pedestrian trails. Development of the Proposed Project is therefore consistent with the SPTC Master Plan and *El Dorado County, General Plan, Transportation and Circulation Element* (County of El Dorado 2016a). Specifically, the Proposed Project is consistent with Goal TC-4 of the General Plan that promotes alternative transportation modes that are safe, continuous, and easily accessible. However, development of the Proposed Project and associated trail use would result in an increased demand for parking in trail-accessible areas within the SPTC. Implementation of SPTC MP EIR **Mitigation Measure T-2.1** would require the preparation of a parking management plan that assesses parking demand, assesses current parking availability, and provides plans for provision of adequate parking to meet the need for trail-related parking. Therefore, impacts associated with development of the Proposed Project are considered ***less than significant with mitigation incorporated***.

Implementation of **Mitigation Measure T-2.1** would require the County to provide a plan for provision of adequate parking to meet the need for trail-related parking reducing potential impacts to less than significant levels.

### *4.16.2. Mitigation Measures*

Implementation of **Mitigation Measures PHS-2.1** (see **Section 4.14.2**) and **PHS-4.2**, **T-1.1**, and **T-2.1** identified within the SPTC MP EIR (Jones & Stokes 2000) would reduce potential impacts to transportation and traffic relevant to the Proposed Project:

**Mitigation Measure PHS-4.2:** **Implement Safety Trail Measures**

Where pedestrian, bicycle, and natural trails cross roadways along the corridor, the project proponent [County] shall:

- Provide adequate signage and other warning features, such as flashing lights or signalized intersection/4-way stops, along the respective roadways at trail crossings; and
- Provide crosswalk striping along the roadway.

**Mitigation Measure T-1.1:** **Prepare and Implement a Construction Management Plan**

The applicant shall prepare a construction management plan (CMP) during the final design state of the project and implement it during the actual construction phase of the proposed master plan. The CMP shall include a comprehensive traffic/transportation plan that would include the following:

- Traffic Safety Plan: This plan would address the appropriate vehicle size and speed, travel routes, detour or lane closure plans, flagperson requirements, location of turnouts to be constructed, coordination with law enforcement and fire control agencies, emergency access to ensure public safety, and need for traffic and speed limit signs.
- Road Improvement Plan: This plan would identify road segments, bridges and culverts that need to be improved and turnout locations that need to be constructed to accommodate project construction, maintenance, and operational activities. The plan would also identify damage caused by construction vehicles that would need to be repaired.

**Mitigation Measure T-2.1:** **Prepare and Implement a Parking Assessment**

At the time of submittal of individual projects, the applicant shall prepare a parking management plan that assesses parking demand, assesses current parking availability, and provides plans for provision of adequate parking to meet the need for trail-related parking. The parking management plan shall be prepared under the guidance of the County's Department of Transportation. This mitigation measure applies to trail projects only.

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## 4.17. Tribal Cultural Resources

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| ***Would the Project:*** | | | | |
| a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 at either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: | | | | |
| I. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or<br>II. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth set forth in subdivision (c) of Public Resource Section 5021.1, the lead agency shall consider the significance of the resource to a California Native American tribe. | ☐ | ☒ | ☐ | ☐ |

### *4.17.1. Impact Analysis*

*a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 at either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:*

*I. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or*

*II. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth set forth in subdivision (c) of Public Resource Section 5021.1, the lead agency shall consider the significance of the resource to a California Native American tribe.*

**Less Than Significant with Mitigation Incorporated**. No known tribal resources are present within the Project Site. In accordance with AB 52, the County of El Dorado sent Formal Notification to tribes who had requested notification on August 17, 2016. Notification was sent out via certified mail and email. The United Auburn Indian Community (UAIC) and Shingle Springs Band of Miwok Indians requested a field meeting. A field meeting was scheduled for Monday, October 24, 2016 and was attended by County of El Dorado staff, Senior Regulatory Specialist Kyrsten Shields from Foothill Associates, and Marcella Ernest of the UAIC. During the field meeting, key areas for review were discussed with Ms. Ernest and she was given a tour of the SPTC Rail Corridor in areas of interest. Ms. Ernest was also taken to the pedestrian/overcrossing location. In summary, Ms. Ernest noted that there were no project-related tribal concerns.

Additional tribal coordination efforts were implemented in January 2017 as part of the procedures required to prepare the Archaeological Survey Report for the Proposed Project. Initially, the Native American Heritage Commission (NAHC) was contacted with a request for a sacred lands file search. The file search was negative; no Native American cultural resources were on file within the vicinity of the Proposed Project. The NAHC provided a list of native American contacts including seven tribal contacts, who were all contacted via written correspondence and telephone follow-up. UAIC Chairperson Gene Whitehouse expressed concerns for development in general and requested copies of archaeological reports and environmental documents. Chairperson Whitehouse also recommended that UAIC tribal representatives observe and participate in all cultural resource surveys, expressed a desire for the UAIC preservation committee to set up a meeting or site visit, and recommended tribal monitors during any ground-disturbing activity.

Although no tribal cultural resources are known to be present within the Project Site, ground-disturbing activities would have the potential to inadvertently unearth or otherwise disturb current unknown historical or archaeological resources. Implementation of **Mitigation Measure CR — 2** would require that the County of El Dorado be immediately contacted, and a qualified archaeologist would be retained to document the find, assess its significance, and recommend further treatment. Impacts are therefore considered ***less than significant with mitigation incorporated***.

Compliance with **Mitigation Measure CR — 2** and **Mitigation Measure CR — 4** would reduce potential impacts to a less than significant level. Compliance with **Mitigation Measure CR — 2** would require construction activities to cease in the event of inadvertent discovery of historical or archaeological resources and would require that the County of El Dorado be immediately contacted for inadvertent discovery of resources associated with project construction. In the event of inadvertent discovery of historical or archaeological resources, **Mitigation Measure CR**

**— 2** would require coordination with County of El Dorado and the project archaeologist to assist with the proper treatment of discovered resources. Compliance with **Mitigation Measure CR — 4** would require coordination with the El Dorado County Coroner in compliance with CEQA (Section 1064.5) and the California Health and Safety Code (Section 7050.5), as well as the Native American Heritage Commission who will notify and appoint a Most Likely Descendent (MLD), thereby reducing potential impacts to less than significant levels.

### *4.17.2. Mitigation Measures*

Compliance with project-specific **Mitigation Measures CR — 2** and **Mitigation Measure CR — 4** (see **Section 4.5.2**) would reduce potential impacts to less than significant levels.

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## 4.18. Utilities and Service Systems

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| ***Would the Project:*** | | | | |
| 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 that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments? | ☐ | ☐ | ☐ | ☒ |
| 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? | ☐ | ☐ | ☒ | ☐ |

### *4.18.1. Impact Analysis*

*a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?*

**No Impact**. Implementation of the Proposed Project would result in the development of 2.2 miles of Class 1 multi-use bicycle and pedestrian trail, within the SPTC Rail Corridor from

northwest of Southern Pacific Railroad milepost 143 to east of Southern Pacific Railroad Milepost 144, including a 12-foot-wide bike/pedestrian overcrossing to connect the El Dorado Trail at its existing terminus just east of Missouri Flat Road. The Proposed Project would not include the construction of any wastewater-generating uses. Therefore, ***no impact*** would result from development of the Proposed Project and no mitigation is required.

*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?*

**No Impact**. Development of the Proposed Project would not increase population in the project vicinity. Development of the Proposed Project would not result in the need for new or expanded water or wastewater facilities or the need for expansion of existing facilities. Therefore, ***no impact*** would result from development of the Proposed Project and no mitigation is required.

*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?*

**Less Than Significant with Mitigation Incorporated**. The construction of new stormwater facilities or the expansion of existing facilities would not be required. Development of the Proposed Project would require grading within the proposed trail alignment as well as some areas of cut and fill. In addition, development of the Proposed Project would include the introduction of impermeable surfaces within the Rail Corridor with the potential to increase stormwater runoff volume and velocity. Post-construction stormwater management principles would be incorporated into proposed design, including the integration of berms and swales to minimize erosion and direct runoff. Implementation of **Mitigation Measure WR-1.1** from the SPTC MP EIR would ensure that storm water drainage design incorporates and complies with County-specified design standards minimizing potential storm water-related impacts. Therefore, impacts are considered ***less than significant with mitigation incorporated***.

*d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?*

**No Impact**. Development of the Proposed Project would not result in the need for new or expanded water supplies. ***No impact*** would result from development of the Proposed Project and no mitigation is required.

*e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?*

**No Impact**. The Proposed Project would not generate the need for wastewater treatment capacity and would not increase population in the project vicinity. Development of the Proposed Project would not result in the need for new or expanded wastewater facilities. ***No impact*** would result from development of the Proposed Project and no mitigation is required.

*f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?*

**Less Than Significant Impact**. The Lockwood Landfill, which is in Storey County, Nevada is the permitted landfill facility handling solid waste disposal for El Dorado County (EDAW, Inc. 2003). Project construction may generate construction debris. This would not affect landfill capacity because the amounts would not be substantial and would occur only during the construction period. Therefore, impacts associated with development of the Proposed Project are considered ***less than significant*** and no mitigation is required.

*g) Comply with federal, state and local statutes and regulations related to solid waste?*

**Less Than Significant Impact**. There are no solid waste disposal sites in El Dorado County (EDAW, Inc. 2003). Collected solid waste is taken to a Material Recovery Facility/Transfer Station. The Lockwood Landfill, which is located in Storey County, Nevada is the permitted landfill facility handling unrecyclable solid waste disposal for El Dorado County (EDAW, Inc. 2003). Project-related construction activities may generate construction debris. However, it is not anticipated that project-related construction debris would substantially impact landfill capacity as debris would only be generated during construction and over a short period of time, and the anticipated overall volume would be minimal in comparison to existing permitting capacity. Therefore, impacts associated with development of the Proposed Project are considered ***less than significant*** and no mitigation is required.

### *4.18.2. Mitigation Measures*

Implementation of **Mitigation Measure WR-1.1** (see **Section 4.9.2**) identified within the SPTC MP EIR (Jones & Stokes 2000) would reduce potential impacts to utilities and service systems to a less than significant level.

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## 4.19. Mandatory Findings of Significance

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| ***Does the Project:*** | | | | |
| a) 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 rare or endangered plants or animals, or eliminate important examples of the major periods of California history or prehistory? | ☐ | ☒ | ☐ | ☐ |
| b) 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) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly? | ☐ | ☒ | ☐ | ☐ |

### *4.19.1. Impact Analysis*

*a) 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 rare or endangered plants or animals, or eliminate important examples of the major periods of California history or prehistory?*

**Less Than Significant with Mitigation Incorporated**. Implementation of the Proposed Project would have the potential to degrade the quality of the existing environment. Potential impacts have been identified related to **Air Quality**, **Biological Resources**, **Cultural Resources**, **Geology and Soils**, **Hazards and Hazardous Materials**, **Hydrology and Water Quality**, **Noise**, **Public Services**, **Recreation**, **Transportation/ Traffic**, **Tribal Cultural Resources**, and **Utilities and Service Systems**. Proposed mitigation measures would reduce the level of all project-related

impacts to less than significant levels. Therefore, impacts are considered ***less than significant with mitigation incorporated***.

*b) 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.*

**Less Than Significant with Mitigation Incorporated**. Implementation of the proposed 2.2 miles of paved Class 1 multi-use bicycle and pedestrian trail and bike/pedestrian overcrossing would facilitate the development of recreational uses proposed by and pursuant to the standards established by the SPTC Master Plan.

Project development would facilitate use of the SPTC Rail Corridor as an alternative transportation corridor promoting multiple alternative modes of transportation. The SPTC Master Plan identifies multiple uses for the Rail Corridor including bicycle and pedestrian trails. Development of the Proposed Project is therefore consistent with the SPTC Master Plan and the *El Dorado County General Plan*, *Transportation and Circulation Element* (County of El Dorado 2016a). Specifically, the Proposed Project is consistent with Goal TC-4 of the General Plan that promotes alternative transportation modes that are safe, continuous, and easily accessible.

Where applicable, this Initial Study, identifies mitigation measures by individual resource area as relevant to potential environmental impacts resulting from development of the Proposed Project. Mitigation Measures are proposed to reduce all project-related impacts to less than significant levels; therefore, impacts are considered ***less than significant with mitigation incorporated***.

*c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?*

**Less Than Significant With Mitigation Incorporated**. Implementation of the Proposed Project would have the potential to result in substantial adverse effect on human beings. Potential impacts have been identified related to **Air Quality**, **Biological Resources**, **Cultural Resources**, **Geology and Soils**, **Hazards and Hazardous Materials**, **Hydrology and Water Quality**, **Noise**, **Public Services**, **Recreation**, **Transportation/ Traffic**, **Tribal Cultural Resources**, and **Utilities and Service Systems**. Proposed mitigation measures would reduce the level of all project-related impacts to less than significant levels. Therefore, impacts are considered ***less than significant with mitigation incorporated***.

## 5.0 CEQA DETERMINATION

Pursuant to Section 15063, CEQA Guidelines, County of El Dorado has utilized an Environmental Checklist to evaluate the potential environmental effects of the Proposed Project. The checklist provides a determination of these potential impacts and includes the substantiation developed in support of the conclusions checked on this form.

On the basis of this initial evaluation:

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

☒ I find that although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on the attached sheets have been added to the Project (see previous pages). A MITIGATED NEGATIVE DECLARATION will be prepared.

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

☐ I find that the Proposed Project MAY have a significant effect on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based upon the earlier analysis as described on attached sheets, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that, although the Proposed Project could have a significant effect on the environment, there will NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Proposed Project. Nothing further is required.

Signature _____ Date 9/27/2017

Name and Title: Donna Keeler
Principal Planner

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# 6.0 REPORT PREPARATION

## 6.1. Lead Agency

### *6.1.1. County of El Dorado*

Donna Keeler
Principal Planner
County of El Dorado
Community Development Services
Department of Transportation
2850 Fairlane Court
Placerville, CA 95667
Phone: (530) 621-3829
Fax: (530) 626-0387
Email: donna.keeler@edcgov.us

## 6.2. Consultant Staff

### *6.2.1. Bollard Acoustical Consultants, Inc.*

Paul Bollard, President

### *6.2.2. Cogstone Resource Management, Inc.*

Molly Valasik, Registered Professional Archaeologist

### *6.2.3. Foothill Associates*

Kyrsten Shields, Project Manager, Principal, Senior Regulatory Specialist
Meredith Branstad, Principal Biologist
Charlotte Marks, Biologist
Candice Guider-Heitmann, Regulatory Specialist
Michael Brewer, GIS Specialist
Ann Marie Perozzi, Graphics Design & Mapping

### *6.2.4. InContext*

Trish Fernandez, Registered Professional Archaeologist

### *6.2.5. KD Anderson and Associates, Inc.*

Wayne Shijo, Traffic Consultant

### *6.2.6. Windmiller Consulting, Inc.*

Ric Windmiller, Registered Professional Archaeologist

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# 7.0 REFERENCES


Bollard Acoustical Consultants, Inc. 2016. *Construction Noise Analysis El Dorado Trail Extension & Missouri Flat Road Bike/Pedestrian Overcrossing, El Dorado County, California*. Prepared for: Foothill Associates. November 10, 2016.

Bryant W.A. and Hart E. W. 2007. S*pecial Publication 42: Fault-Rupture Hazard Zones in California*. Interim Revision 2007. Available online: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sp/Sp42.pdf. [Accessed: 01/06/2017].

Busch, L. L. 2001. *Mineral Land Classification of El Dorado County, California*, California Geological Survey Open-File Report 2000-03. 2001. Available Online at: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/OFR_2000-03/OFR_2000-03_Text.pdf. [Accessed 12/30/2016].

California Air Resources Board (CARB). 2006. *In-Use Off-Road Diesel Vehicle Rule Workshop Presentation Material*. Sacramento, CA.

CARB. 2016. California Air Resources Board Website. Available online at: http://www.arb.ca.gov.

California Department of Conservation. 2000. *Areas More Likely to Contain Natural Occurrences of Asbestos in Western El Dorado County, California*. Sacramento, CA.

California Department of Conservation, Division of Land Resource Protection. 2012. *Farmland Mapping and Monitoring Program (FMMP) Data*.

California Department of Fish and Wildlife (CDFW). 2016a. California Natural Diversity Database (CNDDB), Biogeographic Data Branch, Department of Fish and Wildlife. *Aukum, Camino, Coloma, Fiddletown, Garden Valley, Latrobe, Placerville, Shingle Springs,* and *Slate Mountain* U.S. Geological Survey (USGS) 7.5-minute series quadrangle (quadrangle)), Sacramento, CA. [Accessed on 09/13/2016 and 10/13/2016].

CDFW. 2016b. *California Wildlife Habitat Relationships System* (CWHR): *Life History Accounts and Range Maps*. Available online at: http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. [Accessed on 09/15/16].

California Department of Forestry and Fire Protection (Cal Fire). 2007. *Fire Hazard Severity Zones in SRA, El Dorado County*, November 7, 2007. Available Online at: http://www.fire.ca.gov/fire_prevention/fhsz_maps_eldorado. [Accessed 01/09/2017].

Cal Fire. 2017. *Cal Fire Stations and Contacts*. Available Online at: http://calfire.ca.gov/contacts/station?SID=698. [Accessed 01/10/2017].

California Department of Toxic Substances Control (CDTSC). 2017a. *Hazardous Waste and Substances Site List- Site Cleanup (Cortese List)*. Available online at: http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm. [Accessed 01/17/2017].

CDTSC. 2017b. *Envirostor Data Base*. Available online at: www.envirostor.dtsc.ca.gov. [Accessed 01/16/2017].

California Department of Transportation (Caltrans). 2016. *California Department of Transportation Officially Designated State Scenic Highways*. December 29, 2016. Available online at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm. [Accessed 12/29/16].

California Native Plant Society (CNPS). 2016. *Online Electronic Inventory of Rare and Endangered Vascular Plants of California*. Online edition, v8-02. *Aukum, Camino, Coloma, Fiddletown, Garden Valley, Latrobe, Placerville, Shingle Springs,* and *Slate Mountain* quadrangles. Available online at http://www.cnps.org/cnps/rareplants/inventory.

California State Transportation Agency, Department of Transportation. 2014. California Manual on Uniform Traffic Control Devices, 2014 Edition. Available Online at: http://www.dot.ca.gov/trafficops/camutcd/camutcd2014rev1.html. [Accessed 12/29/16].

County of El Dorado. 2004. *Western El Dorado County, Storm Water Management Plan*, 2004. Available online: https://www.edcgov.us/DOT/swmp.aspx. Proposed Final August 2004. [Accessed 01/06/2017].

County of El Dorado. 2012. *El Dorado County Parks and Trails Master Plan*, March 27, 2012. Available online at: http://www.edcgov.us/Government/Parks/MasterPlan.aspx.

County of El Dorado. 2010. *El Dorado County Grading, Erosion, and Sediment Control Ordinance*. Revised August 10, 2010. Available Online at: https://www.edcgov.us/Building/Grading_Permit.aspx#codes. [Accessed 01/06/2017].

County of El Dorado. 2015a. *El Dorado County General Plan: Conservation and Open Space*, July 19, 2004, Amended December 2015. Available online: https://www.edcgov.us/Government/Planning/Adopted_General_Plan.aspx. [Accessed 12/29/2016].

County of El Dorado. 2015b. *El Dorado County General Plan: Public Health, Safety, and Noise Element*, July 2004, Amended December 2015. Available Online at: https://www.edcgov.us/Government/Planning/Adopted_General_Plan.aspx. [Accessed 01/09/2017].

County of El Dorado. 2015c. *El Dorado County General Plan: Public Utilities and Services Element*, July 2004, Amended December 2015. Available Online at: https://www.edcgov.us/Government/Planning/Adopted_General_Plan.aspx. [Accessed 01/09/2017].

County of El Dorado. 2016a. *El Dorado County General Plan: Transportation and Circulation Element*, July 19, 2004, Amended July 2016. Available Online at: https://www.edcgov.us/Government/Planning/Adopted_General_Plan.aspx. [Accessed 01/09/2017].

County of El Dorado. 2016b. *County of El Dorado Parcel Data Information*. Available Online at: http://edcapps.edcgov.us/Planning/parceldatainfo.asp. [Accessed 12/29/16].

County of El Dorado. 2016. *Solid Waste Collection and Disposal*. Available Online at: http://www.edcgov.us/EMD/SolidWaste/Solid_Waste_Collection_and_Disposal.aspx. [Accessed 12/28/16].

Davis, Caroline J. 1998. *Western Pond Turtle (Clemmys marmorata pallida) Winter Habitat Use and Behavior*. San Jose State University. Accessed from www.elkhornsloughctp.org.

EDAW, Inc. 2003. *El Dorado County General Plan Draft Environmental Impact Report, State Clearinghouse No. 2001082030*. May 2003.

El Dorado County Fire District (EDCFD). 2017. *El Dorado County Fire District "About the District."* Available Online at: http://www.eldoradocountyfire.com/district/aboutus.html. [Accessed 01/09/2017].

El Dorado County Office of Education (EDCOE). 2017. *Districts and Schools Listings and Boundaries*. Available Online at: http://edcoe.org/districts-and-schools/districts-and-schools-listings. [Accessed 01/09/2017].

El Dorado County Transportation Commission, Fehr and Peers Associates, Inc., and Jones and Stokes Associates, Inc. 2003. *Sacramento-Placerville Transportation Corridor Master Plan*. February 25, 2003. Available online: http://www.edctc.org/C/SPTC/Analysis/EDC_SPTC_Master_Plan_2003.pdf. [Accessed 09/27/2016].

El Dorado County Transportation Commission. 2010. *El Dorado County Bicycle Transportation Plan*. November 9, 2010. Available online at: http://www.edctc.org/3/CountyBikePlan2010.html.

El Dorado County Transportation Commission. 2014. *Diamond Springs and El Dorado Area Mobility and Livable Community Plan*. February 28, 2014. Available online at: http://www.edctc.org/3/DS-ED_Plan.html. [Accessed 8/9/17].

El Dorado County Transportation Commission. 2017. *El Dorado County Airport Land Use Commission*. Available online: http://www.edctc.org/2/Airports.html. [Accessed 01/16/17].

El Dorado Disposal. 2016. Commercial Services. Available Online: http://www.eldoradodisposal.com/Commercial.aspx. [Accessed 12/28/16].

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Vicksburg, MS: U.S. Army Corps of Engineers Waterways Experiment Station.

Foothill Associates. 2016. *Aquatic Resources Delineation Report [for the] 37-Acre El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike and Pedestrian Overcrossing Project, El Dorado County, California*. October 25, 2016.

Foothill Associates. 2017a. *Visual Impact Assessment El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike and Pedestrian Overcrossing Project*. February 9, 2017.

Foothill Associates. 2017b. *El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike and Pedestrian Overcrossing Project Natural Environmental Study*. July 2017.

Foothill Associates. 2017c. *El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project Oak Woodland Analysis*. June 22, 2017.

InContext. 2017a. *Historical Property Survey Report, El Dorado Trail at Missouri Flat Road Bike/Pedestrian Overcrossing Project, El Dorado County, California*. July 2017.

InContext 2017b. *Historical Resources Evaluation Report* [prepared for the] *El Dorado Trail from Missouri Flat Rd to El Dorado Rd, El Dorado County, California*. August 2017.

Jones and Stokes, Inc. 2000. *Sacramento-Placerville Transportation Corridor Master Plan Final Environmental Impact Report*, April 2000. Available online at: http://www.edctc.org/C/SPTC/Analysis/EDC_SPTC_MasterPlan_EIR_2000.pdf.

KD Anderson & Associates (KDA). 2016. *El Dorado Trail Project Air Quality Study*. Prepared for: Foothill Associates. November 29, 2016.

Lindstrom, S. G. 1995. *CA-ELD-001346H: Wal-Mart EIR Heritage Resource Inventory 19.8 Acre Parcel, Near Placerville, California*. On file at the North Central Information Center, CSU Sacramento.

Neuenschwander, N. 2007. *CA-ELD-971-H: Primary Record, BSO Record, Linear Feature Record, Continuation Sheets, Location Map* (29 pp). On file at the North Central Information Center, CSU Sacramento.

Peak, M. 2008. *Historic Property Survey, Report, Archaeological Survey Report, and Historical Resources Evaluation Report for the El Dorado Trail Project, El Dorado County*. Prepared for Caltrans and the Sacramento-Placerville Transportation Corridor Joint Powers Authority.

Pilliod, David S., Justin L. Welty, and Robert Stafford. 2013. Terrestrial Movement Patterns of Western Pond Turtles (*Actinemys marmorata*) in Central California. Pages 207-221 in *Herpetological Conservation and Biology*.

Rathbun, G. B., N. J. Scott, T. G. Murphey. 2002. Terrestrial habitat use by Pacific pond turtles in a Mediterranean climate. *Southwestern Naturalist* 47(2):225–235.

Reese, Devin A. and Hartwell H Welsh. 1997a. Habitat Use by Western Pond Turtle in the Trinity River, California. *Journal of Wildlife Management* 62(3):842-853.

Reese, Devin A. and Hartwell H Welsh. 1997b. Use of Terrestrial Habitat by Western Pond Turtles, *Clemmys marmorata*: Implications for Management. Pages 352-357 in *Proceedings of Conservation, Restoration, and Management of Tortoises and Turtles. An International Conference*.

Riensche, David L., Douglas A. Bell, Amda L. Dwyer, Janelle A. Dorcy. 2013. *Movement Patterns and Habitat Use by the Western Pond Turtle (Actinemys marmorata) in the East Bay Regional Park District*. Poster presentation prepared for The Wildlife Society 2013 Annual Conference.

Rosenberg, Daniel, J. Gervais, D. Vesely, S. Barnes, L. Holts, R. Horn, R. Swift, L. Todd, and C. Yee. 2009. *Conservation Assessment of the Western Pond Turtle in Oregon*.

Sacramento Metropolitan Air Quality Management District (SMAQMD). 2016. *Sacramento Metropolitan Air Quality Management District*, *The CEQA Guide December 2009, Revised April 2011, April 2013, June 2014, November 2014, June 2015, February 2016, May 2016, October 2016, December 2016, Greenhouse Gas Emissions*. Available Online at: http://www.airquality.org/businesses/ceqa-land-use-planning/ceqa-guidance-tools. [Accessed 01/10/17].

Seitz, Gordon. California Geological Survey, Fault Evaluation Report FER 261, West Tahoe Fault in the Emerald Bay and Echo Lake Quadrangles, El Dorado County, California. June 3, 2016. Available Online at: http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps. [Accessed 01/06/2017].

U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 1974. *Soil Survey of El Dorado Area, California*. USDA, NRCS, in cooperation with the Regents of the University of California (Agricultural Experiment Station).

USDA, NRCS. 2004. *Understanding Soil Risks and Hazards, Using Soil Survey to Identify Areas with Risks and Hazards to Human Life and Property*. Available Online at: https://www.nature.nps.gov/geology/soils/Understanding%20Soil%20Risks%20and%20Hazards.pdf. [Accessed 1/06/2017].

USDA, NRCS. 2006. *Field Indicators of Hydric Soils in the United States, Version 6.0*. G.W. Hurt and L.M. Vasilas (eds.). USDA, NRCS, in cooperation with the National Committee for Hydric Soils.

USDA, NRCS. 2016. *Web Soil Survey*. Available Online at: http://websoilsurvey.nrcs.usda.gov. [Accessed 09/13/16].

U.S. Fish and Wildlife Service (USFWS). 2016. *Information for Planning and Conservation (IPaC) Trust Resource Report: My Project, El Dorado County*. Available Online at: http://ecos.fws.gov/ipac/gettingStarted/index. [Accessed on 09/13/16 and 10/11/16].

U.S. Geological Survey (USGS). 1978. *Placerville, California*. 7.5 -minute series topographic quadrangle. U.S. Department of the Interior.

Windmiller, Ric. 2015. *El Dorado County Historic Railroad Park Cultural Resources Assessment, El Dorado, El Dorado County, California*. July 2015.

Windmiller, Ric. 2017a. *Archaeological Survey Report for El Dorado Trail at Missouri Flat Road Bike/Pedestrian Overcrossing [CML 5925(132)] El Dorado County, California*. June 2017.

Windmiller, Ric. 2017b. *Archaeological Survey Report for El Dorado Trail from Missouri Flat Road to El Dorado [CML 5925 (129)] El Dorado County California*. August 2017.

Zeiner D.C., W.R. Laudenslayer Jr., K.E. Mayer, and M. White, eds. 1988. *California's Wildlife, Volume I, Amphibians and Reptiles.* State of California: The Resource Agency, Department of Fish and Game, Sacramento, CA. Available online at: http://www.dfg.ca.gov/whdab/html/cawildlife.html. Accessed [09/13/2016].

**Personal Communication**

Baughman, Adam. Air Quality Engineer. El Dorado County Air Quality Management District. February 3, 2015 E-mail message to Wayne Shijo, KD Anderson & Associates.

Harrington, Dustin. El Dorado County Department of Transportation. October 14, 2016 E-mail message to Kyrsten Shields, Foothill Associates.

# Appendix A — Mitigation Monitoring and Reporting Program

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# El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project

Mitigation Monitoring and Reporting Program

**Prepared for**:

County of El Dorado
Community Development Services
Department of Transportation
2850 Fairlane Court
Placerville, CA 95667

October 4, 2017

Prepared by:

FOOTHILL ASSOCIATES

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# TABLE OF CONTENTS



**List of Attachments**

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# 1.0 INTRODUCTION

In order to ensure compliance with the proposed revisions or mitigations during implementation of project development, as required by Section 21081.6 of the Public Resources Code, a Lead Agency must adopt a reporting or monitoring program for project revisions or required provisions intended to reduce or mitigate potential environmental effects. This draft Mitigation Monitoring and Reporting Program (MMRP) has been prepared to prescribe monitoring and reporting for mitigation measures required by the County of El Dorado (County) as the CEQA Lead Agency for the Project, and set forth in the draft Initial Study/ Mitigated Negative Declaration prepared for the El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project.

Section 15097(d) of the California Environmental Quality Act (CEQA) Guidelines specifies that the Lead Agency may exercise discretion in its approach to fulfilling the requirements for monitoring and reporting of mitigation measures. As such, the County identifies the following program as the draft MMRP for the El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project. A copy of this document is available for public review at the County of El Dorado, Community Development Services, Department of Transportation, 2850 Fairlane Court, Placerville, California 95667, during business hours, 8:00 a.m. - 5:00 p.m., Monday – Friday.

The table below represents the MMRP developed for the project draft Initial Study/ Mitigated Negative Declaration. The Mitigation Measure numbering found in the table duplicates the numbering identified in the Initial Study/Mitigated Negative Declaration (IS/MND).

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# 2.0 MITIGATION MONITORING AND REPORTING PROGRAM

| Mitigation Measure (MM) | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
|---|---|---|---|---|
| ***Air Quality*** | | | | |
| **PHS-1.1: Implement Asbestos Hazard Dust Mitigation Plan (From SPTC MP EIR)**<br>Before the start of construction or operations having ground disturbance, the project proponent [County] shall prepare an asbestos hazard dust mitigation plan (as required by County ordinance) to be approved by the County's Environmental Management Department and the local air quality management district. If a plan has been previously prepared and approved for the site, the proponent shall comply with the findings and mitigations contained in this plan. An Asbestos Hazard Dust Mitigation Plan shall contain the following measures:<br>• During grading activities, the contractor shall implement dust control measures, such as wetting down exposed serpentine and covering areas exposed to vehicle traffic with on-asbestos material. Employees must be notified of the potential health risk of airborne asbestos and the County's new requirements. Additionally, the contractor and construction workers shall take every precaution possible to reduce the exposure to potential airborne asbestos, such as appropriate clothing and respiratory devices.<br>• Vehicle access and speed shall be limited and reduced to the least feasible number of vehicles in construction areas containing serpentine rock. Areas along vehicle travel routes that are exposed to serpentine rock shall be covered with non-asbestos material. | Project Applicant | County of El Dorado | Plan approved before ground-disturbing activities begin<br><br>Implemented during construction | |

| Mitigation Measure (MM) | | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
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| | • During construction activities, construction vehicles shall be rinsed before leaving the construction sites to reduce the dispersion of asbestos dust.<br>• During construction, any excavated material containing serpentine rock shall be covered to reduce wind erosion and particulate dispersion. Disturbed surfaces and stockpiles shall be maintained with high-moisture conditions or applied with a binder to seal fibers.<br>• Any exposed serpentine soils along the corridor shall be covered with clean soils to reduce potential health hazards.<br>• Vegetation shall be planted to reclaim disturbed serpentine rock areas where feasible. | | | | |
| **AQ — 1:** | During construction, the contractor shall ensure no visible dust extends beyond the project property lines by implementing one or more of the applicable measures identified by Rule 403 of the South Coast AQMD, Section C.6 in Appendix C-1 (**Attachment A**). | Contractor and County of El Dorado | County of El Dorado | During construction | |
| **AQ — 2:** | Project construction shall comply with EDCAQMD Rule 223, prohibiting the generation of visible fugitive dust beyond the Project Site limits. | Contractor and County of El Dorado | County of El Dorado | Prior, during, and after construction | |
| **AQ — 3:** | Project construction shall comply with EDCAQMD Rule 223-1, preparing and submitting to the EDCAQMD a Fugitive Dust Control Plan. | Contractor and County of El Dorado | County of El Dorado | Prior to and during construction | |
| **AQ — 4:** | Project construction shall comply with EDCAQMD Rule 223-2, preparing and submitting to the EDCAQMD an Asbestos Dust Mitigation Plan. | Contractor and County of El Dorado | County of El Dorado | Prior to and during construction | |
| **AQ — 5:** | Project construction shall comply with CARB Airborne Toxic Control Measure (ATCM) 93105, *Asbestos ATCM for* | Contractor and County of El Dorado | County of El Dorado | Prior to and during construction | |

| Mitigation Measure (MM) | | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
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| | *Construction, Grading, Quarrying, and Surface Ming Operations*. | | | | |
| **AQ — 6:** | Project construction shall comply with CARB ATCM 93106, *Asbestos ATCM for Surfacing Applications*. | Contractor and County of El Dorado | County of El Dorado | Prior to and during construction | |
| ***Biological Resources*** | | | | | |
| **BIO-1.1:** | **Conduct Additional Botanical and Wetland Resource Surveys and Studies (From SPTC MP EIR)**<br>The project proponent [County] will retain appropriate resource personnel to conduct the following surveys and studies before design and construction of the proposed project:<br>• Surveys and mapping of special-status plants during appropriate identification periods;<br>• Mapping and quantification of habitat loss; and<br>• Delineation and quantification of waters of the United States, including wetlands, using the Corp's [USACE] 1987 wetland delineation manual (Environmental Laboratory 1987). | County of El Dorado | Project Applicant | Submit study at time of project application. | |
| **BIO-1.2:** | **Retain Environmental Monitor (From SPTC MP EIR)**<br>The project proponent [County] will retain a qualified biologist to monitor construction activities in sensitive biological resource areas. The biologist must be familiar with all special-status plant and wildlife species, sensitive habitat resources in the project area, and have the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service permits to handle special-status wildlife species. The biologist will be responsible for:<br>• Determine the placement of orange barrier fencing;<br>• Maintain fences; | County of El Dorado | Project Applicant | During construction in or near sensitive biological areas. | |

| Mitigation Measure (MM) | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
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| • Monitoring implementation of the conditions contained in state and federal permits to be obtained pertaining to protection of biological and wetland resources in the project area;<br>• Determining the location of temporary sedimentation barriers, such as sandbags or siltation fencing, that will be installed to minimize siltation into drainages;<br>• Removing any special-status wildlife that enter the construction zone;<br>• Providing environmental briefings to construction crews; and<br>• Providing status reports, if needed, to the project proponent, the County, and other resource agencies (e.g., California Department of Fish and Wildlife). | | | | |
| **BIO-1.4: Avoid or Minimize Impacts on Sensitive Biological Resources before and during Construction (From SPTC MP EIR)**<br>Sensitive biological resources located in and adjacent to the constriction corridor will be protected by placing orange construction barrier fencing or stakes and flags, including buffer zones where appropriate and depending on the type of resource. Adjacent resources that may require protection include oak woodland, riparian woodland and scrub vegetation, drainages, vernal pools and swales, other wetlands, native grassland, special-status species populations, and elderberry shrubs. Buffer zones should be 250 feet around vernal pools and swales and wetlands, 100 feet beyond the upper bank edge of perennial drainages and the outer edge of riparian woodland and scrub canopies, 100 feet beyond the canopy of elderberry shrubs or clusters of elderberry shrubs, and 50 feet beyond special-status species populations and the upper bank edge of ephemeral | Project Applicant | County of El Dorado | Before and during construction | |

| Mitigation Measure (MM) | | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
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| | drainages. The locations of these resources will be clearly identified on the construction drawings and marked in the field by the environmental monitor. Fencing or other barriers will remain in place until all construction and restoration work that involves heavy equipment is complete. In cases where woody riparian vegetation must be cleared, the vegetation will be trimmed rather than uprooted, where possible, to allow resprouting. Woody vegetation will be cut no more than 1 foot above ground level to encourage resprouting. | | | | |
| **BIO-1.5:** | **Minimize Impacts to Oak Trees (From SPTC MP EIR)**<br>If tree removal cannot be avoided in oak woodland habitat, the project proponent [County] shall develop and implement a mitigation plan in compliance with the *El Dorado County General Plan* to ensure canopy retention or replacement according to the standards set forth in Policy 7.4.4.4 of the *El Dorado County General Plan* (El Dorado County Planning Commission 1995) and, if adopted, to currently proposed El Dorado County oak woodlands guidelines, which provide additional guidance to the General Plan policies. | Project Applicant | County of El Dorado | Before and during construction | |
| **BIO-1.6:** | **Minimize Biological Impacts through Replacement Plantings (From SPTC MP EIR)**<br>All areas disturbed by project construction that are not part of a planned facility shall be replanted with native trees and shrubs that reflect the habitats that were present on the project site before construction disturbance began. | Project Applicant | County of El Dorado | Prior to final inspection | |
| **BIO-6.1:** | **Limit Construction Activities to the Dry Season (From SPTC MP EIR)**<br>Construction activities will be prohibited during the wet season (October 15 to April 15) in the 100-year floodplain of any drainage in the project corridor to reduce the potential | Project Applicant | County of El Dorado | Prior to final inspection | |

| Mitigation Measure (MM) | | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
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| | for siltation impacts on vernal pools and swales, other wetlands, and drainages. | | | | |
| **BIO-6.2:** | **Compensate for the Loss or Disturbance of Jurisdictional Waters of the United States, Including Wetlands, at a Minimum Creation Ratio of 1:1 (From SPTC MP EIR)**<br>The project proponent [County] will compensate for the loss or disturbance of waters of the United States. This acreage does not include wetlands that contain habitat suitable for fairy shrimp. For loss of disturbance of wetlands with suitable fairy and tadpole shrimp habitat, see Mitigation Measure BIO-13.1. Specific mitigation requirements will be determined as part of the Corps' [USACE] Section 404 permitting process.[1] | Project Applicant | County of El Dorado | Prior to the start of construction | |
| **BIO-7.1:** | **Compensate for Permanent Impacts on Woody Riparian Vegetation (From SPTC MP EIR)**<br>The project proponent [County] will compensate for the loss of any riparian woodland and scrub habitat by enhancing or creating similar habitat qualities and quantities at a ratio to be determined in consultation with CDFW and possibly USFWS. Depending on the project and review by regulatory agencies, mitigation may be necessary at a compensation ratio of 2:1 or 3:1 (2 or 3 acres created or enhanced for every 1 acre removed).<br>Potential mitigation sites that could be used to create or enhance riparian woodland and scrub habitat include the following: | Project Applicant | County of El Dorado | Initial plan submitted prior to approval of improvement plans<br><br>Compensation prior to final inspection<br><br>Annual reporting for | |

[1] Mitigation Measure BIO-13.1 form the SPTC MP EIR is not relevant to the Proposed Project as documented within the July 2017 NES prepare by Foothill Associates, due to the absence of potential habitat for vernal pool invertebrates within the project area, and has therefore not been identified within this Initial Study.

| Mitigation Measure (MM) | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
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| • Riparian areas that currently support non-native, weedy species (e.g. tree of haven and giant reed) that could be cleared and replanted with riparian species; and<br>• Sparsely vegetated or degraded riparian areas that could be enhanced through planting.<br>Potential mitigation sites must be evaluated as part of a formal habitat mitigation plan before the suitability of these sites to sustain riparian plantings can be determined. The following factors would be assessed as part of this mitigation plan: soils, hydrology (including groundwater levels and surface inundation), land use, potential disturbances, habitat functions, costs associated with maintaining the plantings, and overall potential for survival.<br>The habitat mitigation plan will include a list of recommended species, design specifications, an implementation plan, a maintenance program, and a monitoring program. A minimum of 5 years of monitoring (or longer if required as a condition of permits) will be conducted to document the degree or failure in achieving success criteria and it identify remedial actions. Annual monitoring reports will be submitted to CDFW, the project proponent [County], and other interested agencies. Each report will summarize data collected during the monitoring period, describe how the habitats are progressing in terms of success criteria, and discuss any remedial actions performed. | | | a minimum of 5 years | |
| **BIO-9.1:** **Develop and Implement a Stormwater Pollution Prevention Plan and Minimize Disturbances to Perennial and Ephemeral Drainages (From SPTC MP EIR)**<br>The project contractor will develop a stormwater pollution prevention plan (SWPPP), as required under Section 401 of the Clean Water Act (in support of an NPDES permit). The contactor will be directed to follow the plan and implement measures to ensure that petroleum products are not | Project Applicant | County of El Dorado | Plan submitted before improvement plans are approved; implemented as needed | |

| Mitigation Measure (MM) | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
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| discharged into perennial drainages or any flowing water within ephemeral drainages.<br>In addition to preparation of a stormwater pollution prevention plan, the following measures will be implemented to minimize disturbances to perennial and ephemeral drainages and waters of the U.S. These measures will be included in the plan specifications and will be the responsibility of the contractor.<br>• All substances will be stored in designated staging areas at least 100 feet from perennial and ephemeral drainages with flowing water and 50 feet from ephemeral drainages without flowing water.<br>• Refueling and vehicle maintenance will be performed at least 100 feet from perennial and ephemeral drainages with flowing water, and 50 feet from ephemeral drainages without flowing water.<br>• Operation of heavy equipment in all drainages will be minimized to the extent possible.<br>• Temporary sedimentation barriers, such as sandbags or siltation fencing, will be installed to minimize siltation in both perennial and ephemeral drainages. The locations of these barriers will be determined by the resident engineer and environmental monitoring and will be clearly marked in the field before construction activities begin.<br>• Avoid sidecasting material into or near drainages that may contain standing or flowing water at the time of construction.<br>• Restore to grade beds and banks of all drainages that are disturbed during construction to the | | | during construction. | |

| Mitigation Measure (MM) | | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
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| | preconstruction contours and replace the topsoil (top 12 inches of the profile.)<br>Additional specific measures may be included in the CDFW streambed alteration agreement the Corps [USACE] Section 404 permit to be obtained and implemented as part of the project. Impacts on wetland or riparian vegetation in drainages are mitigated through implementation of Mitigation Measures BIO-1.1, BIO-1,2, BIO-1.3, BIO-1.5, BIO-6.2, and BIO-7.1. | | | | |
| **BIO-12.1:** | **Compensate for Unavoidable Impacts to Special-Status Species (From SPTC MP EIR)**<br>The project proponent [County] shall compensate for loss or disturbance to special-status plant species. Compensation will be implemented under a mitigation plan developed in conjunction with CDFW and USFWS. The requirement for a mitigation plan for non-listed species will depend on the species affected by the project and the extent of effects on the populations. If required, species-specific mitigation plans would be developed through consultation with CDFW and other appropriate land management agencies. | Project Applicant | County of El Dorado | Compensation prior to final inspection | |
| **BIO — 1:** | The non-native annual grassland, oak woodland, and foothill pine habitats within the Project Site provides habitat for potentially occurring special-status plants including: Brandegee's clarkia (blooms May through July), Ewan's larkspur (blooms March through May), Humboldt lily (blooms May through July), Oval-leaved viburnum (blooms May through June), Red Hills soaproot (blooms May through June), Sierra clarkia (February through May), Streambank spring beauty (February through July), and True's manzanita (blooms February through July). Prior to commencement of construction activities, a qualified biologist shall conduct two botanical surveys of the Project Site one in March and one in June, within the blooming period for potentially occurring | County of El Dorado /Qualified Biologist | County of El Dorado | Prior to Construction and During Floristically-appropriate Season | |

| Mitigation Measure (MM) | | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
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| | special status plants. A letter report shall be submitted to the County within 30 days following the bloom survey to document the results. If no special-status plants are observed, then no additional measures are recommended.<br>If any of the special-status plants occur within the Project Site, they shall be avoided to the extent feasible. The plant locations shall be identified on a map, and a 10-foot buffer shall be established around the plants with high visibility construction fencing. The construction fencing shall remain intact until construction is complete.<br>If the special-status plants cannot be avoided, a mitigation plan shall be prepared in consultation with the CDFW. At minimum, the mitigation plan will include locations where the plants will be transplanted in suitable habitat adjacent to the Project Site, success criteria, and monitoring activities. The CDFW must approve the mitigation plan prior to transplantation and commencement of construction activities. | | | | |
| **BIO — 2:** | A qualified biologist shall conduct a pre-construction survey within 14 days prior to the start of construction activities for the coast horned lizard. If no coast horned lizards are observed, a letter report documenting the results of the survey shall be submitted to the County for their records, and no addition measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is required.<br>If coast horned lizards are found, additional avoidance measures are required including having a qualified biologist conduct a pre-construction survey within 24 hours prior to commencement of construction activities, performing a worker awareness training to all construction workers, and being present within the Project Site during initial ground- | County of El Dorado/ Qualified Biologist | County of El Dorado | 14 Days Prior to Construction | |

| Mitigation Measure (MM) | | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
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| | clearing and grading activities for the purpose of relocating any coast horned lizards found within the construction footprint to suitable habitat away from the construction zone, but within the Project Site.<br>If coast horned lizard individuals are killed during construction, work will stop in the vicinity and the biological monitor will be contacted. The biological monitor will work with the contractor to determine the cause of death and identify and implement measures to avoid further casualties. | | | | |
| **BIO — 3:** | If construction is proposed within areas of riparian woodland and/or intermittent drainage, a qualified biologist shall be present on-site during initial ground-clearing and grading activities for the purpose of relocating any western pond turtles found within the construction footprint within suitable habitat to suitable habitat away from the construction zone, but within the Project Site.<br>If western pond turtle individuals are killed during construction, work will stop in the vicinity and the biological monitor will be contacted. The biological monitor will work with the contractor to determine the cause of death and identify and implement measures to avoid further casualties. | County of El Dorado/ Qualified Biologist | County of El Dorado | During Construction | |
| **BIO — 4:** | If construction is proposed during the nesting season for non-raptor migratory birds (February 1 through August 31), a pre-construction survey shall be conducted by a qualified wildlife biologist with knowledge of avian life history within 14 days of the start of project-related activities. If nests of migratory birds are detected onsite, or within 100 feet of the Project Site, the County shall consult with CDFW to determine the size of a suitable buffer. The buffer(s) shall be determined based upon the life history of the individual species, including their sensitivity to noise, vibration, ambient levels of human activity and general disturbance, the current site conditions | County of El Dorado/ Qualified Biologist | County of El Dorado/CDFW | Prior to and during Construction | |

| Mitigation Measure (MM) | | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
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| | (screening vegetation, terrain, etc.) and the various project-related activities necessary to implement the project.<br>If, during the course of carrying out the project, an active nest is identified or becomes established, that was not previously identified during a breeding bird survey, a buffer or installation of appropriate barriers shall be established between the construction activities and the active nest so that nesting activities are not interrupted. The buffer shall be delineated and shall be in effect throughout construction or until the nest is no longer active. The appropriate buffer shall be established according to the criteria described above. | | | | |
| **BIO — 5:** | Vegetation clearing operations, including pruning or removal of trees and shrubs, shall be completed between September 1 and January 31, if feasible, to avoid migratory birds protected under 50 CFR 10 of the MBTA and/or Section 3503 of the California Fish and Game Code. If construction is proposed during the raptor breeding season (March 1 through August 31), a pre-construction raptor nest survey shall be conducted within 14 days prior to beginning of construction activities by a qualified biologist. If no active nests are found during the pre-construction survey, no further mitigation is required. If active nests are found, a qualified biologist shall mark the buffer zone with construction tape or pin flags and maintain the buffer zone until the end of breeding season or until the young have successfully fledged. Buffer zones are typically 250 feet for raptor nests, but shall be based on site-specific conditions.<br>If project-related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season (approximately March 1 through August 31), then an onsite biologist/monitor experienced with raptor behavior shall be retained by the County to monitor the nest, and shall along with the County, consult with the | County of El Dorado/ Qualified Biologist | County of El Dorado/CDFW | Prior to and during Construction | |

| Mitigation Measure (MM) | | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
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| | CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed to proceed within the temporary nest disturbance buffer if raptors are not exhibiting agitated behavior. The designated onsite biologist/monitor shall be onsite daily or less if approved by CDFW while construction-related activities are taking place and shall have the authority to stop work if raptors are exhibiting agitated behavior. Once it has been determined that the nest is no longer active, then a letter report would be submitted to the County and the CDFW for their records. | | | | |
| **BIO — 6:** | Standard tree protection measures shall be implemented to protect trees to remain. These include:<br>• Tree Protection Fencing, consisting of four-foot tall, brightly-colored, high-visibility plastic fencing, shall be placed around the perimeter of the tree protection zone (TPZ) (dripline radius +1 foot) of all protected trees within 20 feet of the project footprint. The TPZ is the minimum distance for placing protective fencing. Tree protection fencing should be placed as far outside of the TPZ as possible. Signs shall be placed along the fence denoting this as a Tree Protection Zone that shall not be moved until construction is complete. Trees or tree clusters with canopy extending beyond 50 feet from proposed project boundaries may be fenced only along sides facing the project. In cases where proposed work infringes on TPZ, fence shall be placed at edge of work.<br>• Whenever possible, fence multiple trees together in a single TPZ. | County of El Dorado/ ISA Certified Arborist | County of El Dorado | Prior to and During Construction | |

| Mitigation Measure (MM) | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
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| • Tree protection fencing shall not be moved without prior authorization from the Project Arborist and the County of El Dorado.<br>• No parking, portable toilets, dumping or storage of any construction materials, grading, excavation, trenching, or other infringement by workers or domesticated animals is allowed in the TPZ.<br>• No signs, ropes, cables, or any other item shall be attached to a protected tree, unless recommended by an ISA-Certified Arborist.<br>• If boring is impossible, all trenching will be done by hand under the supervision of an ISA-Certified Arborist.<br>• No cut or fill within the dripline of existing native oak is permitted. If cut or fill within the dripline is unavoidable, any mitigation requirements shall be determined by the County.<br>• Pruning of living limbs or roots over two inches in diameter shall be done under the supervision of an ISA-Certified Arborist.<br>• Appropriate fire prevention techniques shall be employed around all significant trees to be preserved. This includes cutting tall grass, removing flammable debris within the TPZ, and prohibiting the use of tools that may cause sparks, such as metal bladed trimmers or mowers. | | | | |
| ***Cultural Resources*** | | | | |
| **CR-1.1: Implement a plan to address the discovery of unanticipated cultural resources (From SPTC MP EIR)**<br>The County shall ensure that the following measures are implemented before development of the Master Plan. | Project Applicant | County of El Dorado | Before improvement plans are approved for | |

| Mitigation Measure (MM) | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
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| • Conduct Surveys of Unsurveyed Areas. Before implementation of project activities in the Master Plan corridor, complete pedestrian surveys should be conducted to locate and record cultural resources.<br>• Evaluate Resources within the Project Corridor. Resources within the project corridor that cannot be avoided should be evaluated. Additional research and test excavations, where appropriate, should be undertaken to determine whether the resource(s) meets CEQA and/or NRHP significance criteria. Impacts on significant resources that cannot be avoided will be mitigated in consultation with the lead agency for the project. Possible mitigation measures include:<br>o A data recovery program consisting of archaeological excavation to retrieve the important data from archaeological sites;<br>o Development and implementation of public interpretation plans for both prehistoric and historic sites;<br>o Preservation, rehabilitation, restoration, or reconstruction of historic structures according to the Secretary of Interior Standards for Treatment of Historic Properties;<br>o Construction of new structures in a manner consistent with the historic character of the region; and<br>o Treatment of historic landscapes according to the Secretary of Interior Standards for Treatment of Historic Landscapes. | | | individual projects | |
| **CR — 1:** Prior to commencement of ground disturbing activities, an Environmentally Sensitive Area boundary shall be established with exclusion fence consistent with the site boundary for | Contractor and County of El Dorado | County of El Dorado | Prior to Construction | |

| Mitigation Measure (MM) | | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
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| | Site P-09-001829 and P-9-1242/CA-Eld-971H, Locus A where the site boundary overlies the project area. The Environmentally Sensitive Boundary for the northwestern area of P-09-001829 shall be established at the existing fence line along the project alignment. | | | | |
| **CR — 2:** | Should buried historical or archaeological deposits or artifacts be inadvertently exposed during the course of construction activities, work shall immediately cease within a 100-foot radius of the find and the County of El Dorado on shall be immediately contacted. A qualified archaeologist shall be retained to document the find, assess its significance, and recommend further treatment. Work on the Project Site shall not resume until the archaeologist has had a reasonable time to conduct an examination and implement mitigation measures deemed appropriate and necessary by the County of El Dorado in consultation with the qualified archaeologist to reduce impacts to a less than significant level. | Contractor and County of El Dorado/Qualified Archaeologist (if applicable) | County of El Dorado | During Construction | |
| **CR — 3:** | If evidence of a paleontological site is uncovered during grading or other construction activities, work shall be halted within 100 feet of the find and the County of El Dorado shall be contacted immediately. A qualified paleontologist shall be retained to conduct an on-site evaluation and provide recommendations for removal and/or preservation. Work on the Project Site shall not resume until the paleontologist has had a reasonable time to conduct an examination and implement mitigation measures deemed appropriate and necessary by the County of El Dorado in consultation with the qualified paleontologist to reduce impacts to a less than significant level. | Contractor and County of El Dorado/Qualified Paleontologist (if applicable) | County of El Dorado | During Construction | |

| Mitigation Measure (MM) | | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
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| **CR — 4:** | In the event that any human remains or any associated funerary objects are encountered during Project construction, all work shall cease within the vicinity of the discovery and the County of El Dorado shall be immediately contacted. In accordance with CEQA (Section 1064.5) and the California Health and Safety Code (Section 7050.5), the El Dorado County coroner shall be contacted immediately. If the human remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, who will notify and appoint a Most Likely Descendent (MLD). The MLD will work with a qualified archaeologist to decide the proper treatment of the human remains and any associated funerary objects. Construction activities in the immediate vicinity will not resume until a notice-to-proceed is issued. | Contractor and County of El Dorado/El Dorado County Coroner (if applicable) | County of El Dorado/El Dorado County Coroner | During Construction | |
| ***Geology and Soils*** | | | | | |
| **GEO-1.2**: | **Conduct Long-Term Maintenance of Corridor (From SPTC MP EIR)**<br>Annually, before the start of the rainy season, the County shall inspect and repair cut slopes and off-trail use areas within the corridor. Repairs should be targeted at eliminating improper drainage and areas likely to form gullies during the rainy season. | County of El Dorado | County of El Dorado | Annually, before rain season begins | |
| ***Hydrology and Water Quality*** | | | | | |
| **WR-1.1**: | **Prepare Drainage Control Plan and Specifications (From SPTC MP EIR)**<br>During the design phase of each project, the applicant shall hire an expert to prepare the appropriate drainage control plan and specifications that satisfies El Dorado County standards. If applicable to the area included in the project, damaged or obstructed drainage crossings (i.e. culverts, pipes) that currently exist along in the corridor shall be | Project Applicant | County of El Dorado | Before improvement plans are approved | |

| Mitigation Measure (MM) | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
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| evaluated by the project engineer for capacity and adequacy to provide drainage flow control. Changes to the potential for flooding would be minimized through the engineered design of flow control structure repair and new construction. The design of new or repaired infiltration following construction of new trail surfaces. Damaged or missing culverts and crossings would be replaced or repaired as necessary. All drainage flow control structures would provide adequate capacity to pass flood flows to natural drainages. | | | | |
| ***Noise*** | | | | |
| **NOISE — 1:** Project construction activities shall be limited to the hours of 7:00 A.M. and 7:00 P.M. (Monday through Friday), 8:00 A.M. and 5:00 P.M. (weekends), and on federally recognized holidays. Any exceptions to these hours shall be evaluated on a case-by-case basis and require approval by the County of El Dorado. | Contractor/ County of El Dorado | County of El Dorado | During Construction | |
| **NOISE — 2:** All internal combustion engines used for construction shall be fitted with manufacturer recommended mufflers. | Contractor/ County of El Dorado | County of El Dorado | During Construction | |
| **NOISE — 3:** Residents adjacent to proposed construction activities shall be given advanced notice of project construction schedules, and shall be notified that substantial temporary increases in local noise levels will occur during project construction. | Contractor/ County of El Dorado | County of El Dorado | Prior Construction | |
| **NOISE — 4:** Separation between construction staging areas and the nearest residences shall be maximized. | Contractor/ County of El Dorado | County of El Dorado | During Construction | |
| **NOISE — 5:** Generators and compressors required during project construction shall be located as far as possible from existing residents and, if necessary, shielded from view of those residences by portable noise barriers. | Contractor/ County of El Dorado | County of El Dorado | During Construction | |

| Mitigation Measure (MM) | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
|---|---|---|---|---|
| ***Public Services*** | | | | |
| **PHS-2.1: Provide Emergency Vehicle Access**<br>Controlled vehicle access shall be provided to allow emergency vehicle access to within 0.25 mile of any developed portion of the corridor. | Project Applicant | County of El Dorado | Before construction activities begin | |
| ***Transportation and Traffic*** | | | | |
| **PHS-4.2: Implement Safety Trail Measures (From SPTC MP EIR)**<br>Where pedestrian, bicycle, and natural trails cross roadways along the corridor, the project proponent [County] shall:<br>• Provide adequate signage and other warning features, such as flashing lights or signalized intersection/4-way stops, along the respective roadways at trail crossings; and<br>• Provide crosswalk striping along the roadway. | Project Applicant | County of El Dorado | Prior to final inspection | |
| **T-1.1: Prepare and Implement a Construction Management Plan (From SPTC MP EIR)**<br>The applicant shall prepare a construction management plan (CMP) during the final design state of the project and implement it during the actual construction phase of the proposed master plan. The CMP shall include a comprehensive traffic/transportation plan that would include the following:<br>• Traffic Safety Plan: This plan would address the appropriate vehicle size and speed, travel routes, detour or lane closure plans, flagperson requirements, location of turnouts to be constructed, coordination with law enforcement and fire control agencies, emergency access to ensure public safety, and need for traffic and speed limit signs.<br>• Road Improvement Plan: This plan would identify road segments, bridges and culverts that need to be improved | Project Applicant | County of El Dorado | Before construction phase begins | |

| Mitigation Measure (MM) | | Implementing Responsibility | Monitoring Responsibility | Timing* | Verification of Compliance (Initials/Date) |
|---|---|---|---|---|---|
| | and turnout locations that need to be constructed to accommodate project construction, maintenance, and operational activities. The plan would also identify damage caused by construction vehicles that would need to be repaired. | | | | |
| **T-2.1:** | **Prepare and Implement a Parking Assessment (From SPTC MP EIR)**<br>At the time of submittal of individual projects, the applicant shall prepare a parking management plan that assesses parking demand, assesses current parking availability, and provides plans for provision of adequate parking to meet the need for trail-related parking. The parking management plan shall be prepared under the guidance of the County's Department of Transportation. This mitigation measure applies to trail projects only. | Project Applicant | County of El Dorado | At time of project application | |

# Attachment A — El Dorado County APCD – CEQA Guide
# Fugitive Dust Mitigation Measures

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## C.6 Fugitive Dust Mitigation Measures

The following tables C.4 and C.5 are taken from Rule 403 of the South Coast Air Quality Management District (SCAQMD) and contain mitigation measures that may be applied under the screening criteria in sec. 4.2 of Chapter 4 to reduce fugitive dust emissions from construction activities to a less-than-significant level.

**Table C.4 Best Available Fugitive Dust Control Measures**

| Fugitive Dust Source Category | Control Actions |
|---|---|
| Earth-moving (except construction cutting and filling areas, and mining operations) | 1a. Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the District; two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR<br>1a-1. For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction. |
| Earth-moving – construction fill areas | 1b. Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the District; for areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM method 1557 or other equivalent method approved by the District, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content; two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations. |
| Earth-moving – construction cut areas and mining operations | 1c. Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining areas unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors. |
| Disturbed surface areas (except completed grading areas) | 2a/b. Apply dust suppression in a sufficient quantity and frequency to maintain a stabilized surface; any areas which cannot be stabilized, as evidenced by wind driven dust, must have an application of water at least twice per day to at least 80 percent of the unstabilized area. |

| | |
|---|---|
| Disturbed surface areas – completed grading areas | 2c. Apply chemical stabilizers within 5 working days or grading completion; OR<br>2d. Take action 3a or 3c specified for inactive disturbed surface areas. |
| Inactive disturbed surface areas | 3a. Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible due to excessive slope or other safety conditions; OR<br>3b. Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR<br>3c. Establish a vegetative ground cover within 21 days after active operations have ceased; ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR<br>3d. Utilize any combination of control actions 3a, 3b and 3c such that, in total, they apply to all inactive disturbed surface areas. |
| Unpaved roads | 4a. Water all roads used for any vehicular traffic at least once per every two hours of active operations; OR<br>4b. Water all roads used for any vehicular traffic once daily and restrict vehicle speed to 15 mph; OR<br>4c. Apply chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface. |
| Open storage piles | 5a. Apply chemical stabilizers; OR<br>5b. Apply water to at least 80 percent of the surface areas of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR<br>5c. Install a three-sided enclosure with walls with no more than 50 percent porosity that extend, at a minimum, to the top of the pile. |
| Track-out control | 6a. Pave or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface, and extending for a centerline distance of at least 100 feet and width of at least 20 feet; OR<br>6b. Pave from the point of intersection with the public paved road surface, and extending for a centerline distance of at least 25 feet and a width of at least 20 feet, and install a track-out control device immediately adjacent to the paved surface such that exiting vehicles do not travel on any unpaved road surface after passing through the track-out control device. |

| | |
|---|---|
| All categories | 7a. Any other control measures approved by the District. |
| Source: SCAQMD Rule 403, Tables 2 and 3. | |

**Table C.5 Best Available Fugitive Dust Control Measures for High Wind Conditions***

| Fugitive Dust Source Category | Control Measures |
|---|---|
| Earth moving | 1A. Cease all active operations, OR<br>2A. Apply water to soil not more than 15 minutes prior to moving such soil. |
| Disturbed surface areas | 0B. On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR<br>1B. Apply chemical stabilizers prior to a wind event; OR<br>2B. Apply water to all unstabilized disturbed areas 3 times per day; if there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR<br>3B. Take the actions specified in Table B.6, Item 3c; OR<br>4B. Utilize any combination of control actions specified in Table 1, Items 1B, 2B and 3B, such that, in total, they apply to all disturbed surfaced areas. |
| Unpaved roads | 1C. Apply chemical stabilizers prior to a wind event; OR<br>2C. Apply water twice per hour during active operation; OR<br>3C. Stop all vehicular traffic. |
| Open storage piles | 1D. Apply water twice per hour; OR<br>2D. Install temporary coverings. |
| Paved road track-out | 1E. Cover all haul vehicles; OR<br>2E. Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for operation on both public and private roads. |
| All categories | 1F. Any other control measures approved by the District. |
| * High wind conditions means when gusts exceed 25 mph.<br>Source: SCAQMD Rule 403, Table 1. | |

# Appendix B — *Visual Impact Assessment El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project*, February 9, 2017

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# VISUAL IMPACT ASSESSMENT

## El Dorado Trail Extension - Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project

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February 9, 2017

## California Department of Transportation

District 3, El Dorado County
CML 5925 (129) (Trail) and
CML 5925 (132) (Overcrossing)


**Prepared by:** _____ **Date:** February 9, 2017
Ed Armstrong
California PLA #4870
Principal Landscape Architect
Foothill Associates

**Approved by:** _____ **Date:** 3/13/17
Jeffrey L. Pietrzak
California PLA #4457
Caltrans District Landscape Architect
California Department of Transportation
District 3


*Statement of Compliance:* Produced in compliance with National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) requirements, as appropriate, to meet the level of analysis and documentation that has been determined necessary for this project.

# Table of Contents



## List of Figures

## Purpose of Study and Assessment Method

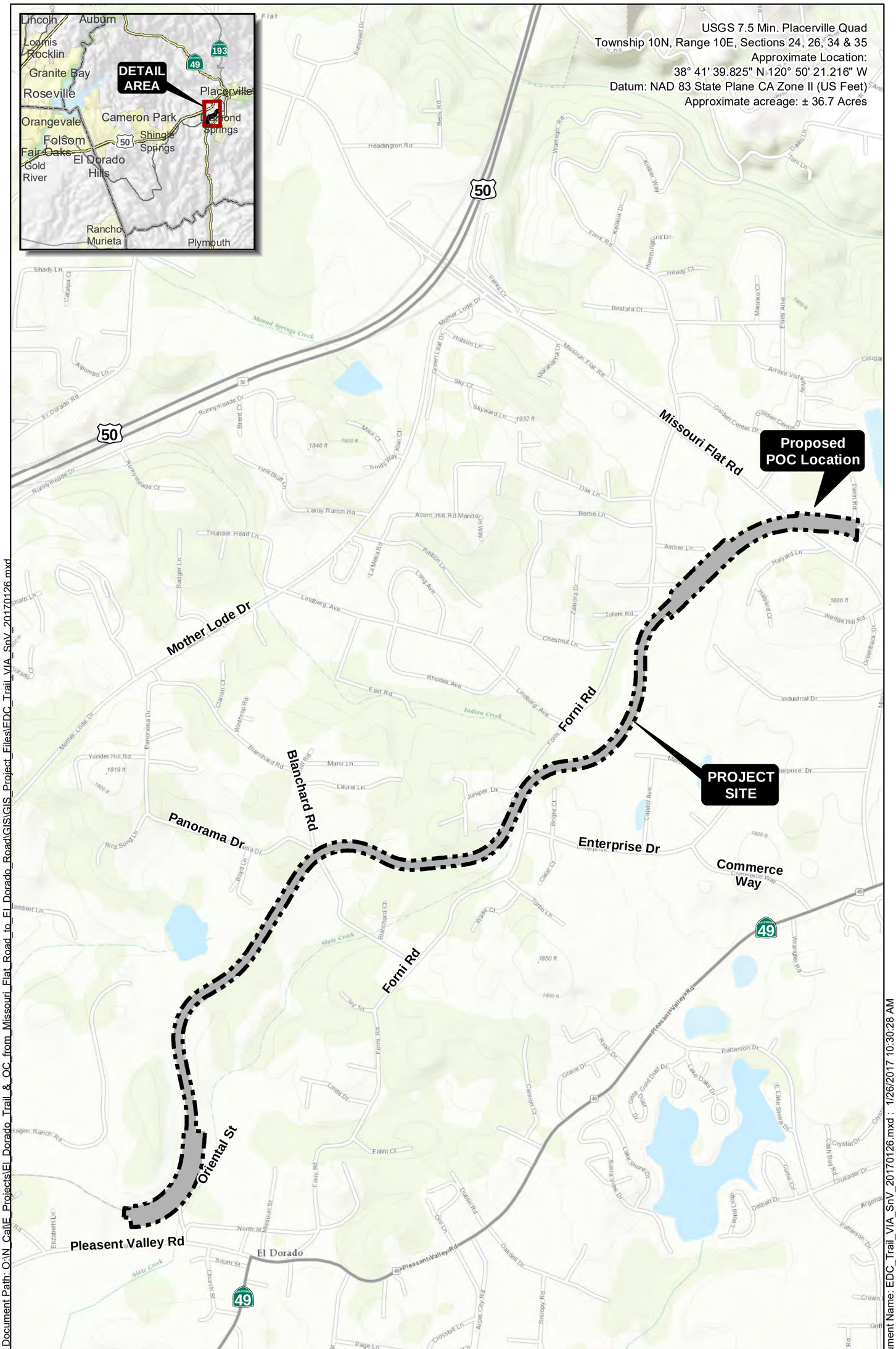
The purpose of this Visual Impact Assessment (VIA) is to document potential visual impacts caused by the proposed project and propose measures to lessen any detrimental impacts that are identified. Visual impacts are demonstrated by identifying visual resources in the project area, measuring the amount of change that would occur as a result of the project, and predicting how the affected public would respond to, or perceive those changes. This VIA follows the guidance outlined in the publication *Visual Impact Assessment for Highway Projects* published by the Federal Highway Administration (FHWA) in March 1981.

## Project Location and Setting

The project site is located entirely within the Sacramento-Placerville Transportation Corridor (SPTC) right-of-way from northwest of Southern Pacific Railroad milepost 143 within the Town of El Dorado, just north of Pleasant Valley Road and Oriental Street, to east of Southern Pacific Railroad milepost 144 at Old Depot Road south of Placerville, El Dorado County, California, within portions of Sections 24, 26, 34, and 35, Township 10 North, Range 10 East, on the *Placerville, California* USGS 7.5-topographic quadrangle, 38° 41' 39.825" North, 120° 50' 21.216" West (**Figure 1**).

The Southern Pacific Rail Line is the dominant feature within the project site. The majority of the rail alignment lies intact, although the rails at the eastern end of the project site exhibit some level of disrepair and terminate just west of Missouri Flat Road. The existing rails are oxidized in color as a result of exposure to the elements. In general, areas to the north and south of the trail alignment are characterized by non-native annual grassland intermixed with patches of oak woodland and riparian woodland. The historic El Dorado Station is present at the western edge of the project site, within Railroad Park. At the eastern end of the project site, where the pedestrian overcrossing is proposed, the project site is characterized by an urbanized setting including Missouri Flat Road and the existing Segment D of the El Dorado Trail from Missouri Flat Road to Forni Road, as well as retail commercial development and scattered rural residences. Overhead utility lines and intersection signalization facilities are also evident as structures elevated above ground level.

The project site is bordered primarily by rural residential development, with the exception of one area between Forni Road and Missouri Flat Road that consists of light industrial development and the commercial/light industrial corridor along Missouri Flat Road.

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## SITE AND VICINITY

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING + PLANNING + LANDSCAPE ARCHITECTURE



N

0 1000 2000
Feet
1 in = 1,000 feet

Drawn By: MUB
QA/QC: AMP
Date: 01/26/2017

**Figure 1**

## Project Description

The project proposes to develop an 8-foot wide paved Class 1 multi-use bicycle and pedestrian trail, with signage and a road crossing at Missouri Flat Road. Proposed trail amenities may also include the installation of fencing or railing, and small culvert crossings.

The proposed overcrossing would consist of a prefabricated steel truss with a weathered steel, rust-colored finish. The deck would be constructed of reinforced concrete, 12 feet wide (**Figure 2**). The main (single) span would be approximately 160-feet in length, spanning Missouri Flat Road. Piers would be located on each side of the Missouri Flat Road, constructed of reinforced concrete with a stacked rock type architectural finish. The main span truss would have an approximate overall depth ranging from 12 ½ to 15 feet, with the top of the truss in an arch, with an overhead clearance of 17 ½ feet over Missouri Flat Road (**Figure 3** and **Figure 4**).

The piers would also support end span structures at each side of the main span. The west and east end spans would be approximately 50 and 75 feet in length, respectively. End span structures would consist of precast/ pre-stressed concrete girders with a reinforced concrete deck, matching the main span deck width. The approach spans would have a smooth concrete finish.

Retaining wall structure approaches would be constructed beyond the end spans. The west and east structure approaches would extend approximately 190 and 320 feet, respectively, and would vary in height from zero to approximately 16 feet above ground. The wall faces of the structure approaches would also have a stacked rock type architectural finish, matching the piers.

Steel railing would be constructed along the entire overcrossing length (approach structures, end spans, and main span) on both sides, and would have either a galvanized steel or painted finish.

Lighting for the overcrossing may be considered as an added safety feature. If used, a low-level walkway illumination system, such as a handrail tube lighting would likely be utilized. The lighting would be designed to only illuminate deck walkway surfaces, minimizing any light outside of the overcrossing structure (**Figure 5** and **Figure 6**).

Digital data provided by: T.Y. Lin International.

PROPOSED PEDESTRIAN OVERCROSSING STRUCTURE (DESIGN)

| | | | |
|---|---|---|---|
| FOOTHILL ASSOCIATES<br>ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE | NOT TO SCALE | Layout By: CTGH<br>Date: 01/12/17 | FIGURE 2 |

Digital data provided by: T.Y. Lin International.

# PROPOSED PEDESTRIAN OVERCROSSING — DAYTIME SIMULATION (NORTHBOUND)

| | | | |
|---|---|---|---|
| FOOTHILL ASSOCIATES<br>ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE | NOT TO SCALE | Layout By: CTGH<br>Date: 01/12/17 | FIGURE 3 |

Digital data provided by: T.Y. Lin International.

PROPOSED PEDESTRIAN OVERCROSSING — DAYTIME SIMULATION (WESTBOUND)

| | | | |
|---|---|---|---|
| FOOTHILL ASSOCIATES<br>ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE | NOT TO SCALE | Layout By: CTGH<br>Date: 01/12/17 | FIGURE 4 |

Digital data provided by: T.Y. Lin International.

PROPOSED PEDESTRIAN OVERCROSSING — NIGHTTIME SIMULATION (NORTHBOUND)

| | | | |
|---|---|---|---|
| FOOTHILL ASSOCIATES<br>ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE | NOT TO SCALE | Layout By: CTGH<br>Date: 01/12/17 | FIGURE 5 |

Digital data provided by: T.Y. Lin International.

PROPOSED PEDESTRIAN OVERCROSSING — NIGHTTIME SIMULATION (WESTBOUND)

| | | | |
|---|---|---|---|
| FOOTHILL ASSOCIATES<br>ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE | NOT TO SCALE | Layout By: CTGH<br>Date: 01/12/17 | FIGURE 6 |

## Visual Resources and Resource Change

Visual resources within the project setting are defined and identified below by assessing *visual character* and *visual quality* in the project corridor. *Resource change* is assessed by evaluating the visual character and the visual quality of the visual resources that comprise the project corridor before and after construction of the proposed project.

The existing highway corridor along Missouri Flat Road does not follow a cohesive design aesthetic. Buildings include a range of styles including light-industrial shed-type structures, big box commercial, historic mining-town recreations, and standard contemporary peaked-roof structures. If there is a predominant structure type, it is probably flat-roofed with awnings. The visual character of the proposed project will be compatible with the existing visual character of the corridor. Trail development will introduce a linear feature parallel to the existing rail line and surfaced with asphaltic pavement. Given the presence of the existing informal trail, proposed construction of the Class I trail will largely formalize the existing informal alignment through increased breadth, and the introduction of darkened coloration and smooth surface textures. The pedestrian overcrossing will introduce an arc element not dissimilar to existing street light poles, surfaced with metal and geologic-resembling façade and earth-tone colors, similar in hue to surrounding geologic materials and rail line facilities. Additionally, the overcrossing is representative of railroad and other bridges seen along Highway 49 south of Placerville and fits the historic mining vernacular of the area.

The visual quality of the existing corridor will not be negatively altered by the proposed project. In fact, the materials and forms of the proposed project are in harmony with the goals and objectives outlined in the 2014 *Diamond Springs-El Dorado Mobility Plan* (DSEDMP) and will help to unify the disparate architectural elements along the corridor under a historic-mining motif.

Resource Change (changes to visual resources as measured by changes in visual character and visual quality) will be low.

## Viewers and Viewer Response

*Neighbors* (people with views *to* the road) and *highway users* (people with views *from* the road) will not be affected by the proposed project.

Viewer exposure is dictated by viewer location and viewshed. The project has two distinct areas of view exposure:

1. Trail improvements will primarily be seen by trail users and adjacent land owners; and
2. The pedestrian overcrossing will primarily be visible to trail users, motorists on Missouri Flat Road, and adjacent businesses owners and visitors.

### *Trail Improvements*

Along much of its length between Missouri Flat Road and Oriental Road, the trail is bordered by single-family and rural residential lots. Much of this area is wooded, and many of the residences

have opaque fences between private backyards and the railroad corridor, so visibility of the trail from adjacent uses is limited. Light industrial land uses adjoin the trail corridor in two locations. In both of these locations, trees separate the corridor from the businesses except for an area where the buildings encroach into the corridor. Vegetation along the corridor provides intermittent screening from surrounding views. The viewshed for the improvements is primarily limited to the properties immediately adjacent to the railroad easement.

### *Pedestrian Overcrossing*

Missouri Flat Road is a well-travelled arterial connection connecting the communities along Pleasant Valley Road with U.S. Highway 50. South of the overcrossing, the road is bordered on the east by a trailhead parking lot for the El Dorado Trail and Gilmore Heating and Air and on the west by rural residential. North of the overcrossing, the road is bordered by Walmart on the west and a commercial complex on the east that consists primarily of eating establishments, as well as, office professional land uses. Due to topography and vegetation, the overcrossing will be unlikely to affect any views beyond the foreground (less than 0.5-miles), but it will be dominant to vehicles passing beneath, as well as to users of the trailhead. Pedestrian traffic is very light in this area, but it will also dominate views for pedestrians along Missouri Flat Road and be visible to some pedestrians using the commercial establishments.

### *Viewer Sensitivity and Response*

Viewer sensitivity was examined for four primary user groups: trail users, highway users, nearby residences, and nearby commercial businesses. Viewers of the trail between Missouri Flat Road and Oriental Road primarily fall into two categories: adjacent residents and trail users. As noted previously, the trail corridor is primarily bordered by low density to rural residential properties. These residences are primarily screened from the trail corridor by existing vegetation; however, people using the trail will be visible to local residents in locations where vegetation is sparse, and these residents are likely accustomed to their privacy and may have a moderate to moderate-high sensitivity to visual impacts from the project. Trail users are anticipated to see the proposed improvements in a positive light, so sensitivity is expected to be low.

For the overcrossing, the most significant group potentially impacted by the project based upon number of viewers will be highway users, followed by visitors to the adjacent businesses and then trail users. Highway users experience the landscape in motion and may be less sensitive to fine details than pedestrians or viewers who are not moving rapidly. Because the Missouri Flat Road corridor is primarily commercial/light industrial in this area, and most structures do not have a cohesive design aesthetic, highway user sensitivity is expected to be low. Visitors to the local business establishments will likely have a range of sensitivities, depending upon their general background and preferences, opinions about the El Dorado Trail and these improvements in particular, and/or their preference for the design aesthetic of the abutments and bridge. Sensitivity of this group is mainly anticipated to be moderate-low, due to the commercial nature and general appearance of the corridor.

As with the trail segment west of Missouri Flat Road, users of the trail likely see it as a positive improvement, so their sensitivity to the overcrossing is expected to be low. Only two residences

are located in proximity to the overcrossing, so while their concerns should be considered, they represent a minority of viewers. Since these visitors are accustomed to viewing a busy road in the location of the overcrossing, their sensitivity to visual impacts from the project is considered to be moderate-low to moderate.

It is anticipated that the average response of all viewer groups will be low to moderate-low.

## Visual Impacts

Visual impacts are determined by assessing changes to the visual resources and predicting viewer response to those changes. Visual impacts from this project were examined in two areas: temporary construction impacts and permanent impacts

### *Temporary Construction Impacts*

Temporary construction impacts to visual resources will primarily arise from heavy equipment operating in and around the project site, as well as construction-related safety barricades and landscape disturbance. Construction of the trail will likely involve dozers, scrapers, graders, dump trucks and paving equipment to excavate the subgrade, establish the proper grade, and install subbase materials and asphaltic concrete. Safety fencing should be used to restrict pedestrians from construction areas. Construction of the overpass, abutments, and approaches will likely require excavators, backhoes, dozers, graders, concrete mixers, cranes, paving equipment, and dump trucks, as well as, concrete forms and braces. Safety fencing and cones will also be utilized to protect pedestrians and direct traffic. In addition to visual impacts from construction equipment, forms and fencing, dust and other airborne particulate matter have the potential to impact aesthetics in the area. Additional potential visual impacts include excavations, disturbance from clearing and grubbing operations, and glare from lighting if work in conducted before dawn or after dusk.

As was discussed in the previous section on **Viewers and Viewer Response** for the trail segment from Missouri Flat Road to Oriental Road, much of the construction in the corridor will be screened by existing vegetation. Temporary impacts due to construction in this area have a moderate-low to moderate effect on visual resources. Construction-related impacts for the overpass will be highly visible to travelers along Missouri Flat Road, local businesses, and residents. These impacts have a moderate to moderate-high potential to impact the visual character in the corridor, but these impacts are short-term.

### *Permanent Impacts — Trail*

Permanent Impacts from the trail are primarily related to its use. As noted earlier in this section, an unimproved trail already exists in the section being improved. Some viewers, particularly residents, may perceive the paved trail as more visually intrusive than the existing unpaved trail; however, due to screening by existing vegetation and the fact that the majority of trail users will see the new trail as an improvement, permanent impacts from the trail to visual character are considered low.

### *Permanent Impacts – Pedestrian Overcrossing*

The overpass structure has a greater potential than the trail corridor to cause long-term impacts to visual character. The overpass will be highly visible to travelers, residents and businesses for some distance along Missouri Flat Road due to the structure's elevation and position with respect to direction of travel. Additionally, the proposed improvements will be viewed by thousands of people per day[1]. As was discussed earlier, however, the forms, colors and textures of the overpass and abutments are consistent with the historic character of the area, and these elements have the potential to improve upon the visual character of the corridor by reflecting the design aesthetic goals in the DSEDMP. Additionally, both motorists and trail users may view the structure in a positive light, the former because the overcrossing represents less pedestrian-related impacts to the roadway, and the latter because it is an extension of the trail. For these reasons, the potential impact to visual character from the proposed overcrossing structure is considered low.

Based upon the nighttime 3D renderings of the overcrossing (**Figure 5** and **Figure 6**), proposed lighting, if used, will only illuminate deck walkway surfaces, minimizing any light outside of the overcrossing structure. Therefore, potential visual impacts due to light and glare are low.

The project area does not contain any significant scenic vistas nor scenic highways.

## Project Alternatives

The only project alternative considered in this analysis is the No Project alternative. If the overcrossing and trail are not constructed, it is likely that people will continue using the unimproved trail, possibly at greater levels than currently occur. Unimproved trail use has a greater potential to cause erosion, which can further the degrade visual character of the corridor. Additionally, without a formally designated paved trail, additional trail-blazing may occur within the corridor, leading to ongoing denuding of vegetation and compaction and degradation of soils, both of which can impact the visual character. Continued use of the unimproved trail may also lead to the need for an on-demand High-Intensity Activated Cross Walk (HAWK)-type or other high visibility pedestrian crossing on Missouri Flat Road, or even a traffic light, which may be viewed more negatively by both motorists and trail users than an overcrossing. The actual changes that may arise from a future condition in which the project is not implemented are unknown, but may lead to moderate-low or moderate changes in the visual character of the project area.

## Avoidance and Minimization Measures

Avoidance or minimization measures have been identified and can lessen visual impacts caused by the project. Also, the inclusion of aesthetic features in the project design previously discussed can help generate public acceptance of a project. This section describes additional

[1] Weekday PM peak hour traffic volume was measured at 2,030 vehicles/hour in 2013 (Diamond Springs-El Dorado Mobility Plan, 2014).

avoidance and/or minimization measures to address specific visual impacts. These will be designed and implemented with concurrence of the District Landscape Architect.

The following measures to avoid or minimize visual impacts have been or will be incorporated into project design:

1. Truss bridge design to reflect historic railroad bridge forms.
2. Rock cladding on bridge abutments.
3. Low-level safety lighting on bridge.
4. Minimum disturbance areas when grading trail.
5. Preservation of screening trees wherever possible.
6. Use of opaque construction security fencing where feasible.
7. Minimization of construction after dusk and before dawn to reduce use of construction lighting.

## Conclusions

If the project is constructed with avoidance and minimization as indicated and designed, impact to visual resources will be low.

# Appendix C — *El Dorado Trail Project Air Quality Study*, November 29, 2016

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# EL DORADO TRAIL PROJECT
# AIR QUALITY STUDY

*Prepared for:*

**Foothill Associates**

*Prepared by:*

KD Anderson & Associates
3853 Taylor Road, Suite G
Loomis, CA 95650
916/660-1555

November 29, 2016

Project #3358-023

KD Anderson & Associates, Inc.
Transportation Engineers

# TABLE OF CONTENTS

# TABLE OF CONTENTS

## TABLES



## FIGURES



## TECHNICAL APPENDIX

# EXECUTIVE SUMMARY

This *Executive Summary* is a brief overview of the analysis presented in this Air Quality Study. It is not intended to be a comprehensive description of the analysis. For more details, the reader is referred to the full description presented in the Air Quality Study.

The Proposed Project is the El Dorado Trail Project. The project would involve 2.2 miles of Class 1 multi-use bicycle and pedestrian improvements, including an overcrossing of a roadway, in El Dorado County.

This Air Quality Study presents an evaluation of the construction-related and operational impacts of the Proposed Project on the air quality environment.

The Proposed Project would be located within the Mountain Counties Air Basin (MCAB). The project site is designated a state and federal nonattainment area for ozone. The area is a state nonattainment area for inhalable particulate matter smaller than 10 microns in diameter (designated $PM_{10}$), and a federal unclassified/attainment area for $PM_{10}$. The project site is in a nonattainment area for the federal standard for fine particulate matter smaller than 2.5 microns in diameter ($PM_{2.5}$), and an unclassified area for the state $PM_{2.5}$ standard. The area is designated attainment or unclassified for carbon monoxide (CO).

Implementation of the El Dorado Trail Project would result in the generation of short-term construction-related air pollutant emissions. Mitigation measures are recommended to reduce this impact to a less-than-significant level.

The project is in an area that may contain naturally occurring asbestos (NOA). Mitigation measures are required to reduce this impact to a less-than-significant level.

The project would not be expected to result in the generation of substantial long-term operational emissions. Therefore, the project is considered to have a less-than-significant operational impact on ozone, CO, and $PM_{10}$.

An assessment of the effects of the Proposed Project on global climate change and greenhouse gas (GHG) emissions was conducted. The project-related change in GHG emissions was quantified. The El Dorado Trail Project is determined to have a less-than-significant short-term construction-related and long-term operational impact on global climate change.

# SECTION 1
# INTRODUCTION

This Air Quality Study has been prepared to assess the air quality impacts of the proposed El Dorado Trail Project. This study contains information that will be used by the County of El Dorado in the preparation of the environmental documents for this project.

The purpose of this Air Quality Study is to provide documentation of the air quality resources in the project area, and an assessment of the impacts of the Proposed Project on the air quality environment.

This study assesses the localized air quality impacts of the Proposed Project, the impacts of the project on regional air quality, and construction-related impacts of the project.

Following this *Introduction* section, this Air Quality Study presents a description of:

- the Proposed Project,
- air quality standards and existing air quality conditions,
- short-term construction-related impacts,
- long-term operational impacts,
- impacts on global climate change and GHG emissions, and
- federal Clean Air Act conformity impacts.

# SECTION 2
# PROJECT DESCRIPTION

The El Dorado Trail from Missouri Flat Road to El Dorado Road (CIP #97014) and the El Dorado Trail at Missouri Flat Road Bike/Pedestrian Overcrossing (CIP #97015) projects are independently identified in the County's Capital Improvement Program (CIP) as separate projects, with each segment receiving separate Federal Highway Administration Congestion Mitigation and Air Quality (CMAQ) grant awards for planning and environmental and engineering analysis. Due to the locality and interconnection of the two segments, the following are being combined within the CEQA analyses as a single project:

- the El Dorado Trail from Missouri Flat Road to the town of El Dorado, and
- the El Dorado Trail at Missouri Flat Road Bike/Pedestrian Overcrossing.

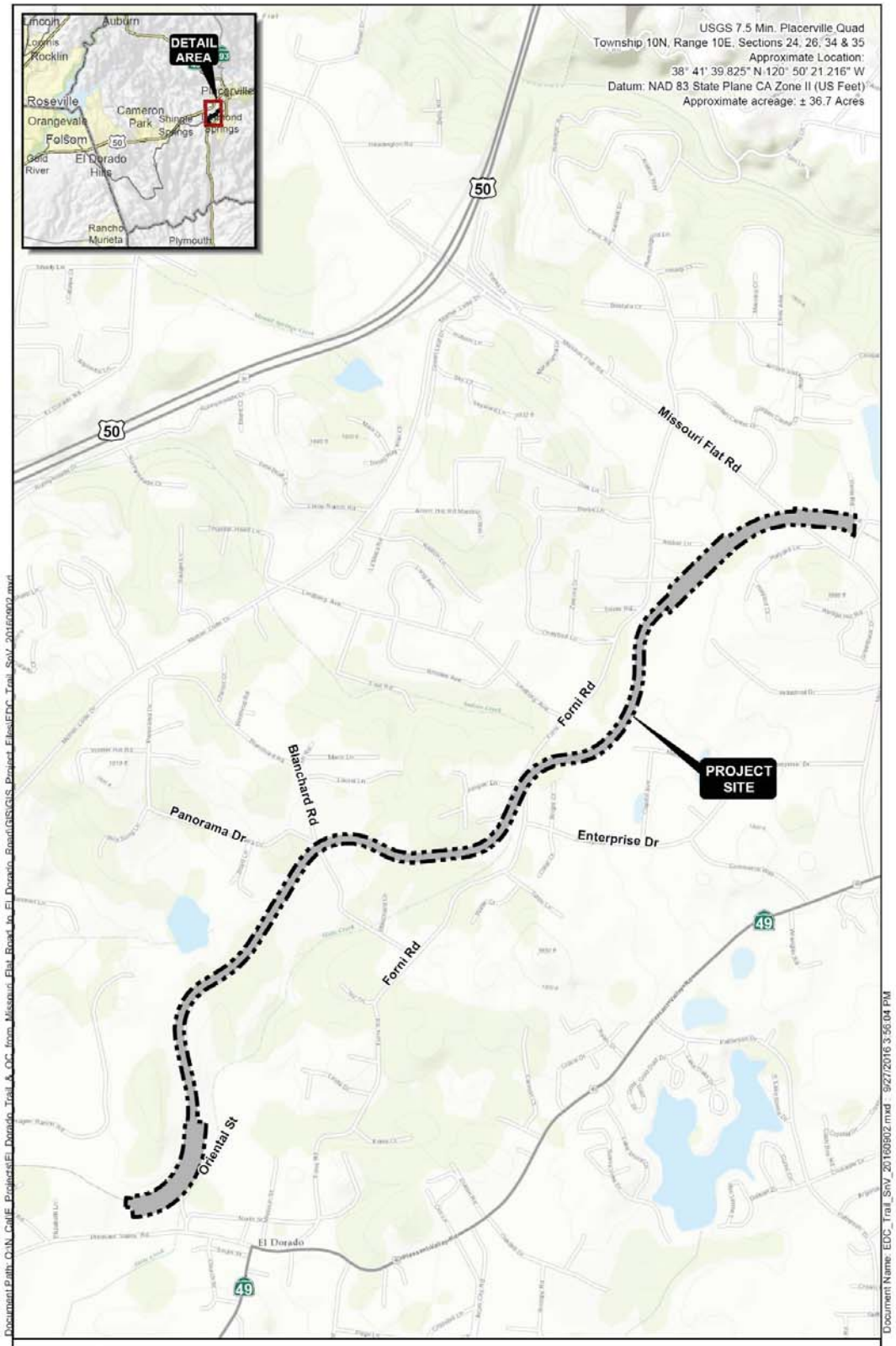
The El Dorado Trail project would provide approximately 2.2 miles of Class 1 multi-use bicycle and pedestrian path improvements to the El Dorado Trail.

The El Dorado trail project would have a southwest terminus at the town of El Dorado and a northeast terminus at a grade-separated crossing of Missouri Flat Road. **Figure 1** shows the location and vicinity of the project site.

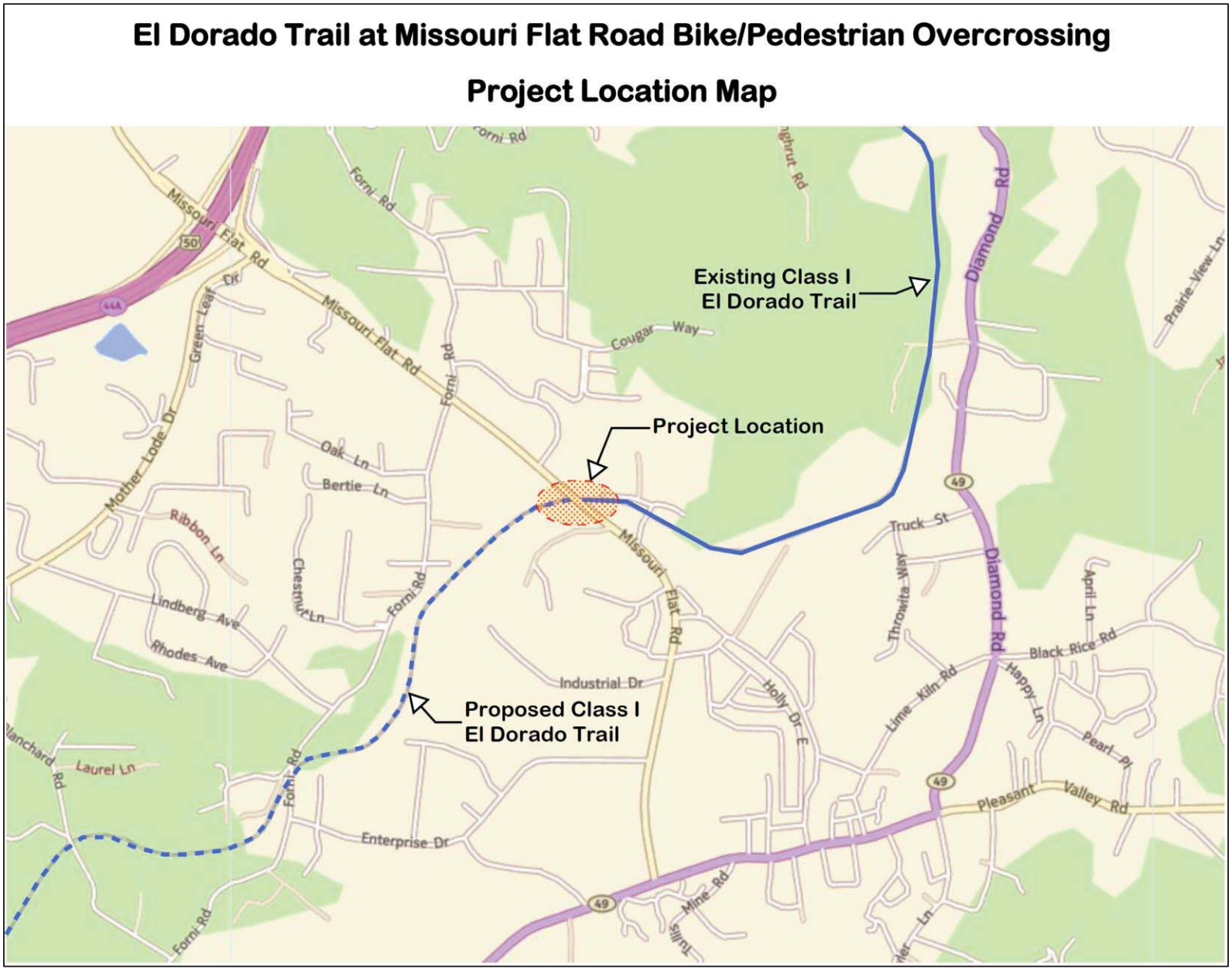
**Figure 2** shows the location of the bike/pedestrian overcrossing of Missouri Flat Road. The El Dorado Trail project would connect with the recently-completed portion of El Dorado Trail northeast of Missouri Flat Road.

Construction of both the trail and the overcrossing portions of the project are expected to begin in April 2020. Construction of the overcrossing portion is expected to be completed in September 2020. Construction of the trail portion is expected to be completed in October 2020. (Harrington pers. comm.)

The project includes federal funding, and would require compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) (County of El Dorado 2015a and County of El Dorado 2015b).




# PROJECT SITE AND VICINITY




OVERCROSSING LOCATION

# SECTION 3
# AIR QUALITY STANDARDS AND EXISTING CONDITIONS

The following is a description of ambient air quality standards and existing air quality conditions in the El Dorado Trail Project study area.

## 3.1 AIR POLLUTANTS AND AMBIENT STANDARDS

Both the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB or ARB) have established ambient air quality standards for common pollutants. These ambient air quality standards indicate levels of contaminants that represent safe levels, to avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. The federal and state ambient air quality standards are presented in **Table 1**. The federal and state ambient standards were developed independently with differing purposes and methods, 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, as is the case for ozone, $PM_{10}$, and $PM_{2.5}$.

There are three basic designation categories: nonattainment, attainment, and unclassified. A "nonattainment" designation indicates the air quality violates an ambient air quality standard. Although a number of areas may be designated as nonattainment for a particular pollutant, the severity of the problem can vary greatly. To identify the severity of the problem and the extent of planning required, nonattainment areas are assigned a classification that is commensurate with the severity of their air quality problem (e.g., moderate, serious, severe). In contrast to nonattainment, an "attainment" designation indicates the air quality does not violate the established standard. Finally, an "unclassified" designation indicates there are insufficient data for determining attainment or nonattainment. EPA combines unclassified and attainment into one designation for ozone, CO, $PM_{10}$ and $PM_{2.5}$.

## 3.2 POLLUTANTS OF CONCERN

Criteria pollutants that are of greatest concern for the Proposed Project are CO, ozone, and particulate matter. Ozone is a pollutant created in the atmosphere through the combination of two "precursors", reactive organic gases (ROG) and nitrogen oxides ($NO_x$), in the presence of sunlight.

In addition, this Air Quality Study addresses asbestos, diesel particulate matter, and the effects of GHG emissions on global climate change.

## Table 1. Ambient Air Quality Standards

| Ambient Air Quality Standards | | | | | | |
|---|---|---|---|---|---|---|
| **Pollutant** | **Averaging Time** | **California Standards [1]** | | **National Standards [2]** | | |
| | | **Concentration [3]** | **Method [4]** | **Primary [3,5]** | **Secondary [3,6]** | **Method [7]** |
| **Ozone ($O_3$)[8]** | 1 Hour | 0.09 ppm (180 µg/m$^3$) | Ultraviolet Photometry | — | Same as Primary Standard | Ultraviolet Photometry |
| | 8 Hour | 0.070 ppm (137 µg/m$^3$) | | 0.070 ppm (137 µg/m$^3$) | | |
| **Respirable Particulate Matter (PM10)[9]** | 24 Hour | 50 µg/m$^3$ | Gravimetric or Beta Attenuation | 150 µg/m$^3$ | Same as Primary Standard | Inertial Separation and Gravimetric Analysis |
| | Annual Arithmetic Mean | 20 µg/m$^3$ | | — | | |
| **Fine Particulate Matter (PM2.5)[9]** | 24 Hour | — | — | 35 µg/m$^3$ | Same as Primary Standard | Inertial Separation and Gravimetric Analysis |
| | Annual Arithmetic Mean | 12 µg/m$^3$ | Gravimetric or Beta Attenuation | 12.0 µg/m$^3$ | 15 µg/m$^3$ | |
| **Carbon Monoxide (CO)** | 1 Hour | 20 ppm (23 mg/m$^3$) | Non-Dispersive Infrared Photometry (NDIR) | 35 ppm (40 mg/m$^3$) | — | Non-Dispersive Infrared Photometry (NDIR) |
| | 8 Hour | 9.0 ppm (10 mg/m$^3$) | | 9 ppm (10 mg/m$^3$) | — | |
| | 8 Hour (Lake Tahoe) | 6 ppm (7 mg/m$^3$) | | — | — | |
| **Nitrogen Dioxide ($NO_2$)[10]** | 1 Hour | 0.18 ppm (339 µg/m$^3$) | Gas Phase Chemiluminescence | 100 ppb (188 µg/m$^3$) | — | Gas Phase Chemiluminescence |
| | Annual Arithmetic Mean | 0.030 ppm (57 µg/m$^3$) | | 0.053 ppm (100 µg/m$^3$) | Same as Primary Standard | |
| **Sulfur Dioxide ($SO_2$)[11]** | 1 Hour | 0.25 ppm (655 µg/m$^3$) | Ultraviolet Fluorescence | 75 ppb (196 µg/m$^3$) | — | Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method) |
| | 3 Hour | — | | — | 0.5 ppm (1300 µg/m$^3$) | |
| | 24 Hour | 0.04 ppm (105 µg/m$^3$) | | 0.14 ppm (for certain areas)[11] | — | |
| | Annual Arithmetic Mean | — | | 0.030 ppm (for certain areas)[11] | — | |
| **Lead[12,13]** | 30 Day Average | 1.5 µg/m$^3$ | Atomic Absorption | — | — | High Volume Sampler and Atomic Absorption |
| | Calendar Quarter | — | | 1.5 µg/m$^3$ (for certain areas)[12] | Same as Primary Standard | |
| | Rolling 3-Month Average | — | | 0.15 µg/m$^3$ | | |
| **Visibility Reducing Particles[14]** | 8 Hour | See footnote 14 | Beta Attenuation and Transmittance through Filter Tape | **No National Standards** | | |
| **Sulfates** | 24 Hour | 25 µg/m$^3$ | Ion Chromatography | | | |
| **Hydrogen Sulfide** | 1 Hour | 0.03 ppm (42 µg/m$^3$) | Ultraviolet Fluorescence | | | |
| **Vinyl Chloride[12]** | 24 Hour | 0.01 ppm (26 µg/m$^3$) | Gas Chromatography | | | |

**See footnotes on next page …**

**For more information please call ARB-PIO at (916) 322-2990** **California Air Resources Board (5/4/16)**

## Table 1. Ambient Air Quality Standards (Continued)

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

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

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

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

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

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

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

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

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

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

11. On June 2, 2010, a new 1-hour $SO_2$ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 $SO_2$ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

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

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

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

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

**For more information please call ARB-PIO at (916) 322-2990** **California Air Resources Board (5/4/16)**

### 3.2.1 Carbon Monoxide

State and federal CO standards have been set for both one-hour and eight-hour averaging times. The state one-hour standard is 20 parts per million (ppm) by volume, while the federal one-hour standard is 35 ppm. Both state and federal standards are 9 ppm for the eight-hour averaging period. CO is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream.

Motor vehicles are the dominant source of CO emissions in most areas. High CO levels develop primarily during winter when periods of light winds combine with the formation of ground level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

### 3.2.2 Ozone

Prior to 2005, both state and federal standards for ozone were set for a one-hour averaging time. The state ozone standard is 0.09 ppm, not to be exceeded. The federal one-hour standard was 0.12 ppm and was not to be exceeded more than three times in any three-year period. A federal eight-hour standard for ozone was issued in July 1997 by Executive Order of the President. The eight-hour ozone standard has been set at a concentration of 0.070 ppm ozone measured over eight hours.

As of June 15, 2005, the federal one-hour ozone standard was revoked. In setting the eight-hour ozone standard, EPA concluded that replacing the existing one-hour standard with an eight-hour standard was appropriate to provide adequate and more uniform protection of public health from both short-term (one to three hours) and prolonged (six to eight hours) exposures to ozone.

Ozone is not emitted directly into the air, but is formed by a photochemical reaction in the atmosphere. Ozone precursors, which include ROG and $NO_x$, react in the atmosphere in the presence of sunlight to form ozone. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, ozone is primarily a summer air pollution problem. Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials. Once formed, ozone remains in the atmosphere for one or two days. It is then eliminated through chemical reaction with plants and by rainout and washout.

### 3.2.3 Particulate Matter

State and federal standards for particulate matter are based on micrograms per cubic meter ($\mu g/m^3$) for a 24-hour average and as an annual geometric mean.

$PM_{10}$ is sometimes referred to as “inhalable particulate matter” or “respirable particulate matter”. The state standards for $PM_{10}$ are 50 $\mu g/m^3$ 24-hour average, and 20 $\mu g/m^3$ annual arithmetic mean. The federal $PM_{10}$ standard is a 24-hour average of 150 $\mu g/m^3$.

A federal standard for particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) was issued in July 1997 by Executive Order of the President. $PM_{2.5}$ is sometimes referred to as "fine particulate matter". The $PM_{2.5}$ standard has been set at a concentration of 12 $\mu g/m^3$ annually and 35 $\mu g/m^3$ daily. The federal standards for $PM_{10}$ are being maintained so that relatively larger, courser particulate matter continues to be regulated.

The state $PM_{2.5}$ standard is an annual average of 12 $\mu g/m^3$.

$PM_{10}$ and $PM_{2.5}$ can reach the lungs when inhaled, resulting in health concerns related to respiratory disease. Suspended particulate matter can also affect vision or contribute to eye irritation. $PM_{10}$ can remain in the atmosphere for up to seven days before removal by gravitational settling, rainout and washout.

### 3.2.4 Asbestos

In addition to criteria pollutants, a pollutant of concern for the project is asbestos. Asbestos is a term used for several types of naturally occurring fibrous minerals. Naturally occurring asbestos (NOA) is found in many parts of California. The most common type of asbestos is chrysotile, but other types are also found in California.

When rock containing asbestos is broken or crushed, asbestos fibers may be released and become airborne. Exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest and abdominal cavity), and asbestosis (a non-cancerous lung disease which causes scarring of the lungs). Sources of asbestos emissions include: unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present.

### 3.2.5 Greenhouse Gases

Relatively recently, global climate change, also known as global warming, has been recognized as an important environmental issue. Documented impacts of climate change include rising sea levels, glacier retreat, shortening of frost seasons, and increases in precipitation, among other events. Climate change is considered to be heavily influenced by the rising concentration of greenhouse gases (GHG), primarily atmospheric carbon dioxide ($CO_2$). Burning of fossil fuels, including oil, natural gas, gasoline and coal, is a major contributor to rising GHG levels.

## 3.3 AIR QUALITY MONITORING

The following tables present air quality monitoring data for four pollutants: ozone, CO, $PM_{10}$, and $PM_{2.5}$. **Table 2** presents monitoring data for ozone and CO. **Table 3** presents monitoring data for $PM_{10}$ and $PM_{2.5}$. Data for the latest three-year period (2013 through 2015) are presented for the ozone, $PM_{10}$, and $PM_{2.5}$ monitoring stations closest to the Project site. The most recent CO data is for the period 2010 through 2012. CO, $PM_{10}$, and $PM_{2.5}$ monitoring data for El Dorado County are not available.

**Table 2. Ozone and Carbon Monoxide Air Quality Monitoring Results**

| Pollutant Type, Station and Measurement | Air Quality Standard | Pollutant Concentration by Year 2013 | 2014 | 2015 |
|---|---|---|---|---|
| **Ozone at Placerville - Gold Nugget Way** | | | | |
| Highest 1-Hour Average (parts per million) | 0.090 | 0.097 | 0.104 | 0.103 |
| Second Highest 1-Hour Average (parts per million) | (State) | 0.093 | 0.092 | 0.099 |
| Highest 8-Hour Average (parts per million) | 0.070 | 0.084 | 0.096 | 0.084 |
| Second Highest 8-Hour Average (parts per million) | (State) | 0.083 | 0.094 | 0.083 |
| | | **2010** | **2011** | **2012** |
| **Carbon Monoxide at Sacramento - Del Paso Manor** | | | | |
| Highest 8-Hour Average (parts per million) | 9.0 | 1.60 | 2.27 | 1.51 |
| Second Highest 8-Hour Average (parts per million) | (State) | 1.45 | 2.23 | 1.50 |

Source: California Air Resources Board website: http://www.arb.ca.gov/

Note: Data are not available for carbon monoxide monitoring in El Dorado County.

**Table 3. Particulate Matter Air Quality Monitoring Results**

| Pollutant Type, Station and Measurement | Air Quality Standard | Pollutant Concentration by Year 2013 | 2014 | 2015 |
|---|---|---|---|---|
| **Inhalable Particulate Matter ($PM_{10}$) at Roseville - N Sunrise Boulevard** | | | | |
| Highest 24-Hour Average (micrograms/cubic meter) | 50 | 55.5 | 30.2 | 35.7 |
| Second Highest 24-Hour Average (micrograms/cubic meter) | (State) | 36.4 | 29.5 | 24.4 |
| Annual Average (micrograms/cubic meter) | 20 (State) | 18.4 | 17.9 | 13.0 |
| **Fine Particulate Matter ($PM_{2.5}$) at Auburn - 11645 Atwood Road** | | | | |
| Highest 24-Hour Average (micrograms/cubic meter) | 35 | 75.6 | 190.2 | 109.8 |
| Second Highest 24-Hour Average (micrograms/cubic meter) | (Federal) | 73.4 | 130.6 | 34.5 |
| Annual Average (micrograms/cubic meter) | 12 (State) | 6.8 | 6.8 | 7.6 |

Source: California Air Resources Board website: http://www.arb.ca.gov/

Note: Dashes ( " - - " ) indicate insufficient data or no data are available.
Data are not available for particulate monitoring in the Mountain Counties Air Basin portion of El Dorado County.

## 3.4 ATTAINMENT DESIGNATIONS

The current air quality attainment designations for El Dorado County are summarized in **Table 4**. As shown in **Table 4**, the portion of El Dorado County that includes the Project site is designated nonattainment for the federal and state ozone standards. The Project site portion of the County is designated attainment or unclassified for the federal and state CO and nitrogen dioxide ($NO_2$) standards.

The Project site portion of El Dorado County is designated nonattainment for the state $PM_{10}$ standard, and designated unclassifed for the national $PM_{10}$ standard. The area is designated nonattainment for the federal $PM_{2.5}$ standard and unclassified for the state $PM_{2.5}$ standard.

## 3.5 EMISSIONS INVENTORY

**Table 5** presents estimates of emissions currently generated in El Dorado County. The information presented in **Table 5** is divided into emission source categories. **Table 6** presents a forecast of emissions expected to be generated in El Dorado County in the year 2035. Like **Table 5**, the information presented in **Table 6** is divided into emission source categories.

For both current and 2035 emissions, the major source category that generates the largest amounts of ROG emissions in El Dorado County is Other Mobile Sources. For current emissions, the largest subcategory within this category is Recreational Boats. For 2035 emissions, the largest subcategory within this category is Off-Road Recreational Vehicles.

For current emissions, the major source category that generates the largest amounts of CO and $NO_x$ emissions in El Dorado County is On-Road Motor Vehicles. For 2035 emissions, the major source category that generates the largest amounts of CO and $NO_x$ emissions in El Dorado County is Other Mobile Sources. The largest subcategory within this category is Off-Road Equipment for CO, and is Recreational Boats for $NO_x$.

For both current and 2035 emissions, the major source category that generates the largest amounts of $PM_{10}$ and $PM_{2.5}$ emissions in El Dorado County is Miscellaneous Processes. For $PM_{10}$, the largest subcategory within this category is Unpaved Road Dust. For $PM_{2.5}$, the largest subcategory within this category is Residential Fuel Combustion.

**Table 4. Air Quality Attainment Status Designations**
**Mountain Counties Air Basin portion of El Dorado County**

| Pollutant | Federal Standard | State Standard |
|---|---|---|
| Ozone | Nonattainment | Nonattainment |
| Carbon Monoxide | Unclassified / Attainment | Unclassified |
| Nitrogen Dioxide | Unclassified / Attainment | Attainment |
| Inhalable Particulate Matter ($PM_{10}$) | Unclassified | Nonattainment |
| Fine Particulate Matter ($PM_{2.5}$) | Nonattainment (Western Portion) | Unclassified |

Source: California Air Resources Board (http://www.arb.ca.gov)

**Table 5. El Dorado County Emissions Inventory for 2012**

| Emission Category | Reactive Organic Gases | Carbon Monoxide | Nitrogen Oxides | Inhalable Particulate Matter ($PM_{10}$) | Fine Particulate Matter ($PM_{2.5}$) |
|---|---|---|---|---|---|
| Fuel Combustion | | | | | |
| Manufacturing and Industrial | 0.00 | 0.01 | 0.02 | 0.00 | 0.00 |
| Food and Agricultural Processing | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 |
| Service and Commercial | 0.00 | 0.02 | 0.09 | 0.01 | 0.01 |
| Other (Fuel Combustion) | 0.00 | 0.01 | 0.05 | 0.00 | 0.00 |
| **Subtotal** | **0.00** | **0.05** | **0.17** | **0.01** | **0.01** |
| Waste Disposal | | | | | |
| Landfills | 0.03 | - - | 0.01 | - - | - - |
| Other (Waste Disposal) | 0.02 | - - | - - | - - | - - |
| **Subtotal** | **0.05** | **0.00** | **0.01** | **0.00** | **0.00** |
| Cleaning and Surface Coatings | | | | | |
| Laundering | 0.01 | - - | - - | - - | - - |
| Degreasing | 0.11 | - - | - - | - - | - - |
| Coatings and Related Process Solvents | 0.31 | - - | - - | - - | - - |
| Printing | 0.05 | - - | - - | - - | - - |
| Adhesives and Sealants | 0.06 | - - | - - | - - | - - |
| **Subtotal** | **0.54** | **0.00** | **0.00** | **0.00** | **0.00** |
| Petroleum Production and Marketing | | | | | |
| Petroleum Marketing | 0.34 | - - | - - | - - | - - |
| **Subtotal** | **0.34** | **0.00** | **0.00** | **0.00** | **0.00** |
| Industrial Processes | | | | | |
| Chemical | 0.00 | - - | - - | 0.06 | 0.05 |
| Food and Agriculture | 0.02 | - - | - - | 0.00 | 0.00 |
| Mineral Processes | - - | 0.05 | 0.01 | 0.17 | 0.06 |
| Wood and Paper | - - | - - | - - | 0.11 | 0.06 |
| **Subtotal** | **0.02** | **0.05** | **0.01** | **0.34** | **0.17** |
| Solvent Evaporation | | | | | |
| Consumer Products | 0.99 | - - | - - | - - | - - |
| Architectural Coatings & Related Process Solvents | 0.60 | - - | - - | - - | - - |
| Pesticides/Fertilizers | 0.03 | - - | - - | - - | - - |
| Asphalt Paving / Roofing | 0.51 | - - | - - | - - | - - |
| **Subtotal** | **2.13** | **0.00** | **0.00** | **0.00** | **0.00** |

**Table 5. El Dorado County Emissions Inventory for 2012 (Continued)**

| Emission Category | | Reactive Organic Gases | Carbon Monoxide | Nitrogen Oxides | Inhalable Particulate Matter ($PM_{10}$) | Fine Particulate Matter ($PM_{2.5}$) |
|---|---|---|---|---|---|---|
| Miscellaneous Processes | | | | | | |
| Residential Fuel Combustion | | 1.53 | 8.60 | 0.34 | 1.17 | 1.13 |
| Farming Operations | | 0.16 | - - | - - | 0.01 | 0.00 |
| Construction and Demolition | | - - | - - | - - | 1.18 | 0.12 |
| Paved Road Dust | | - - | - - | - - | 1.14 | 0.17 |
| Unpaved Road Dust | | - - | - - | - - | 4.99 | 0.50 |
| Fugitive Windblown Dust | | - - | - - | - - | 0.12 | 0.02 |
| Fires | | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 |
| Managed Burning and Disposal | | 0.14 | 1.96 | 0.01 | 0.18 | 0.16 |
| Cooking | | 0.02 | - - | - - | 0.08 | 0.08 |
| Other (Miscellaneous Processes) | | - - | - - | - - | - - | - - |
| | **Subtotal** | **1.85** | **10.59** | **0.35** | **8.87** | **2.18** |
| On-Road Motor Vehicles | | | | | | |
| Light Duty Vehicles | | 1.63 | 15.27 | 1.35 | 0.21 | 0.08 |
| Medium Duty Trucks | | 0.50 | 5.60 | 0.68 | 0.05 | 0.02 |
| Heavy Duty Trucks | | 0.45 | 3.57 | 2.44 | 0.09 | 0.05 |
| Motorcycles | | 0.24 | 1.58 | 0.07 | 0.00 | 0.00 |
| Buses | | 0.02 | 0.24 | 0.17 | 0.00 | 0.00 |
| Motor Homes | | 0.01 | 0.30 | 0.08 | 0.00 | 0.00 |
| | **Subtotal** | **2.85** | **26.56** | **4.79** | **0.35** | **0.15** |
| Other Mobile Sources | | | | | | |
| Aircraft | | 0.33 | 3.37 | 0.22 | 0.10 | 0.09 |
| Commercial Harbor Craft | | 0.02 | 0.09 | 0.24 | 0.01 | 0.01 |
| Recreational Boats | | 1.66 | 5.67 | 0.33 | 0.10 | 0.08 |
| Off-Road Recreational Vehicles | | 0.97 | 3.27 | 0.05 | 0.01 | 0.01 |
| Off-Road Equipment | | 0.59 | 6.41 | 0.72 | 0.05 | 0.05 |
| Farm Equipment | | 0.07 | 0.50 | 0.39 | 0.02 | 0.02 |
| Fuel Storage and Handling | | 0.09 | - - | - - | - - | - - |
| | **Subtotal** | **3.73** | **19.31** | **1.95** | **0.29** | **0.26** |
| **COUNTY TOTAL** | | **11.53** | **56.58** | **7.31** | **9.89** | **2.81** |

Notes: All values are in tons per day. Dashes ( "- -" ) indicate no data are available.
The sum of values may not equal total shown due to rounding.
Source: California Air Resources Board (CARB) website: http://arb.ca.gov

**Table 6. El Dorado County Emissions Forecast for 2035**

| Emission Category | Reactive Organic Gases | Carbon Monoxide | Nitrogen Oxides | Inhalable Particulate Matter ($PM_{10}$) | Fine Particulate Matter ($PM_{2.5}$) |
|---|---|---|---|---|---|
| Fuel Combustion | | | | | |
| Manufacturing and Industrial | 0.00 | 0.01 | 0.02 | 0.00 | 0.00 |
| Food and Agricultural Processing | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Service and Commercial | 0.01 | 0.03 | 0.10 | 0.01 | 0.01 |
| Other (Fuel Combustion) | 0.00 | 0.01 | 0.04 | 0.00 | 0.00 |
| **Subtotal** | **0.01** | **0.06** | **0.16** | **0.01** | **0.01** |
| Waste Disposal | | | | | |
| Sewage Treatment | - - | - - | - - | - - | - - |
| Landfills | 0.04 | 0.00 | 0.01 | 0.00 | 0.00 |
| Other (Waste Disposal) | 0.02 | - - | - - | - - | - - |
| **Subtotal** | **0.06** | **0.00** | **0.01** | **0.00** | **0.00** |
| Cleaning and Surface Coatings | | | | | |
| Laundering | 0.01 | - - | - - | - - | - - |
| Degreasing | 0.12 | - - | - - | - - | - - |
| Coatings and Related Process Solvents | 0.40 | - - | - - | - - | - - |
| Printing | 0.05 | - - | - - | - - | - - |
| Adhesives and Sealants | 0.05 | - - | - - | - - | - - |
| **Subtotal** | **0.63** | **- -** | **- -** | **- -** | **- -** |
| Petroleum Production and Marketing | | | | | |
| Petroleum Marketing | 0.38 | - - | - - | - - | - - |
| **Subtotal** | **0.38** | **- -** | **- -** | **- -** | **- -** |
| Industrial Processes | | | | | |
| Chemical | 0.01 | - - | - - | 0.11 | 0.11 |
| Food and Agriculture | 0.02 | - - | - - | 0.00 | 0.00 |
| Mineral Processes | - - | 0.08 | 0.02 | 0.29 | 0.11 |
| Wood and Paper | - - | - - | - - | 0.13 | 0.08 |
| **Subtotal** | **0.03** | **0.08** | **0.02** | **0.53** | **0.30** |
| Solvent Evaporation | | | | | |
| Consumer Products | 1.14 | - - | - - | - - | - - |
| Architectural Coatings & Related Process Solvents | 0.75 | - - | - - | - - | - - |
| Pesticides/Fertilizers | 0.04 | - - | - - | - - | - - |
| Asphalt Paving / Roofing | 0.53 | - - | - - | - - | - - |
| **Subtotal** | **2.46** | **- -** | **- -** | **- -** | **- -** |

**Table 6. El Dorado County Emissions Forecast for 2035 (Continued)**

| Emission Category | | Reactive Organic Gases | Carbon Monoxide | Nitrogen Oxides | Inhalable Particulate Matter ($PM_{10}$) | Fine Particulate Matter ($PM_{2.5}$) |
|---|---|---|---|---|---|---|
| Miscellaneous Processes | | | | | | |
| Residential Fuel Combustion | | 1.83 | 10.30 | 0.34 | 1.40 | 1.35 |
| Farming Operations | | 0.16 | - - | - - | 0.01 | 0.00 |
| Construction and Demolition | | - - | - - | - - | 1.28 | 0.13 |
| Paved Road Dust | | - - | - - | - - | 1.26 | 0.19 |
| Unpaved Road Dust | | - - | - - | - - | 4.99 | 0.50 |
| Fugitive Windblown Dust | | - - | - - | - - | 0.12 | 0.02 |
| Fires | | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 |
| Managed Burning and Disposal | | 0.14 | 1.96 | 0.01 | 0.18 | 0.16 |
| Cooking | | 0.02 | - - | - - | 0.11 | 0.11 |
| Other (Miscellaneous Processes) | | - - | - - | - - | - - | - - |
| | **Subtotal** | **2.15** | **12.30** | **0.35** | **9.35** | **2.46** |
| On-Road Motor Vehicles | | | | | | |
| Light Duty Vehicles | | 0.25 | 2.81 | 0.19 | 0.24 | 0.10 |
| Medium Duty Trucks | | 0.18 | 1.25 | 0.11 | 0.05 | 0.02 |
| Heavy Duty Trucks | | 0.14 | 1.21 | 0.58 | 0.07 | 0.02 |
| Motorcycles | | 0.23 | 1.46 | 0.08 | 0.00 | 0.00 |
| Buses | | 0.00 | 0.07 | 0.05 | 0.00 | 0.00 |
| Motor Homes | | 0.00 | 0.01 | 0.03 | 0.00 | 0.00 |
| | **Subtotal** | **0.80** | **6.81** | **1.04** | **0.36** | **0.14** |
| Other Mobile Sources | | | | | | |
| Aircraft | | 0.38 | 3.78 | 0.25 | 0.11 | 0.11 |
| Commercial Harbor Craft | | 0.02 | 0.12 | 0.13 | 0.00 | 0.00 |
| Recreational Boats | | 0.79 | 7.29 | 0.34 | 0.05 | 0.04 |
| Off-Road Recreational Vehicles | | 0.88 | 4.53 | 0.10 | 0.01 | 0.01 |
| Off-Road Equipment | | 0.55 | 7.85 | 0.28 | 0.03 | 0.03 |
| Farm Equipment | | 0.02 | 0.48 | 0.06 | 0.00 | 0.00 |
| Fuel Storage and Handling | | 0.03 | - - | - - | - - | - - |
| | **Subtotal** | **2.67** | **24.05** | **1.16** | **0.20** | **0.19** |
| **COUNTY TOTAL** | | **9.19** | **43.29** | **2.75** | **10.50** | **3.12** |

Notes: Emissions from Natural Sources not shown.
All values are in tons per day. Dashes ( "- -" ) indicate no data are available.
The sum of values may not equal total shown due to rounding.
Source: California Air Resources Board (CARB) website: http://arb.ca.gov

**Table 7** presents estimates of GHG emissions generated in California during the years 2000 through 2013. **Table 8** presents estimates of GHG emissions generated in California during the years 2009 through 2020. The data in **Table 7** are expressed as "million tonnes of $CO_2$ equivalent" per year. One tonne is sometimes referred to as a "metric ton", and is equal to 2,204.6 pounds. The data in **Table 8** are expressed as million metric tons of $CO_2$ equivalent (MMTCO2e) per year.

While $CO_2$ is the most common component of GHG, several different compounds are components of overall GHG. The different compounds contribute to climate change with varying intensities. The term "$CO_2$ equivalent" ($CO_2e$) refers to a weighted composite of these several compounds, expressed as the equivalent amount of $CO_2$.

Both **Table 7** and **Table 8** present estimates of GHG emissions disaggregated into the following seven major source categories:

- Transportation,
- Electric Power,
- Commercial and Residential,
- Industrial,
- Recycling and Waste,
- High GWP (global warming potential), and
- Agriculture.

Each major source category is further disaggregated into minor source categories.

As shown in both **Table 7** and **Table 8**, Transportation, Electric Power, and Industrial are the larger major source categories of GHG emissions in California. Other activities are relatively smaller sources of GHG emissions.

## Table 7. California Greenhouse Gas Emissions Inventory for 2000 - 2013

California Environmental Protection Agency
Air Resources Board

**California Greenhouse Gas Inventory for 2000-2013**
**— by Category as Defined in the 2008 Scoping Plan**

*million tonnes of CO2 equivalent - (based upon IPCC Fourth Assessment Report's Global Warming Potentials)*

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Transportation** | 176.08 | 176.38 | 183.47 | 183.25 | 186.68 | 188.76 | 188.84 | 188.96 | 177.77 | 171.19 | 170.27 | 168.00 | 167.36 | 169.02 |
| ***On Road*** | ***162.64*** | ***163.12*** | ***169.25*** | ***168.52*** | ***171.30*** | ***172.42*** | ***172.12*** | ***172.15*** | ***162.77*** | ***158.20*** | ***157.22*** | ***154.80*** | ***153.96*** | ***155.24*** |
| Passenger Vehicles | 126.06 | 126.69 | 131.58 | 130.77 | 131.73 | 131.89 | 131.12 | 130.45 | 124.31 | 122.90 | 122.25 | 120.10 | 119.92 | 120.23 |
| Heavy Duty Trucks | 36.58 | 36.43 | 37.67 | 37.74 | 39.57 | 40.53 | 41.00 | 41.70 | 38.45 | 35.31 | 34.97 | 34.70 | 34.04 | 35.02 |
| ***Ships & Commercial Boats*** | ***3.50*** | ***3.32*** | ***3.63*** | ***3.80*** | ***3.81*** | ***4.06*** | ***4.11*** | ***4.27*** | ***4.02*** | ***3.66*** | ***3.68*** | ***3.70*** | ***3.88*** | ***3.96*** |
| ***Aviation (Intrastate)*** | ***4.15*** | ***4.07*** | ***4.12*** | ***4.25*** | ***4.50*** | ***4.50*** | ***4.57*** | ***4.98*** | ***4.51*** | ***4.04*** | ***3.85*** | ***3.75*** | ***3.73*** | ***3.88*** |
| ***Rail*** | ***1.88*** | ***1.89*** | ***2.50*** | ***2.70*** | ***2.91*** | ***3.34*** | ***3.53*** | ***3.17*** | ***2.38*** | ***1.94*** | ***2.33*** | ***2.49*** | ***2.48*** | ***2.48*** |
| ***Off Road [1]*** | ***2.63*** | ***2.79*** | ***2.77*** | ***2.84*** | ***3.03*** | ***3.22*** | ***3.32*** | ***3.18*** | ***2.82*** | ***2.25*** | ***2.03*** | ***2.13*** | ***2.23*** | ***2.33*** |
| ***Unspecified*** | ***1.28*** | ***1.19*** | ***1.21*** | ***1.13*** | ***1.13*** | ***1.22*** | ***1.20*** | ***1.22*** | ***1.27*** | ***1.10*** | ***1.16*** | ***1.14*** | ***1.08*** | ***1.13*** |
| **Industrial** | 97.87 | 96.35 | 97.27 | 96.08 | 98.02 | 96.01 | 94.13 | 90.81 | 91.36 | 88.79 | 92.12 | 91.97 | 92.52 | 92.68 |
| ***Refineries and Hydrogen Production*** | ***28.52*** | ***29.10*** | ***29.25*** | ***29.89*** | ***29.13*** | ***29.80*** | ***29.70*** | ***29.26*** | ***28.47*** | ***28.34*** | ***30.39*** | ***30.12*** | ***29.88*** | ***29.27*** |
| ***General Fuel Use*** | ***20.25*** | ***19.09*** | ***20.32*** | ***16.54*** | ***17.07*** | ***16.05*** | ***16.01*** | ***14.81*** | ***16.05*** | ***15.60*** | ***18.03*** | ***19.18*** | ***19.07*** | ***19.01*** |
| Natural Gas | 16.82 | 14.62 | 15.18 | 11.97 | 12.80 | 12.72 | 12.38 | 11.56 | 12.37 | 11.46 | 13.46 | 14.48 | 14.46 | 14.38 |
| Other Fuels | 3.43 | 4.46 | 5.14 | 4.57 | 4.27 | 3.33 | 3.63 | 3.25 | 3.67 | 4.14 | 4.57 | 4.70 | 4.60 | 4.63 |
| ***Oil & Gas Extraction [2]*** | ***19.81*** | ***20.18*** | ***18.91*** | ***21.39*** | ***21.07*** | ***19.74*** | ***18.07*** | ***18.18*** | ***19.43*** | ***18.34*** | ***17.44*** | ***17.37*** | ***18.06*** | ***19.65*** |
| Fuel Use | 17.53 | 17.76 | 16.51 | 19.03 | 19.20 | 17.91 | 15.75 | 15.78 | 17.03 | 15.92 | 15.01 | 14.91 | 15.50 | 16.99 |
| Fugitive Emissions | 2.29 | 2.41 | 2.40 | 2.36 | 1.87 | 1.83 | 2.32 | 2.39 | 2.40 | 2.42 | 2.44 | 2.46 | 2.56 | 2.67 |
| ***Cement Plants*** | ***9.41*** | ***9.52*** | ***9.62*** | ***9.71*** | ***9.81*** | ***9.91*** | ***9.74*** | ***9.14*** | ***8.63*** | ***5.72*** | ***5.56*** | ***6.14*** | ***6.92*** | ***7.20*** |
| Clinker Production | 5.43 | 5.52 | 5.60 | 5.68 | 5.77 | 5.85 | 5.80 | 5.55 | 5.28 | 3.60 | 3.46 | 4.08 | 4.65 | 4.93 |
| Fuel Use | 3.98 | 4.00 | 4.01 | 4.03 | 4.05 | 4.06 | 3.95 | 3.59 | 3.34 | 2.12 | 2.10 | 2.06 | 2.26 | 2.28 |
| ***Cogeneration Heat Output*** | ***11.73*** | ***10.48*** | ***10.65*** | ***10.59*** | ***12.92*** | ***12.41*** | ***12.16*** | ***11.15*** | ***10.40*** | ***12.55*** | ***12.60*** | ***11.14*** | ***10.81*** | ***9.82*** |
| ***Other Fugitive and Process Emissions*** | ***8.15*** | ***7.99*** | ***8.52*** | ***7.96*** | ***8.02*** | ***8.09*** | ***8.44*** | ***8.26*** | ***8.38*** | ***8.23*** | ***8.10*** | ***8.02*** | ***7.78*** | ***7.73*** |
| Pipelines | 3.60 | 3.68 | 4.30 | 3.76 | 3.85 | 3.88 | 4.11 | 4.00 | 4.13 | 4.20 | 4.04 | 4.03 | 3.84 | 3.82 |
| Manufacturing | 0.30 | 0.32 | 0.26 | 0.27 | 0.28 | 0.28 | 0.27 | 0.25 | 0.24 | 0.22 | 0.22 | 0.24 | 0.23 | 0.20 |
| Wastewater Treatment | 2.41 | 2.37 | 2.39 | 2.37 | 2.38 | 2.40 | 2.39 | 2.41 | 2.38 | 2.29 | 2.33 | 2.32 | 2.31 | 2.34 |
| Other | 1.85 | 1.62 | 1.57 | 1.56 | 1.51 | 1.53 | 1.67 | 1.60 | 1.63 | 1.52 | 1.50 | 1.43 | 1.40 | 1.37 |
| **Electric Power** | 104.85 | 122.00 | 108.64 | 112.61 | 115.20 | 107.85 | 104.53 | 113.93 | 120.14 | 101.32 | 90.30 | 88.04 | 95.09 | 90.45 |
| ***In-State Generation*** | ***58.95*** | ***62.98*** | ***49.68*** | ***48.05*** | ***49.15*** | ***45.05*** | ***49.85*** | ***54.12*** | ***54.32*** | ***53.27*** | ***46.70*** | ***41.18*** | ***51.02*** | ***50.46*** |
| Natural Gas | 50.92 | 55.46 | 42.17 | 40.92 | 42.40 | 38.11 | 43.07 | 47.12 | 48.02 | 46.08 | 40.59 | 35.92 | 45.77 | 47.04 |
| Other Fuels | 6.84 | 6.36 | 6.36 | 5.98 | 5.59 | 5.77 | 5.63 | 5.85 | 5.15 | 5.85 | 5.01 | 4.01 | 4.44 | 2.49 |
| Fugitive and Process Emissions | 1.18 | 1.16 | 1.15 | 1.15 | 1.16 | 1.16 | 1.15 | 1.16 | 1.14 | 1.34 | 1.10 | 1.25 | 0.82 | 0.92 |
| ***Imported Electricity*** | ***45.90*** | ***59.02*** | ***58.96*** | ***64.56*** | ***66.04*** | ***62.80*** | ***54.68*** | ***59.81*** | ***65.82*** | ***48.04*** | ***43.59*** | ***46.86*** | ***44.07*** | ***39.99*** |
| Unspecified Imports | 14.27 | 25.42 | 26.92 | 32.05 | 32.92 | 30.01 | 27.95 | 32.73 | 37.92 | 14.99 | 13.45 | 15.52 | 17.48 | 11.53 |
| Specified Imports | 31.64 | 33.59 | 32.04 | 32.51 | 33.13 | 32.79 | 26.73 | 27.08 | 27.90 | 33.05 | 30.14 | 31.34 | 26.59 | 28.46 |

*Last Updated: Friday, April 24, 2015* *Page 1*

## Table 7. California Greenhouse Gas Emissions Inventory for 2000 – 2013 (Continued)

California Environmental Protection Agency
Air Resources Board

**California Greenhouse Gas Inventory for 2000-2013**
**— by Category as Defined in the 2008 Scoping Plan**

*million tonnes of CO2 equivalent - (based upon IPCC Fourth Assessment Report's Global Warming Potentials)*

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Commercial and Residential** | 43.18 | 42.08 | 44.06 | 42.43 | 43.80 | 42.25 | 42.94 | 43.15 | 43.47 | 43.70 | 44.88 | 45.40 | 42.88 | 43.54 |
| ***Residential Fuel Use*** | ***29.38*** | ***28.47*** | ***28.62*** | ***28.14*** | ***29.17*** | ***27.98*** | ***28.36*** | ***28.50*** | ***28.82*** | ***28.45*** | ***29.18*** | ***29.64*** | ***27.34*** | ***28.11*** |
| Natural Gas | 27.98 | 27.38 | 27.49 | 26.62 | 27.33 | 25.93 | 26.55 | 26.68 | 26.62 | 26.26 | 26.99 | 27.51 | 25.76 | 26.52 |
| Other Fuels | 1.41 | 1.09 | 1.13 | 1.52 | 1.84 | 2.06 | 1.81 | 1.82 | 2.20 | 2.19 | 2.20 | 2.13 | 1.58 | 1.59 |
| ***Commercial Fuel Use*** | ***11.47*** | ***11.31*** | ***13.11*** | ***12.74*** | ***12.70*** | ***12.56*** | ***12.84*** | ***12.83*** | ***12.94*** | ***12.99*** | ***13.42*** | ***13.61*** | ***13.41*** | ***13.31*** |
| Natural Gas | 10.05 | 10.08 | 11.88 | 11.36 | 11.14 | 10.92 | 11.60 | 11.47 | 11.14 | 11.00 | 11.17 | 11.33 | 11.24 | 11.28 |
| Other Fuels | 1.42 | 1.22 | 1.23 | 1.38 | 1.56 | 1.64 | 1.24 | 1.36 | 1.80 | 1.98 | 2.25 | 2.28 | 2.16 | 2.03 |
| ***Commercial Cogeneration Heat Output*** | ***1.09*** | ***1.05*** | ***1.06*** | ***0.26*** | ***0.62*** | ***0.40*** | ***0.42*** | ***0.49*** | ***0.37*** | ***0.92*** | ***0.92*** | ***0.78*** | ***0.76*** | ***0.72*** |
| ***Other Commercial and Residential*** | ***1.24*** | ***1.26*** | ***1.27*** | ***1.29*** | ***1.30*** | ***1.31*** | ***1.32*** | ***1.33*** | ***1.34*** | ***1.35*** | ***1.36*** | ***1.37*** | ***1.38*** | ***1.39*** |
| **Agriculture** | 32.10 | 32.57 | 34.07 | 34.63 | 34.34 | 35.08 | 36.30 | 36.04 | 36.48 | 34.86 | 34.50 | 35.68 | 36.43 | 36.21 |
| ***Livestock*** | ***19.66*** | ***20.44*** | ***21.06*** | ***21.63*** | ***21.06*** | ***21.81*** | ***22.22*** | ***23.73*** | ***24.09*** | ***23.88*** | ***23.35*** | ***23.38*** | ***23.92*** | ***23.92*** |
| Enteric Fermentation (Digestive Process) | 10.26 | 10.45 | 10.74 | 10.89 | 10.78 | 11.14 | 11.24 | 11.93 | 11.89 | 11.71 | 11.51 | 11.49 | 11.78 | 11.78 |
| Manure Management | 9.40 | 10.00 | 10.32 | 10.75 | 10.28 | 10.67 | 10.98 | 11.80 | 12.20 | 12.17 | 11.84 | 11.89 | 12.14 | 12.14 |
| ***Crop Growing & Harvesting*** | ***8.63*** | ***8.31*** | ***8.63*** | ***8.63*** | ***8.76*** | ***8.65*** | ***8.76*** | ***8.51*** | ***8.48*** | ***8.33*** | ***8.35*** | ***8.65*** | ***8.71*** | ***8.46*** |
| Fertilizers | 6.59 | 6.55 | 6.66 | 6.70 | 6.58 | 6.63 | 6.57 | 6.50 | 6.55 | 6.33 | 6.36 | 6.59 | 6.63 | 6.45 |
| Soil Preparation and Disturbances | 1.96 | 1.69 | 1.91 | 1.86 | 2.11 | 1.95 | 2.12 | 1.94 | 1.86 | 1.92 | 1.91 | 1.98 | 1.99 | 1.93 |
| Crop Residue Burning | 0.08 | 0.06 | 0.06 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.08 | 0.08 | 0.08 | 0.08 |
| ***General Fuel Use*** | ***3.81*** | ***3.82*** | ***4.38*** | ***4.37*** | ***4.52*** | ***4.62*** | ***5.32*** | ***3.79*** | ***3.91*** | ***2.65*** | ***2.81*** | ***3.66*** | ***3.80*** | ***3.83*** |
| Diesel | 2.52 | 2.69 | 3.04 | 3.10 | 3.17 | 3.40 | 3.86 | 2.68 | 2.99 | 1.78 | 1.98 | 2.37 | 2.47 | 2.51 |
| Natural Gas | 0.98 | 0.75 | 0.94 | 0.85 | 0.82 | 0.70 | 0.88 | 0.79 | 0.75 | 0.69 | 0.65 | 0.66 | 0.70 | 0.69 |
| Gasoline | 0.31 | 0.38 | 0.41 | 0.41 | 0.52 | 0.52 | 0.57 | 0.32 | 0.17 | 0.17 | 0.17 | 0.63 | 0.62 | 0.63 |
| Other Fuels | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **High GWP** | 7.24 | 7.55 | 8.06 | 8.79 | 9.57 | 10.34 | 10.93 | 11.60 | 12.61 | 13.83 | 15.49 | 16.78 | 17.77 | 18.50 |
| ***Ozone Depleting Substance (ODS) Substitutes*** | ***6.35*** | ***6.82*** | ***7.37*** | ***8.10*** | ***8.95*** | ***9.75*** | ***10.33*** | ***11.04*** | ***12.05*** | ***13.38*** | ***15.01*** | ***16.11*** | ***17.16*** | ***18.02*** |
| ***Electricity Grid SF6 Losses [4]*** | ***0.33*** | ***0.32*** | ***0.30*** | ***0.29*** | ***0.30*** | ***0.29*** | ***0.28*** | ***0.26*** | ***0.27*** | ***0.26*** | ***0.24*** | ***0.24*** | ***0.23*** | ***0.19*** |
| ***Semiconductor Manufacturing [3]*** | ***0.57*** | ***0.41*** | ***0.38*** | ***0.39*** | ***0.32*** | ***0.30*** | ***0.32*** | ***0.30*** | ***0.30*** | ***0.19*** | ***0.24*** | ***0.43*** | ***0.37*** | ***0.30*** |
| **Recycling and Waste** | 7.45 | 7.62 | 7.59 | 7.73 | 7.74 | 7.93 | 8.03 | 8.10 | 8.27 | 8.39 | 8.46 | 8.75 | 8.77 | 8.87 |
| ***Landfills [3]*** | ***7.21*** | ***7.36*** | ***7.30*** | ***7.42*** | ***7.40*** | ***7.58*** | ***7.65*** | ***7.70*** | ***7.84*** | ***7.94*** | ***7.99*** | ***8.25*** | ***8.25*** | ***8.32*** |
| ***Composting*** | ***0.24*** | ***0.26*** | ***0.29*** | ***0.31*** | ***0.33*** | ***0.36*** | ***0.38*** | ***0.40*** | ***0.43*** | ***0.45*** | ***0.47*** | ***0.50*** | ***0.52*** | ***0.54*** |
| ***Total Emissions*** | ***468.77*** | ***484.56*** | ***483.16*** | ***485.52*** | ***495.34*** | ***488.23*** | ***485.69*** | ***492.60*** | ***490.10*** | ***462.07*** | ***456.02*** | ***454.61*** | ***460.82*** | ***459.26*** |

[1] Includes equipment used in construction, mining, oil drilling, industrial and airport ground operations. [2] Reflects emissions from combustion of natural gas, diesel, and lease fuel plus fugitive emissions. [3] These categories are listed in the Industrial sector of ARB's GHG Emission Inventory sectors. [4] This category is listed in the Electric Power sector of ARB's GHG Emission Inventory sectors

*Last Updated: Friday, April 24, 2015* *Page 2*

Source: California Air Resources Board website http://www.arb.ca.gov

## Table 8. California Greenhouse Gas Emissions Forecast for 2009 – 2020

| (Mid Case) Forecast for Updated Scoping Plan - MMTCO2e (AR4) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scoping Plan Category** | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** | **2020** |
| **Transportation** | **171.5** | **170.6** | **168.4** | **172.7** | **174.4** | **176.4** | **178.1** | **179.7** | **181.4** | **182.8** | **183.9** | **185.3** |
| ***On Road*** | ***158.6*** | ***157.5*** | ***155.1*** | ***159.2*** | ***160.5*** | ***162.1*** | ***163.4*** | ***164.6*** | ***165.9*** | ***166.9*** | ***167.6*** | ***168.7*** |
| Passenger Vehicles | 122.5 | 121.5 | 119.0 | 122.1 | 122.9 | 123.5 | 123.9 | 124.5 | 125.2 | 125.6 | 125.7 | 126.2 |
| Heavy Duty Trucks | 36.1 | 36.0 | 36.1 | 37.0 | 37.7 | 38.7 | 39.5 | 40.1 | 40.7 | 41.3 | 41.9 | 42.5 |
| ***Ships & Commercial Boats*** | ***3.7*** | ***3.7*** | ***3.8*** | ***4.0*** | ***4.0*** | ***4.2*** | ***4.3*** | ***4.5*** | ***4.7*** | ***4.8*** | ***5.0*** | ***5.1*** |
| ***Aviation (Intrastate)*** | ***4.0*** | ***3.8*** | ***3.7*** | ***3.9*** | ***4.0*** | ***4.1*** | ***4.2*** | ***4.3*** | ***4.3*** | ***4.4*** | ***4.5*** | ***4.6*** |
| ***Rail*** | ***1.9*** | ***2.3*** | ***2.5*** | ***2.3*** | ***2.4*** | ***2.5*** | ***2.5*** | ***2.6*** | ***2.6*** | ***2.7*** | ***2.7*** | ***2.8*** |
| ***Off Road [1]*** | ***2.2*** | ***2.0*** | ***2.1*** | ***2.2*** | ***2.3*** | ***2.4*** | ***2.5*** | ***2.6*** | ***2.7*** | ***2.8*** | ***2.9*** | ***3.0*** |
| ***Unspecified*** | ***1.1*** | ***1.2*** | ***1.1*** | ***1.1*** | ***1.1*** | ***1.1*** | ***1.1*** | ***1.1*** | ***1.1*** | ***1.1*** | ***1.1*** | ***1.1*** |
| | | | | | | | | | | | | |
| **Electric Power** | **103.6** | **90.1** | **86.6** | **93.4** | **94.6** | **95.9** | **97.2** | **98.6** | **99.8** | **100.9** | **102.3** | **103.8** |
| ***In-State Generation*** | ***55.5*** | ***46.5*** | ***39.7*** | ***46.9*** | ***48.1*** | ***49.4*** | ***50.7*** | ***52.1*** | ***53.3*** | ***54.4*** | ***55.8*** | ***57.3*** |
| Natural Gas | 48.9 | 40.6 | 34.5 | 41.0 | 42.2 | 43.5 | 44.8 | 46.2 | 47.3 | 48.5 | 49.9 | 51.4 |
| Other Fuels | 5.3 | 4.8 | 3.9 | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 |
| Fugitive and Process Emissions | 1.3 | 1.1 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| ***Imported Electricity*** | ***48.0*** | ***43.6*** | ***46.9*** | ***46.5*** | ***46.5*** | ***46.5*** | ***46.5*** | ***46.5*** | ***46.5*** | ***46.5*** | ***46.5*** | ***46.5*** |
| Unspecified Imports | 15.0 | 13.5 | 15.5 | 14.7 | 14.7 | 14.7 | 14.7 | 14.7 | 14.7 | 14.7 | 14.7 | 14.7 |
| Specified Imports | 33.1 | 30.1 | 31.3 | 31.8 | 31.8 | 31.8 | 31.8 | 31.8 | 31.8 | 31.8 | 31.8 | 31.8 |
| | | | | | | | | | | | | |
| **Commercial and Residential** | **44.2** | **45.2** | **45.5** | **45.5** | **45.9** | **46.4** | **46.8** | **47.3** | **47.9** | **48.4** | **49.0** | **49.5** |
| ***Residential Fuel Use*** | ***28.7*** | ***29.4*** | ***29.9*** | ***29.9*** | ***30.1*** | ***30.2*** | ***30.3*** | ***30.6*** | ***30.8*** | ***31.1*** | ***31.4*** | ***31.7*** |
| Natural Gas | 26.3 | 27.0 | 27.5 | 27.5 | 27.7 | 27.9 | 28.0 | 28.2 | 28.4 | 28.7 | 29.0 | 29.3 |
| Other Fuels | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| ***Commercial Fuel Use*** | ***14.6*** | ***14.8*** | ***14.9*** | ***14.7*** | ***14.9*** | ***15.2*** | ***15.6*** | ***15.9*** | ***16.2*** | ***16.5*** | ***16.7*** | ***17.0*** |
| Natural Gas | 12.6 | 12.5 | 12.6 | 12.5 | 12.7 | 13.0 | 13.4 | 13.7 | 14.0 | 14.3 | 14.5 | 14.8 |
| Other Fuels | 2.0 | 2.3 | 2.3 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| ***Commercial Cogeneration Heat Output*** | ***0.9*** | ***0.9*** | ***0.8*** | ***0.9*** | ***0.9*** | ***0.9*** | ***0.9*** | ***0.9*** | ***0.9*** | ***0.9*** | ***0.9*** | ***0.9*** |
| | | | | | | | | | | | | |
| **Industrial** | **85.3** | **92.0** | **94.4** | **91.5** | **92.0** | **92.6** | **93.0** | **93.2** | **93.3** | **93.5** | **93.6** | **93.7** |
| ***Refineries*** | ***28.3*** | ***30.4*** | ***30.1*** | ***29.7*** | ***29.7*** | ***29.7*** | ***29.7*** | ***29.7*** | ***29.7*** | ***29.7*** | ***29.7*** | ***29.7*** |
| ***General Fuel Use*** | ***17.6*** | ***20.2*** | ***21.6*** | ***21.2*** | ***21.7*** | ***22.1*** | ***22.4*** | ***22.7*** | ***23.0*** | ***23.3*** | ***23.6*** | ***23.9*** |
| Natural Gas | 11.5 | 13.5 | 14.5 | 14.6 | 15.0 | 15.4 | 15.7 | 16.0 | 16.3 | 16.6 | 16.9 | 17.2 |
| Other Fuels | 6.1 | 6.8 | 7.1 | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 |
| ***Oil & Gas Extraction [2]*** | ***17.1*** | ***16.2*** | ***16.2*** | ***15.7*** | ***15.6*** | ***15.7*** | ***15.7*** | ***15.5*** | ***15.2*** | ***15.0*** | ***14.7*** | ***14.5*** |
| Fuel Use | 15.9 | 15.0 | 14.9 | 14.6 | 14.5 | 14.6 | 14.6 | 14.4 | 14.2 | 13.9 | 13.7 | 13.5 |
| Fugitive Emissions | 1.2 | 1.2 | 1.3 | 1.2 | 1.2 | 1.1 | 1.1 | 1.1 | 1.1 | 1.0 | 1.0 | 1.0 |
| ***Cement Plants*** | ***5.7*** | ***5.6*** | ***6.1*** | ***5.8*** | ***5.8*** | ***5.8*** | ***5.8*** | ***5.8*** | ***5.8*** | ***5.8*** | ***5.8*** | ***5.8*** |
| Clinker Production | 3.6 | 3.5 | 4.1 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Fuel Use | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| ***Cogeneration Heat Output*** | ***10.3*** | ***12.5*** | ***12.6*** | ***11.8*** | ***11.8*** | ***11.8*** | ***11.8*** | ***11.8*** | ***11.8*** | ***11.8*** | ***11.8*** | ***11.8*** |
| ***Other Fugitive and Process Emissions*** | ***6.3*** | ***7.2*** | ***7.7*** | ***7.2*** | ***7.3*** | ***7.4*** | ***7.5*** | ***7.7*** | ***7.8*** | ***7.9*** | ***8.0*** | ***8.1*** |
| | | | | | | | | | | | | |
| **Recycling and Waste** | **8.1** | **8.2** | **8.3** | **8.3** | **8.4** | **8.5** | **8.6** | **8.7** | **8.9** | **9.0** | **9.2** | **9.4** |
| ***Landfills [3]*** | ***7.8*** | ***7.9*** | ***8.0*** | ***8.0*** | ***8.1*** | ***8.2*** | ***8.3*** | ***8.4*** | ***8.6*** | ***8.7*** | ***8.9*** | ***9.1*** |
| ***Composting*** | ***0.3*** | ***0.3*** | ***0.3*** | ***0.3*** | ***0.3*** | ***0.3*** | ***0.3*** | ***0.3*** | ***0.3*** | ***0.3*** | ***0.3*** | ***0.3*** |
| | | | | | | | | | | | | |
| **High GWP** | **14.1** | **16.1** | **17.3** | **19.1** | **20.6** | **22.2** | **23.7** | **25.3** | **26.9** | **28.5** | **30.1** | **31.5** |
| ***Ozone Depleting Substance (ODS) Substitutes*** | ***13.5*** | ***15.4*** | ***16.6*** | ***18.4*** | ***20.0*** | ***21.5*** | ***23.1*** | ***24.7*** | ***26.3*** | ***27.9*** | ***29.4*** | ***30.9*** |
| ***Electricity Grid SF6 Losses [4]*** | ***0.3*** | ***0.2*** | ***0.2*** | ***0.2*** | ***0.2*** | ***0.2*** | ***0.2*** | ***0.2*** | ***0.2*** | ***0.2*** | ***0.2*** | ***0.2*** |
| ***Semiconductor Manufacturing [3]*** | ***0.3*** | ***0.5*** | ***0.4*** | ***0.4*** | ***0.4*** | ***0.4*** | ***0.4*** | ***0.4*** | ***0.4*** | ***0.4*** | ***0.4*** | ***0.4*** |
| | | | | | | | | | | | | |
| **Agriculture** | **35.0** | **34.9** | **35.4** | **34.8** | **34.9** | **35.0** | **35.1** | **35.2** | **35.4** | **35.6** | **35.8** | **36.2** |
| ***Livestock*** | ***23.5*** | ***23.0*** | ***23.0*** | ***22.9*** | ***23.0*** | ***23.1*** | ***23.2*** | ***23.4*** | ***23.6*** | ***23.8*** | ***24.0*** | ***24.4*** |
| Enteric Fermentation (Digestive Process) | 11.3 | 11.1 | 11.1 | 11.1 | 11.1 | 11.2 | 11.2 | 11.3 | 11.4 | 11.4 | 11.5 | 11.7 |
| Manure Management | 12.2 | 11.8 | 11.9 | 11.8 | 11.9 | 11.9 | 12.0 | 12.1 | 12.2 | 12.3 | 12.5 | 12.7 |
| ***Crop Growing & Harvesting*** | ***8.8*** | ***9.1*** | ***8.8*** | ***8.9*** | ***8.9*** | ***8.9*** | ***8.9*** | ***8.9*** | ***8.9*** | ***8.9*** | ***8.9*** | ***8.9*** |
| Fertilizers | 7.3 | 7.6 | 7.2 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 |
| Soil Preparation and Disturbances | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
| Crop Residue Burning | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| ***General Fuel Use*** | ***2.7*** | ***2.8*** | ***3.7*** | ***3.0*** | ***3.0*** | ***3.0*** | ***3.0*** | ***3.0*** | ***3.0*** | ***3.0*** | ***3.0*** | ***3.0*** |
| Diesel | 1.8 | 2.0 | 2.4 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Natural Gas | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| Gasoline | 0.2 | 0.2 | 0.6 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Other Fuels | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | | | | | | | | | | | | |
| **TOTAL GROSS EMISSIONS** | **461.8** | **457.0** | **455.9** | **465.4** | **470.8** | **476.9** | **482.4** | **488.0** | **493.5** | **498.7** | **503.9** | **509.4** |
| | | 2020 BAU Forecast Version: May 27, 2014 | | | | | | | | | | |

**Source: California Air Resources Board internet website http://www.arb.ca.gov**
**Note: Because of differences in methodology, values for 2009 through 2012 differ from the GHG emissions inventory values.**

## 3.6 REGULATORY SETTING

Air quality within the MCAB is regulated by such agencies as the El Dorado County Air Quality Management District (EDCAQMD), ARB, and EPA. Each of these agencies develops rules, regulations, policies, and/or goals to attain the goals or directives imposed through legislation. Although the EPA regulations may not be superseded, both state and local regulations may be more stringent.

### 3.6.1 Federal Air Quality Regulations

At the federal level, EPA has been charged with implementing national air quality programs. EPA's air quality mandates are drawn primarily from the Federal Clean Air Act (FCAA), which was enacted in 1963. The FCAA was amended in 1970, 1977, and 1990.

The FCAA required EPA to establish primary and secondary national ambient air quality standards (NAAQS), which are shown in **Table 1**. The FCAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The Federal Clean Air Act Amendments of 1990 (FCAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA has responsibility to review all state SIPs to determine conformation to the mandates of the FCAAA and determine if implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area that imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated timeframe may result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

### 3.6.2 State Air Quality Regulations

ARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA), which was adopted in 1988. The CCAA requires that all air districts in the state endeavor to achieve and maintain the CAAQS by the earliest practical date. The act specifies that districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources, and provides districts with the authority to regulate indirect sources.

ARB is primarily responsible for developing and implementing air pollution control plans to achieve and maintain the NAAQS. The ARB is primarily responsibility for statewide pollution sources and produces a major part of the SIP. Local air districts are still relied upon to provide additional strategies for sources under their jurisdiction. The ARB combines these data and submits the completed SIP to EPA.

Other ARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality management districts), establishing CAAQS (which in many cases are more stringent than the NAAQS), determining and updating area

designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, and off-road vehicles.

Section 39610(a) of the CCAA directs the ARB to "identify each district in which transported air pollutants from upwind areas outside the district cause or contribute to a violation of the ozone standard and to identify the district of origin of transported pollutants." The information regarding the transport of air pollutants from one basin to another was to be quantified to assist interrelated basins in the preparation of plans for the attainment of CAAQS. Numerous studies conducted by the ARB have identified air basins that are impacted by pollutants transported from other air basins (as of 1993). Among the air basins affected by air pollution transport from the San Francisco Bay Area Air Basin (SFBAAB) are the MCAB, the San Joaquin Valley Air Basin, and the Sacramento Valley Air Basin.

### 3.6.3 Local Air Quality Management

The EDCAQMD is the primary local agency responsible for protecting human health and property from the harmful effects of air pollution in the County. EDCAQMD is required to adopt an *Air Quality Attainment Plan* and establish and enforce air pollution control rules and regulations in order to attain and maintain all state and federal ambient air quality standards. The EDCAQMD regulates, permits, and inspects stationary sources of air pollution. Among these sources are industrial facilities, gasoline stations, auto body shops, and dry cleaners.

While the state is responsible for emission standards and controlling actual tailpipe emissions from motor vehicles, the EDCAQMD is required to regulate agricultural burning and industrial emissions, implement transportation control measures and recommend mitigation measures for new growth and development designed to reduce the number of cars on the road, and promote the use of cleaner fuels.

The El Dorado Trail Project site is located in the Sacramento region's non-attainment area for federal ozone standards. The EDCAQMD, along with other local air districts in the Sacramento region, are required to comply with and implement the State Implementation Plan (SIP) to demonstrate when and how the region can attain the federal ozone standards. Accordingly, the Sacramento Metropolitan Air Quality Management District (SMAQMD) prepared the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* in December 2008, with input from the other air districts in the region. The SMAQMD adopted the Plan on January 22, 2009; followed by the Feather River Air Quality Management District (FRAQMD) on February 2, 2009; the EDCAQMD on February 10, 2009; the Yolo-Solano Air Quality Management District (YSAQMD) on February 11, 2009; and the Placer County Air Pollution Control District (PCAPCD) on February 19, 2009. CARB determined that the Plan meets Clean Air Act requirements and approved the Plan on March 26, 2009 as a revision to the SIP.

The *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* demonstrates how existing and new control strategies would provide the future emission reductions needed to meet the federal Clean Air Act requirements. Adoption of all reasonably available control measures is required for attainment. Measures could include, but are not

limited to the following: regional mobile incentive programs; urban forest development programs; and local regulatory measures for emission reductions related to indirect source rules, architectural coating, automotive refinishing, natural gas production and processing, asphalt concrete, and various others.

The SMAQMD held a public hearing on the 2013 Revisions to the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan*. This hearing was conducted on behalf of the air districts in the Sacramento Federal Ozone Nonattainment Area, including the YSAQMD, the FRAQMD, the PCAPCD, and the EDCAQMD. The *2013 Revisions to the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* was adopted on September 26, 2013 and submitted to the CARB. CARB approved the plan on November 21, 2013, and submitted it to the EPA to be included in or revise the SIP.

### 3.6.4 Global Climate Change and Greenhouse Gas Emissions

**Federal.** The FCAA requires EPA to define NAAQS to protect public health and welfare in the U.S. The FCAA does not specifically regulate GHG emissions; however, on April 2, 2007 the U.S. Supreme Court in *Massachusetts v. U.S. Environmental Protection Agency*, determined that GHGs are pollutants that can be regulated under the FCAA. Currently, there are no federal regulations that establish ambient air quality standards for GHGs.

On December 7, 2009, EPA adopted its Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under the CAA (Endangerment Finding). Under the Endangerment Finding, the Administrator of EPA found that atmospheric concentrations of GHGs endanger the public health and welfare within the meaning of § 202(a) of the FCAA. The Administrator of EPA also found that GHG emissions from new motor vehicles and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. The findings do not in and of themselves impose any emission reduction requirements but, rather, allow EPA to finalize the GHG standards proposed earlier in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation. All mobile sources would be required to comply with these regulations as they are implemented.

**State of California.** The ARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California. There are currently no state regulations in California that establish ambient air quality standards for GHGs. However, California has passed laws directing ARB to develop actions to reduce GHG emissions, and several state legislative actions related to climate change and GHG emissions have been established.

> Assembly Bill 1493. In 2002, then-Governor Gray Davis signed Assembly Bill (AB) 1493. AB 1493 requires that ARB develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of greenhouse gases emitted by passenger vehicles and light-duty trucks and other vehicles determined by ARB to be vehicles whose primary use is noncommercial personal transportation in the State."

To meet the requirements of AB 1493, in 2004 ARB approved amendments to the California Code of Regulations (CCR) adding GHG emissions standards to California's existing standards for motor vehicle emissions. All mobile sources are required to comply with these regulations as they are phased in from 2009 through 2016.

Executive Order S-3-05. In 2005, in recognition of California's vulnerability to the effects of climate change, then-Governor Arnold Schwarzenegger established Executive Order S-3-05, which set 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.

Assembly Bill 32 – California Global Warming Solutions Act. In September 2006, then-Governor Arnold Schwarzenegger signed the California Global Warming Solutions Act (AB 32; California Health and Safety Code Division 25.5, §§ 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished by enforcing a statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs ARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then ARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires ARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state reduces GHG emissions enough to meet the cap. AB 32 also includes guidance on instituting emissions reductions in an economically efficient manner, along with conditions to ensure that businesses and consumers are not unfairly affected by the reductions. According to ARB's *Climate Change Scoping Plan* (California Air Resources Board 2009), the 2020 target of 427 million metric tons of $CO_2e$ requires the reduction of 169 million metric tons of $CO_2e$, or approximately 28.3 percent, from the state's projected 2020 business-as-usual (BAU) emissions level of 596 million metric tons of $CO_2e$. However, ARB has discretionary authority to seek greater reductions in more significant and growing GHG sectors, such as transportation, as compared to other sectors that are not anticipated to significantly increase emissions. In August 2011, the Scoping Plan was re-approved by the Board and includes the

*Final Supplement to the Scoping Plan Functional Equivalent Document* (California Air Resources Board 2011). This document includes expanded analysis of project alternatives as well as updates the 2020 emission projections in light of the current economic forecasts. Considering the updated 2020 BAU estimate of 507 million metric tons of $CO_2e$, a 16 percent reduction below the estimated BAU levels would be necessary to return to 1990 levels by 2020. The document also excludes one measure identified in the Scoping Plan that has been adopted and one measure that is no longer under consideration by ARB (California Air Resources Board 2011).

Executive Order S-1-07. Executive Order S-1-07, which was signed by then-Governor Schwarzenegger in 2007, proclaims that the transportation sector is the main source of GHG emissions in California, generating more than 40 percent of statewide emissions. It established a goal to reduce the carbon intensity of transportation fuels sold in California by at least 10 percent by 2020. This order also directs ARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32. On April 23, 2009 ARB approved the proposed regulation to implement the LCFS. The LCFS will reduce GHG emissions from the transportation sector in California by about 16 million metric tons in 2020.

ARB Climate Change Scoping Plan. ARB's *Scoping Plan* (California Air Resources Board 2009) calculates 2020 BAU emissions as the emissions that would be expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors (i.e., transportation, electrical power, commercial, residential, industrial etc.). ARB used three-year average emissions, by sector, for 2002-2004 to forecast emissions to 2020. At the time ARB's *Scoping Plan* process was initiated, 2004 was the most recent year for which actual data was available. The measures described in ARB's *Scoping Plan* are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32 (discussed above).

ARB's *Scoping Plan* also breaks down the amount of GHG emissions reductions ARB recommends for each emissions sector of the state's GHG inventory. ARB's *Scoping Plan* calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- Improved emissions standards for light-duty vehicles (estimated reductions of 31.7 million metric tons of $CO_2e$);
- The LCFS (15.0 million metric tons of $CO_2e$);
- Energy efficiency measures in buildings and appliances, and the widespread development of combined heat and power systems (26.3 million metric tons of $CO_2e$); and

- A renewable portfolio standard for electricity production (21.3 million metric tons of $CO_2e$).

ARB has identified a GHG reduction target of 5 million metric tons (of the 174 million metric ton total) for local land use changes (Table 2 of ARB's *Scoping Plan*), by Implementation of Reduction Strategy T-3 regarding Regional Transportation-Related GHG Targets. Additional land use reductions may be achieved as Senate Bill (SB) 375 is implemented. ARB's *Scoping Plan* states that successful implementation of the plan relies on local governments' land use, planning, and urban growth decisions because local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions. ARB further acknowledges that decisions on how land is used will have large effects on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. ARB's *Scoping Plan* does not include any direct discussion about GHG emissions generated by construction activity.

ARB's *Scoping Plan* expands the list of nine Discrete Early Action Measures to a list of 39 Recommended Actions contained in Appendices C and E of ARB's *Scoping Plan*.

First Update to the Climate Change Scoping Plan (2013 – 2014). AB 32 required the *Scoping Plan* be updated every five years. The *2013 Scoping Plan Update* (2013 Update) (California Air Resources Board 2014) builds upon the initial Scoping Plan with new strategies and recommendations. The 2013 Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The 2013 Update defines ARB's climate change priorities for the next five years and sets the groundwork to reach California's long-term climate goals set forth in Executive Orders S-3-05 and B-16-2012. The 2013 Update highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the initial Scoping Plan. These efforts put California on course to achieve the near-term 2020 goal, and have created a framework for ongoing climate action that can be built upon to maintain and continue economic sector-specific reductions beyond 2020, as required by AB 32.

In the 2013 Update, nine key focus areas were identified (energy, transportation, agriculture, water, waste management, and natural and working lands), along with short-lived climate pollutants, green buildings, and the cap-and-trade program.

These key focus areas have overlapping and complementary interests that will require careful coordination in California's future climate and energy policies. These focus areas were selected to address issues that underlie multiple sectors of

the economy. As such, each focus area is not contained to a single economic sector, but has far-reaching impacts within many economic sectors.

The *First Update to the Climate Change Scoping Plan* was approved by the Board on May 22, 2014. ARB is moving forward with a second update to the Scoping Plan to reflect the 2030 target established in Executive Order B-30-15.

Senate Bills 1078 and 107 and Executive Order S-14-08. SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008, then-Governor Schwarzenegger signed Executive Order S-14-08, which expands the State's Renewables Energy Standard to 33 percent renewable power by 2020. In April 2011, Governor Jerry Brown signed SB 2X, that created a legislative mandate codifying the 33 percent Renewables Portfolio Standard into law.

CEQA Guidelines Revisions. In 2007, the State Legislature passed SB 97, which required amendment of the CEQA Guidelines to incorporate analysis of, and mitigation for, GHG emissions from projects subject to CEQA. The California Natural Resources Agency adopted these amendments on December 30, 2009. They took effect on March 18, 2010, after review by the Office of Administrative Law and filing with the Secretary of State for inclusion in the California Code of Regulations.

The Guidelines revisions include a new section (Section 15064.4) that specifically addresses the potential significance of GHG emissions. Section 15064.4 calls for a "good-faith effort" to "describe, calculate or estimate" GHG emissions. Section 15064.4 further states that the analysis of the significance of any GHG impacts should include consideration of the extent to which the project would increase or reduce GHG emissions; exceed a locally applicable threshold of significance; and comply with "regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions." The new guidelines also state that a project may be found to have a less-than-significant impact on GHG emissions if it complies with an adopted plan that includes specific measures to sufficiently reduce GHG emissions (Section 15064(h)(3)). Importantly, however, the CEQA Guidelines do not require or recommend a specific analytical methodology or provide quantitative criteria for determining the significance of GHG emissions.

No quantitative significance threshold is included in the Amendments.

The Amendments also include a new Subdivision 15064.7(c) which clarifies that in developing thresholds of significance, a lead agency may appropriately review thresholds developed by other public agencies, or recommended by other experts,

provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.

California Green Buildings Standards Code (CALGreen). Effective January 2014, CALGreen supplements the California Building Standards Code (Title 24) and requires all new buildings in the state to incorporate energy saving features.

**Local Greenhouse Gas Planning.** On March 25, 2008, the El Dorado County Board of Supervisors adopted the *Environmental Vision for El Dorado County* Resolution No. 29-2008, brought forward by the Youth Commission. The Resolution sets forth goals and calls for implementation of positive environmental changes to reduce global impact, improve air quality and reduce dependence on landfills, promote alternative energies, increase recycling, and encourage local governments to adopt green and sustainable practices.

## 3.7 TOPOGRAPHY AND METEOROLOGY

The El Dorado Trail Project site is located in El Dorado County, the western portion of which is in the MCAB. The climate of the MCAB is influenced by the foothill and mountainous terrain in the MCAB. El Dorado County is bordered by the Sacramento Valley to the west and the Nevada State line to the east with the western portion of the County consisting of rolling Sierra Nevada foothills, and the central and eastern portion of the County consisting of granite peaks reaching up to 10,000 feet in elevation. The climate of El Dorado County is characterized by hot dry summers and cool moist winters. The western portion of the County is characterized by higher temperatures and lower annual rainfall, and the central and eastern portions of the County are characterized by lower temperatures and higher annual rainfall.

Air quality is affected by the rate, amount, and location of pollutant emissions and the associated meteorological conditions that influence movement and dispersal of pollutants. Atmospheric conditions including wind speed, wind direction and air temperature, in combination with local surface topography (i.e., geographic features such as mountains and valleys), determine air pollutant impacts on local air quality.

Until recently, the Project site could be characterized as a rural environment with scattered homes. However, recent urban land use development in the Folsom and El Dorado Hills areas has been extensive. U.S. Highway 50 extends in an east-west direction through the project area.

Air quality in the project area is influenced by pollutant transport from upwind areas, such as the Sacramento and San Francisco Bay metropolitan areas, and also by local emissions sources, such as wood burning stoves and fireplaces during the winter months and vehicles using area roadways and U.S. Highway 50.

# SECTION 4
# SHORT-TERM CONSTRUCTION IMPACTS

Implementation of the El Dorado Trail Project would result in construction activity, which would generate air pollutant emissions. Construction activities such as grading, excavation and travel on unpaved surfaces would generate dust, and can lead to elevated concentrations of $PM_{10}$ and $PM_{2.5}$. The operation of construction equipment results in exhaust emissions. A substantial portion of the construction equipment is powered by diesel engines, which produce relatively high levels of $NO_x$ emissions. Construction activity could also potentially entrain NOA, if present in the soil.

## 4.1 SIGNIFICANCE THRESHOLDS

Significance thresholds applied to construction-related emissions are from the EDCAQMD document *Guide to Air Quality Assessment – Determining Significance of Air Quality Impacts Under the California Environmental Quality Act* (El Dorado County Air Quality Management District 2002).

### 4.1.1 Ozone Precursors

Construction-related ozone precursor emissions (ROG and $NO_x$) are considered a significant impact in this Air Quality Study if implementation of the Proposed Project would generate emissions exceeding:

- 82 pounds per day (ppd) of ROG, or
- 82 ppd of $NO_x$.

These values are from Table 3.2 of the *Guide to Air Quality Assessment – Determining Significance of Air Quality Impacts Under the California Environmental Quality Act*.

### 4.1.2 Fugitive Dust Particulate Matter

Section 4.2.3 of the *Guide to Air Quality Assessment – Determining Significance of Air Quality Impacts Under the California Environmental Quality Act* states:

> "Mass emissions of fugitive dust $PM_{10}$ need not be quantified, and may be assumed to be not significant, if the project includes mitigation measures that will prevent visible dust beyond the project property lines, in compliance with Rule

> 403 of the South Coast AQMD. See Section C.6 in Appendix C-1, where the mitigation measures in Rule 403 are set forth."

An excerpt from Appendix C-1 of the EDCAQMD guide is presented in the technical appendix of this Air Quality Study. Implementing the dust control measures described in Appendix C-1 would allow the El Dorado Trail Project to be below the EDCAQMD threshold of significance for construction-related particulate matter emissions.

In this Air Quality Study, this significance threshold is applied to both $PM_{10}$ and $PM_{2.5}$.

### 4.1.3 Diesel Exhaust Particulate Matter

Diesel exhaust particulate matter has been identified as a toxic air contaminant (TAC). Section 4.2.1 of the *Guide to Air Quality Assessment – Determining Significance of Air Quality Impacts Under the California Environmental Quality Act* states:

> " . . .the District has determined that keeping total construction phase fuel use under the limits shown in Table 4.2, below, will not result in a health risk from Diesel particulate matter that exceeds the significance criteria for toxic air contaminants (1 in 1 million if T-BACT is not used; 10 in 1 million if T-BACT is used.)"

Table 4.2 of the EDCAQMD guide is presented in this Air Quality Study as **Table 9**. As shown in **Table 9**, the significance criteria for construction equipment fleets with Best Available Control Technology for TACs (T-BACT) engines is 37,000 gallons of diesel fuel used during the construction phase. T-BACT engines are defined as those in 1996 or later model year equipment. The significance criteria for equipment fleets without T-BACT (pre-1996 model year) is 3,700 gallons of diesel fuel used. The importance of 1996 is that it is the year in which "Tier 1" emission control standards applied to many[1] construction equipment engines (California Air Resources Board 2016). Tier 2 standards applied stricter limits to many construction equipment engines in 2003. Tier 3 standards applied even stricter limits in 2007.

As noted in Table 4.2 of the EDCAQMD guide, "Maximum gallons of fuel may be interpolated between 37,000 and 3,700 gallons based on the fraction of T-BACT and non T-BACT engines." Based on information from CARB (California Air Resources Board 2006), 92 percent of construction equipment in the year 2020 would comply with Tier 1 or stricter standards. Applying interpolation of values presented in Table 4.2 of the EDAQMD guide results in a maximum of 34,336 gallons of diesel fuel consumption during the construction phase in the year 2020. Because the El Dorado Trail Project would be constructed in the year 2020, the maximum of 34,336 gallons of diesel fuel consumed is used in this Air Quality Study as a significance threshold.

[1] The year in which emission control standards applied varies, based on the engine horsepower. References to dates in the *Guide to Air Quality Assessment – Determining Significance of Air Quality Impacts Under the California Environmental Quality Act* and in this Air Quality Study are based on the horsepower ranges for the most common types of construction equipment.

**Table 9. Fuel Use Screening Criteria for Acceptable Diesel PM Health Risk**

| PM Control Technology | Maximum Gallons of Diesel Fuel Consumption During Construction Phase |
|---|---|
| T-BACT applied | 37,000 |
| T-BACT not applied | 3,700 |

Notes: For the purposes of this screening test, T-BACT is defined as the use of 1996 and later model year engines in all Diesel construction equipment Determination of fuel use should be documented based on the equipment manufacturer's data. Maximum gallons of fuel may be interpolated between 37,000 and 3,700 gallons based on the fraction of T-BACT and non T-BACT engines. Risk calculation to support the above screening values is based on fuel use under the "high risk" Prime Engine Scenario in Table 6, Appendix VII, Risk Characterization Scenarios, from the CARB October, 2000 "Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles".

Source: El Dorado County Air Quality Management District 2002. Table 4.2

### 4.1.4 Naturally Occurring Asbestos

Naturally occurring asbestos has been identified as a TAC by the CARB. No quantitative significance thresholds have been set for NOA. However, the California Department of Conservation provides a map that may be used as a screening-level indicator of the likelihood of NOA being present on the Proposed Project site. The map, *Areas More Likely to Contain Natural Occurrences of Asbestos in Western El Dorado County, California* (California Department of Conservation 2000) shows areas within the following four categories considered to be subject to elevated risk of containing NOA:

- Areas More Likely to Contain Asbestos,
- Areas Where The Presence of Asbestos is Possible But Unlikely,
- Carbonate Rocks That May Contain Asbestos, and
- Faults and Fault Zones.

If a project site is located outside of all four areas listed above, it may be considered to have a relatively lower probability of containing NOA and, in this Air Quality Study, will be considered to have a less-than-significant impact.

If a project site is located within one of the four areas listed above, it may be considered to have an elevated probability of containing NOA and, in this Air Quality Study, will be considered to have a significant impact.

Implementation of mitigation measures to reduce asbestos emissions during construction activities will be considered to reduce the impact to a less-than-significant level.

## 4.2 METHODOLOGY

The following describes methods used to assess project-related construction impacts.

### 4.2.1 Ozone Precursors

Air pollutant emissions associated with construction of the El Dorado Trail Project were estimated by applying version 8.1.0 of the *Road Construction Emissions Model* (Sacramento Metropolitan Air Quality Management District 2016). This model, developed for the SMAQMD, specifically analyzes emissions associated with construction of linear project, including roadway improvement projects, bridges and overcrossings, trails and paths, and pipelines.

Project-specific information (e.g., the linear and spatial size of the project, amount and type of construction equipment used, and the anticipated schedule for the project) were used in the *Road Construction Emissions Model*. These values are presented in the technical appendix of this Air Quality Study. Other than those values shown in the technical appendix, default assumptions included in the model were used.

During construction of the Proposed Project, various phases of construction would result in the use of different groups of equipment. This would result in the generation of different amounts of emissions during the various construction phases. The air quality analysis presented in this study assessed construction emissions during various phases of construction. The *Road Construction Emissions Model* analyzes each of these phases separately. A description of equipment used in the construction of the El Dorado Trail was provided by the County of El Dorado (Harrington pers. comm.), and was used in the *Road Construction Emissions Model*.

### 4.2.2 Diesel Exhaust Particulate Matter

Estimated consumption of diesel fuel during construction of the El Dorado Trail Project was based on a description of equipment used in the construction of the Proposed Project, provided by the County of El Dorado (Harrington pers. comm.)

### 4.2.3 Naturally-Occurring Asbestos

As noted above, the map *Areas More Likely to Contain Natural Occurrences of Asbestos in Western El Dorado County, California* is used in this Air Quality Study as a source of information on the potential for NOA to be present on the Project site.

## 4.3 IMPACTS

The following is a description of construction-related impacts of the El Dorado Trail Project.

### 4.3.1 Ozone Precursors

Construction of the El Dorado Trail Project would result in the generation of air pollutant emissions. As shown in **Table 10**, combining the largest amount of daily emissions for both the trail portion and overcrossing portion of the Project would result in the following amounts of ozone precursor emissions:

- 2.95 ppd of ROG, and
- 29.65 ppd of NOx.

Because the amount of ROG emissions and $NO_x$ emissions would be less than the 82 ppd significance threshold, the generation of construction-related ozone precursor emissions is considered a less-than-significant impact. No mitigation measures are required.

### 4.3.2 Fugitive Dust Particulate Matter

Construction of the El Dorado Trail Project would generate fugitive dust $PM_{10}$ and $PM_{2.5}$ emissions. Based on procedures presented in the *Guide to Air Quality Assessment – Determining Significance of Air Quality Impacts Under the California Environmental Quality Act*, these emissions are considered a significant impact which would be reduced to a less-than-significant level with implementation of measures presented in Section C.6 in Appendix C-1 of the Guide.

**Mitigation Measure #1.** During construction, implement measures presented in Section C.6 in Appendix C-1 of the *Guide to Air Quality Assessment – Determining Significance of Air Quality Impacts Under the California Environmental Quality Act*. These measures are also presented in the technical appendix of this Air Quality Study.

With implementation of Mitigation Measure #1, this impact would be considered less than significant.

**Table 10. Construction-Related Emissions**

| Construction Phases | Reactive Organic Gases | Carbon Monoxide | Nitrogen Oxides | Inhalable Particulate Matter ($PM_{10}$) |
|---|---|---|---|---|
| Trail Portion of Project | | | | |
| Grubbing/Land Clearing | 1.11 | 9.72 | 11.01 | 3.97 |
| Grading/Excavation | 1.64 | 14.14 | 16.54 | 4.28 |
| Drainage/Utilities/Sub-Grade | 0.29 | 3.08 | 2.46 | 3.59 |
| Paving | 0.53 | 4.51 | 5.54 | 0.26 |
| Maximum for Trail Portion | 1.64 | 14.14 | 16.54 | 4.28 |
| Overcrossing Portion of Project | | | | |
| Grubbing/Land Clearing | 1.31 | 12.28 | 13.11 | 7.53 |
| Drainage/Utilities/Sub-Grade | 0.40 | 4.45 | 2.78 | 7.11 |
| Paving | 0.62 | 5.83 | 6.53 | 0.33 |
| Maximum for Overcrossing Portion | 1.31 | 12.28 | 13.11 | 7.53 |
| Combined Maximum | 2.95 | 26.42 | 29.65 | 11.81 |
| Significance Thresholds | 82 | | 82 | |
| Significant Impact? | No | | No | |

Source: Roadway Construction Emissions Model, version 8.1.0
Note: All values are in pounds per day.

### 4.3.3 Diesel Exhaust Particulate Matter

Construction of the El Dorado Trail Project would generate diesel exhaust particulate matter emissions. Based on construction equipment information provided by the County of El Dorado (Harrington pers. comm.), construction of the Project would result in the use of 3,854 gallons of diesel fuel. This amount is less than the interpolated significance threshold of 34,336 gallons presented in Section 4.1.3 of this Air Quality Study. Therefore, this impact is considered less-than-significant. No mitigation measures are required.

### 4.3.4 Naturally Occurring Asbestos

The map, *Areas More Likely to Contain Natural Occurrences of Asbestos in Western El Dorado County, California* (California Department of Conservation 2000) shows areas more likely to contain NOA. Soil-disturbing construction activity in these areas would result in an elevated risk of entraining NOA. The asbestos map shows the western portion of El Dorado Trail Project site crosses the El Dorado Fault, which indicates an elevated risk of the presence of NOA.

On-site sampling of soil at the Project site would be needed to confirm the presence of NOA. However, based on information presented in the *Areas More Likely to Contain Natural Occurrences of Asbestos in Western El Dorado County, California* map, this impact is considered to be potentially significant. This impact will be reduced to a less-than-significant level by implementing the following mitigation measures.

**Mitigation Measure #2.** Comply with EDCAQMD Rule 223, prohibiting the generation of visible fugitive dust beyond the Project site limits.

**Mitigation Measure #3.** Comply with EDCAQMD Rule 223-1, preparing and submitting to the EDCAQMD a Fugitive Dust Control Plan.

**Mitigation Measure #4.** Comply with EDCAQMD Rule 223-2, preparing and submitting to the EDCAQMD an Asbestos Dust Mitigation Plan.

**Mitigation Measure #5.** Comply with CARB Airborne Toxic Control Measure (ATCM) 93105, *Asbestos ATCM for Construction, Grading, Quarrying, and Surface Ming Operations*.

**Mitigation Measure #6.** Comply with CARB ATCM 93106, *Asbestos ATCM for Surfacing Applications*.

With implementation of Mitigation Measure #2 through Mitigation Measure #6, this impact would be considered less than significant.

# SECTION 5
# LONG-TERM OPERATIONAL IMPACTS

The El Dorado Trail Project would not directly generate vehicle trips. However, the Proposed Project would result in some vehicle trips due to bicycle and pedestrian users driving to the trail. In addition, project-related maintenance would also result in some vehicle trips. Offsetting these project-related trips would be a reduction in vehicle trips as people who would otherwise drive vehicles would, instead, use bicycles or walk to make the trip.

Overall, the project is not expected to result in a substantial change in roadway traffic volumes or capacity. As a result, the project would not affect long-term operational emissions of ozone precursors (i.e., ROG and $NO_x$), particulate matter (i.e., $PM_{10}$ and $PM_{2.5}$), or CO.

Because the project would not affect long-term operational emissions, this impact is considered less than significant and no mitigation measures are required.

# SECTION 6
# GLOBAL CLIMATE CHANGE AND GREENHOUSE GASES

This section of this Air Quality Study describes the effects of the El Dorado Trail Project on global climate change and GHG emissions. The Proposed Project would generate GHG emissions associated with short-term construction activity.

## 6.1 SIGNIFICANCE THRESHOLDS

The EDCAQMD participated in a joint process with other air districts in the region to develop CEQA significance thresholds for GHG emissions. The other air districts were the SMAQMD, PCAPCD, FRAQMD, and YSAQMD. The Board of Directors of the SMAQMD adopted the GHG thresholds in October 2014 (Sacramento Metropolitan Air Quality Management District 2016). The EDCAQMD is recommending use of the GHG emissions significance thresholds adopted by the SMAQMD (Baughman pers. comm.). The SMAQMD GHG significance thresholds are applied in this Air Quality Study

Project-related GHG emissions will be considered a significant impact if the amount of emissions exceeds 1,100 metric tons per year of GHG emissions. If Project-related GHG emissions exceed this threshold, measures to reduce or offset the GHG emissions should be considered. Measures that reduce the amount of GHG emissions to less than the thresholds are considered to reduce the impact to less than significant levels.

## 6.2 METHODOLOGY

GHG emissions associated with construction of the El Dorado Trail Project were estimated by applying version 8.1.0 of the *Road Construction Emissions Model* (Sacramento Metropolitan Air Quality Management District 2016). This model, developed for the SMAQMD, specifically analyzes emissions associated with construction of roadway improvement projects and other linear projects such as trails.

Project-specific information (e.g., the linear and spatial size of the project, and the anticipated schedule for the project) were used in the *Road Construction Emissions Model*. These values are presented in the technical appendix of this Air Quality Study. Other than those values shown in the technical appendix, default assumptions included in the model were used.

During construction of the roadway improvements, various phases of construction would result in the use of different groups of equipment. This would result in the generation of different amounts of emissions during the various construction phases. The air quality analysis presented

in this study assessed construction emissions during various phases of construction. The *Road Construction Emissions Model* analyzes each of these phases separately.

## 6.3 IMPACTS

The following describes the impact of the El Dorado Trail Project on global climate change and GHG emissions. **Table 11** presents estimates of short-term construction-related GHG emissions. As shown in **Table 11**, construction activities associated with implementation of the El Dorado Trail Project would result in 139.81 MT per year of $CO_2e$ emissions. The amount of construction-related GHG emissions would be less than the 1,100 MT per year significance threshold. Therefore, this impact is considered less than significant and no mitigation measures are required.

As described in more detail in Section 5, *Long-Term Operational Impacts*, of this Air Quality Study, the Proposed Project is not expected to result in a substantial change in roadway traffic volumes or capacity, and is not expected to affect long-term operational emissions. Therefore, the project is considered to have a less-than-significant impact on long-term operational GHG emissions and no mitigation measures are required.

**Table 11. Construction-Related Greenhouse Gas Emissions**

| Portion of Project | Carbon Dioxide (in tons) | Methane (in tons) | Nitrous Oxide (in tons) | Carbon Dioxide Equivalent (in metric tons) |
|---|---|---|---|---|
| Trail Portion of Project | 104.35 | 0.02 | <0.01 | 105.38 |
| Overcrossing Portion of Project | 37.63 | 0.01 | <0.01 | 34.43 |
| | | | **TOTAL** | 139.81 |

Source: Road Construction Emissions Model version 8.1.0 (Sacramento Metropolitan Air Quality Management District 2016).

# SECTION 7
# FEDERAL CLEAN AIR ACT CONFORMITY

The El Dorado Trail project is federally funded for planning, environmental and engineering (County of El Dorado 2015a and County of El Dorado 2015b). Projects that involve federal funding may be subject to federal Clean Air Act conformity regulations. These regulations require projects to be in conformance with the air quality State Implementation Plan (SIP).

Certain categories of projects are exempt from the requirement to demonstrate conformity. "Exempt Projects" are presented in Table 2 of 40 CFR 93.126. One of these categories is "Bicycle and pedestrian facilities".

Both the trail and the overcrossing portions of the El Dorado Trail project have been determined to be exempt from the requirement to demonstrate conformity with the SIP (California Department of Transportation 2015a and California Department of Transportation 2015b). Therefore, no conformity analyses or findings are required. This impact is considered less than significant, and no mitigation measures are required.

# REFERENCES

**Publications Cited**


California Air Resources Board. 2006. In-Use Off-Road Diesel Vehicle Rule Workshop Presentation Material. Sacramento, CA.

California Air Resources Board. 2009. Climate Change Scoping Plan. Sacramento, CA.

California Air Resources Board. 2011. Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document. Sacramento, CA.

California Air Resources Board. 2014. First Update to the Climate Change Scoping Plan. Sacramento, CA.

California Air Resources Board. 2016. California Air Resources Board Website http://www.arb.ca.gov.

California Department of Conservation. 2000. Areas More Likely to Contain Natural Occurrences of Asbestos in Western El Dorado County, California. Sacramento, CA.

California Department of Transportation. 2015a. Preliminary Environmental Study (PES) Form for the Class 1 path portion of the El Dorado Trail project. Marysville, CA.

California Department of Transportation. 2015b. Preliminary Environmental Study (PES) Form for the overcrossing portion of the El Dorado Trail project. Marysville, CA.

El Dorado, County of. 2015a. Request for Proposals #15-961-040 – CEQA/NEPA Environmental Clearance and Permitting for the El Dorado Trail from Missouri Flat Road to El Dorado Road. Placerville, CA.

El Dorado, County of. 2015b. Request for Proposals #15-961-041 - CEQA/NEPA Environmental Clearance and Permitting for the El Dorado Trail at Missouri Flat Road Bike/Pedestrian Overcrossing/Undercrossing. Placerville, CA.

El Dorado County Air Quality Management District. 2002. Guide to Air Quality Assessment – Determining Significance of Air Quality Impacts Under the California Environmental Quality Act. Placerville, CA.

Sacramento Metropolitan Air Quality Management District. 2016. Sacramento Metropolitan Air Quality Management District Internet Website. http://www.airquality.org

University of California Davis, Institute of Transportation Studies. 1996. Transportation Project-Level Carbon Monoxide Protocol. UCD-ITS-RR-97-2 1. Davis, CA.

U.S. Environmental Protection Agency. 2015. U.S. Environmental Protection Agency Internet Website. http://www.epa.gov

**Personal Communications**

Baughman, Adam. Air Quality Engineer. El Dorado County Air Quality Management District. February 3, 2015 E-mail message to Wayne Shijo, KD Anderson & Associates.

Harrington, Dustin. El Dorado County Department of Transportation. October 14, 2016 E-mail message to Kyrsten Shields, Foothill Associates.

# TECHNICAL APPENDIX
# (Presented in a separate electronic file)

# TECHNICAL APPENDIX

This technical appendix presents the following information:

- South Coast Air Quality Management District Rule 403 Tables

- Road Construction Emissions Model Data Entry Worksheet and Table of Results for the trail portion of the project

- Road Construction Emissions Model Data Entry Worksheet and Table of Results for the overcrossing portion of the project

# South Coast Air Quality Management District

# Rule 403 Tables

## C.6 Fugitive Dust Mitigation Measures

The following tables C.4 and C.5 are taken from Rule 403 of the South Coast Air Quality Management District (SCAQMD) and contain mitigation measures that may be applied under the screening criteria in sec. 4.2 of Chapter 4 to reduce fugitive dust emissions from construction activities to a less-than-significant level.

**Table C.4 Best Available Fugitive Dust Control Measures**

| Fugitive Dust Source Category | Control Actions |
|---|---|
| Earth-moving (except construction cutting and filling areas, and mining operations) | 1a. Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the District; two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR<br>1a-1. For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction. |
| Earth-moving – construction fill areas | 1b. Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the District; for areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM method 1557 or other equivalent method approved by the District, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content; two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations. |
| Earth-moving – construction cut areas and mining operations | 1c. Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining areas unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors. |
| Disturbed surface areas (except completed grading areas) | 2a/b. Apply dust suppression in a sufficient quantity and frequency to maintain a stabilized surface; any areas which cannot be stabilized, as evidenced by wind driven dust, must have an application of water at least twice per day to at least 80 percent of the unstabilized area. |

| | |
|---|---|
| Disturbed surface areas – completed grading areas | 2c. Apply chemical stabilizers within 5 working days or grading completion; OR<br>2d. Take action 3a or 3c specified for inactive disturbed surface areas. |
| Inactive disturbed surface areas | 3a. Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible due to excessive slope or other safety conditions; OR<br>3b. Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR<br>3c. Establish a vegetative ground cover within 21 days after active operations have ceased; ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR<br>3d. Utilize any combination of control actions 3a, 3b and 3c such that, in total, they apply to all inactive disturbed surface areas. |
| Unpaved roads | 4a. Water all roads used for any vehicular traffic at least once per every two hours of active operations; OR<br>4b. Water all roads used for any vehicular traffic once daily and restrict vehicle speed to 15 mph; OR<br>4c. Apply chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface. |
| Open storage piles | 5a. Apply chemical stabilizers; OR<br>5b. Apply water to at least 80 percent of the surface areas of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR<br>5c. Install a three-sided enclosure with walls with no more than 50 percent porosity that extend, at a minimum, to the top of the pile. |
| Track-out control | 6a. Pave or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface, and extending for a centerline distance of at least 100 feet and width of at least 20 feet; OR<br>6b. Pave from the point of intersection with the public paved road surface, and extending for a centerline distance of at least 25 feet and a width of at least 20 feet, and install a track-out control device immediately adjacent to the paved surface such that exiting vehicles do not travel on any unpaved road surface after passing through the track-out control device. |

| | |
|---|---|
| All categories | 7a. Any other control measures approved by the District. |
| Source: SCAQMD Rule 403, Tables 2 and 3. | |

**Table C.5 Best Available Fugitive Dust Control Measures for High Wind Conditions***

| Fugitive Dust Source Category | Control Measures |
|---|---|
| Earth moving | 1A. Cease all active operations, OR<br>2A. Apply water to soil not more than 15 minutes prior to moving such soil. |
| Disturbed surface areas | 0B. On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR<br>1B. Apply chemical stabilizers prior to a wind event; OR<br>2B. Apply water to all unstabilized disturbed areas 3 times per day; if there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR<br>3B. Take the actions specified in Table B.6, Item 3c; OR<br>4B. Utilize any combination of control actions specified in Table 1, Items 1B, 2B and 3B, such that, in total, they apply to all disturbed surfaced areas. |
| Unpaved roads | 1C. Apply chemical stabilizers prior to a wind event; OR<br>2C. Apply water twice per hour during active operation; OR<br>3C. Stop all vehicular traffic. |
| Open storage piles | 1D. Apply water twice per hour; OR<br>2D. Install temporary coverings. |
| Paved road track-out | 1E. Cover all haul vehicles; OR<br>2E. Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for operation on both public and private roads. |
| All categories | 1F. Any other control measures approved by the District. |
| * High wind conditions means when gusts exceed 25 mph.<br>Source: SCAQMD Rule 403, Table 1. | |

# Road Construction Emissions Model

# Data Entry Worksheet and Tables of Results

# for the Trail Portion of the Project

# Road Construction Emissions Model
## Data Entry Worksheet

Version 8.1.0

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

## Input Type

| | | |
|---|---|---|
| Project Name | ElDorTrail Only | |
| Construction Start Year | 2020 | Enter a Year between 2014 and 2025 (inclusive) |
| Project Type | 1 | 1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway<br>2) Road Widening : Project to add a new lane to an existing roadway<br>3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane<br>4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction |
| Project Construction Time | 6.00 | months |
| Working Days per Month | 22.00 | days (assume 22 if unknown) |
| Predominant Soil/Site Type: Enter 1, 2, or 3 (for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22) | 2 | 1) Sand Gravel : Use for quaternary deposits (Delta/West County)<br>2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the Ione formation (Scott Road, Rancho Murieta)<br>3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta) |
| Project Length | 2.29 | miles |
| Total Project Area | 8.50 | acres |
| Maximum Area Disturbed/Day | 0.34 | acres |
| Water Trucks Used? | 1 | 1. Yes<br>2. No |

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries

## Material Hauling Quantity Input

| Material Type | Phase | Haul Truck Capacity ($yd^3$) (assume 20 if unknown) | Import Volume ($yd^3$/day) | Export Volume ($yd^3$/day) |
|---|---|---|---|---|
| Soil | Grubbing/Land Clearing | | | |
| | Grading/Excavation | 10.00 | | 80.00 |
| | Drainage/Utilities/Sub-Grade | | | |
| | Paving | | | |
| Asphalt | Grubbing/Land Clearing | | | |
| | Grading/Excavation | | | |
| | Drainage/Utilities/Sub-Grade | | | |
| | Paving | | | |

## Mitigation Options

| | | |
|---|---|---|
| On-road Fleet Emissions Mitigation | | Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer |
| Off-road Equipment Emissions Mitigation | | Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/ceqa/mitigation.shtml).<br>Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard |

## Road Construction Emissions Model, Version 8.1.0

| Daily Emission Estimates for -> ElDorTrail Only | | | | Total | Exhaust | Fugitive Dust | Total | Exhaust | Fugitive Dust | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Phases (Pounds)** | **ROG (lbs/day)** | **CO (lbs/day)** | **NOx (lbs/day)** | **PM10 (lbs/day)** | **PM10 (lbs/day)** | **PM10 (lbs/day)** | **PM2.5 (lbs/day)** | **PM2.5 (lbs/day)** | **PM2.5 (lbs/day)** | **SOx (lbs/day)** | **CO2 (lbs/day)** | **CH4 (lbs/day)** | **N2O (lbs/day)** | **CO2e (lbs/day)** |
| **Grubbing/Land Clearing** | 1.11 | 9.72 | 11.01 | 3.97 | 0.52 | 3.44 | 1.19 | 0.47 | 0.72 | 0.01 | 1,336.76 | 0.34 | 0.02 | 1,349.89 |
| **Grading/Excavation** | 1.64 | 14.14 | 16.54 | 4.28 | 0.84 | 3.44 | 1.46 | 0.74 | 0.72 | 0.02 | 2,358.45 | 0.54 | 0.03 | 2,382.20 |
| **Drainage/Utilities/Sub-Grade** | 0.29 | 3.08 | 2.46 | 3.59 | 0.14 | 3.44 | 0.84 | 0.12 | 0.72 | 0.01 | 633.44 | 0.12 | 0.01 | 639.02 |
| **Paving** | 0.53 | 4.51 | 5.54 | 0.26 | 0.26 | 0.00 | 0.22 | 0.22 | 0.00 | 0.01 | 1,306.86 | 0.33 | 0.02 | 1,319.72 |
| **Maximum (pounds/day)** | 1.64 | 14.14 | 16.54 | 4.28 | 0.84 | 3.44 | 1.46 | 0.74 | 0.72 | 0.02 | 2,358.45 | 0.54 | 0.03 | 2,382.20 |
| **Total (tons/construction project)** | 0.07 | 0.59 | 0.67 | 0.23 | 0.03 | 0.19 | 0.07 | 0.03 | 0.04 | 0.00 | 104.35 | 0.02 | 0.00 | 105.38 |

Notes:

| | |
|---|---|
| Project Start Year -> | 2020 |
| Project Length (months) -> | 6 |
| Total Project Area (acres) -> | 9 |
| Maximum Area Disturbed/Day (acres) -> | 0 |
| Water Truck Used? -> | Yes |

| | Total Material Imported/Exported Volume ($yd^3$/day) | | Daily VMT (miles/day) | | | |
|---|---|---|---|---|---|---|
| Phase | Soil | Asphalt | Soil Hauling | Asphalt Hauling | Worker Commute | Water Truck |
| Grubbing/Land Clearing | 0 | 0 | 0 | 0 | 180 | 30 |
| Grading/Excavation | 80 | 0 | 120 | 0 | 180 | 30 |
| Drainage/Utilities/Sub-Grade | 0 | 0 | 0 | 0 | 180 | 30 |
| Paving | 0 | 0 | 0 | 0 | 180 | 30 |

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

| Total Emission Estimates by Phase for -> ElDorTrail Only | | | | Total | Exhaust | Fugitive Dust | Total | Exhaust | Fugitive Dust | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)** | **ROG (tons/phase)** | **CO (tons/phase)** | **NOx (tons/phase)** | **PM10 (tons/phase)** | **PM10 (tons/phase)** | **PM10 (tons/phase)** | **PM2.5 (tons/phase)** | **PM2.5 (tons/phase)** | **PM2.5 (tons/phase)** | **SOx (tons/phase)** | **CO2 (tons/phase)** | **CH4 (tons/phase)** | **N2O (tons/phase)** | **CO2e (MT/phase)** |
| **Grubbing/Land Clearing** | 0.01 | 0.06 | 0.07 | 0.03 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 8.82 | 0.00 | 0.00 | 8.08 |
| **Grading/Excavation** | 0.05 | 0.42 | 0.49 | 0.13 | 0.02 | 0.10 | 0.04 | 0.02 | 0.02 | 0.00 | 70.05 | 0.02 | 0.00 | 64.19 |
| **Drainage/Utilities/Sub-Grade** | 0.01 | 0.06 | 0.05 | 0.07 | 0.00 | 0.07 | 0.02 | 0.00 | 0.01 | 0.00 | 12.54 | 0.00 | 0.00 | 11.48 |
| **Paving** | 0.01 | 0.04 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 12.94 | 0.00 | 0.00 | 11.85 |
| **Maximum (tons/phase)** | 0.05 | 0.42 | 0.49 | 0.13 | 0.02 | 0.10 | 0.04 | 0.02 | 0.02 | 0.00 | 70.05 | 0.02 | 0.00 | 64.19 |
| **Total (tons/construction project)** | 0.07 | 0.59 | 0.67 | 0.23 | 0.03 | 0.19 | 0.07 | 0.03 | 0.04 | 0.00 | 104.35 | 0.02 | 0.00 | 95.60 |

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

# Road Construction Emissions Model

# Data Entry Worksheet and Tables of Results

# for the Overcrossing Portion of the Project

# Road Construction Emissions Model
## Data Entry Worksheet

Version 8.1.0

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

## Input Type

| | | |
|---|---|---|
| Project Name | ElDorTrail OC | |
| Construction Start Year | 2020 | Enter a Year between 2014 and 2025 (inclusive) |
| Project Type | 3 | 1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway<br>2) Road Widening : Project to add a new lane to an existing roadway<br>3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane<br>4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction |
| Project Construction Time | 5.00 | months |
| Working Days per Month | 22.00 | days (assume 22 if unknown) |
| Predominant Soil/Site Type: Enter 1, 2, or 3 (for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22) | 3 | 1) Sand Gravel : Use for quaternary deposits (Delta/West County)<br>2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the Ione formation (Scott Road, Rancho Murieta)<br>3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta) |
| Project Length | 0.03 | miles |
| Total Project Area | 0.69 | acres |
| Maximum Area Disturbed/Day | 0.69 | acres |
| Water Trucks Used? | 1 | 1. Yes<br>2. No |

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries

## Material Hauling Quantity Input

| Material Type | Phase | Haul Truck Capacity ($yd^3$) (assume 20 if unknown) | Import Volume ($yd^3$/day) | Export Volume ($yd^3$/day) |
|---|---|---|---|---|
| Soil | Grubbing/Land Clearing | | | |
| | Grading/Excavation | | | |
| | Drainage/Utilities/Sub-Grade | | | |
| | Paving | | | |
| Asphalt | Grubbing/Land Clearing | | | |
| | Grading/Excavation | | | |
| | Drainage/Utilities/Sub-Grade | | | |
| | Paving | | | |

## Mitigation Options

| | | |
|---|---|---|
| On-road Fleet Emissions Mitigation | | Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer |
| Off-road Equipment Emissions Mitigation | | Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/ceqa/mitigation.shtml).<br>Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard |

## Road Construction Emissions Model, Version 8.1.0

| Daily Emission Estimates for -> ElDorTrail OC | | | | Total | Exhaust | Fugitive Dust | Total | Exhaust | Fugitive Dust | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Phases (Pounds)** | **ROG (lbs/day)** | **CO (lbs/day)** | **NOx (lbs/day)** | **PM10 (lbs/day)** | **PM10 (lbs/day)** | **PM10 (lbs/day)** | **PM2.5 (lbs/day)** | **PM2.5 (lbs/day)** | **PM2.5 (lbs/day)** | **SOx (lbs/day)** | **CO2 (lbs/day)** | **CH4 (lbs/day)** | **N2O (lbs/day)** | **CO2e (lbs/day)** |
| **Grubbing/Land Clearing** | 1.31 | 12.28 | 13.11 | 7.53 | 0.64 | 6.89 | 2.01 | 0.58 | 1.43 | 0.02 | 1,755.47 | 0.46 | 0.02 | 1,772.95 |
| **Grading/Excavation** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Drainage/Utilities/Sub-Grade** | 0.40 | 4.45 | 2.78 | 7.11 | 0.22 | 6.89 | 1.60 | 0.17 | 1.43 | 0.01 | 1,082.22 | 0.11 | 0.02 | 1,089.64 |
| **Paving** | 0.62 | 5.83 | 6.53 | 0.33 | 0.33 | 0.00 | 0.28 | 0.28 | 0.00 | 0.02 | 1,587.56 | 0.38 | 0.02 | 1,602.67 |
| **Maximum (pounds/day)** | 1.31 | 12.28 | 13.11 | 7.53 | 0.64 | 6.89 | 2.01 | 0.58 | 1.43 | 0.02 | 1,755.47 | 0.46 | 0.02 | 1,772.95 |
| **Total (tons/construction project)** | 0.02 | 0.18 | 0.16 | 0.14 | 0.01 | 0.13 | 0.04 | 0.01 | 0.03 | 0.00 | 37.63 | 0.01 | 0.00 | 37.96 |

Notes:

| | |
|---|---|
| Project Start Year -> | 2020 |
| Project Length (months) -> | 5 |
| Total Project Area (acres) -> | 1 |
| Maximum Area Disturbed/Day (acres) -> | 1 |
| Water Truck Used? -> | Yes |

| | Total Material Imported/Exported Volume ($yd^3$/day) | | Daily VMT (miles/day) | | | |
|---|---|---|---|---|---|---|
| Phase | Soil | Asphalt | Soil Hauling | Asphalt Hauling | Worker Commute | Water Truck |
| Grubbing/Land Clearing | 0 | 0 | 0 | 0 | 200 | 40 |
| Grading/Excavation | 0 | 0 | 0 | 0 | 0 | 0 |
| Drainage/Utilities/Sub-Grade | 0 | 0 | 0 | 0 | 720 | 40 |
| Paving | 0 | 0 | 0 | 0 | 320 | 40 |

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

| Total Emission Estimates by Phase for -> ElDorTrail OC | | | | Total | Exhaust | Fugitive Dust | Total | Exhaust | Fugitive Dust | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)** | **ROG (tons/phase)** | **CO (tons/phase)** | **NOx (tons/phase)** | **PM10 (tons/phase)** | **PM10 (tons/phase)** | **PM10 (tons/phase)** | **PM2.5 (tons/phase)** | **PM2.5 (tons/phase)** | **PM2.5 (tons/phase)** | **SOx (tons/phase)** | **CO2 (tons/phase)** | **CH4 (tons/phase)** | **N2O (tons/phase)** | **CO2e (MT/phase)** |
| **Grubbing/Land Clearing** | 0.01 | 0.07 | 0.07 | 0.04 | 0.00 | 0.04 | 0.01 | 0.00 | 0.01 | 0.00 | 9.66 | 0.00 | 0.00 | 8.85 |
| **Grading/Excavation** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Drainage/Utilities/Sub-Grade** | 0.01 | 0.06 | 0.04 | 0.10 | 0.00 | 0.09 | 0.02 | 0.00 | 0.02 | 0.00 | 14.88 | 0.00 | 0.00 | 13.59 |
| **Paving** | 0.01 | 0.05 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 13.10 | 0.00 | 0.00 | 11.99 |
| **Maximum (tons/phase)** | 0.01 | 0.07 | 0.07 | 0.10 | 0.00 | 0.09 | 0.02 | 0.00 | 0.02 | 0.00 | 14.88 | 0.00 | 0.00 | 13.59 |
| **Total (tons/construction project)** | 0.02 | 0.18 | 0.16 | 0.14 | 0.01 | 0.13 | 0.04 | 0.01 | 0.03 | 0.00 | 37.63 | 0.01 | 0.00 | 34.43 |

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

# Appendix D — *El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project, Natural Environmental Study*, July 2017

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# El Dorado Trail Extension — Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project

Natural Environment Study

[03-Sacramento] – [El Dorado Trail Extension — Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project]

El Dorado Trail Extension Project Missouri Flat Road to the Town of El Dorado [Federal Project Number: CML 5925 (129)] (Trail)

El Dorado Trail at Missouri Flat Road Bike/Pedestrian Overcrossing Project [Federal Project Number CML 5925 (132)] (Overcrossing)

July 2017

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

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# Natural Environment Study

**El Dorado Trail Extension — Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project**

Federal Project Number: CML 5925 (129) (Trail)

Federal Project Number: CML 5925 (132) Overcrossing

July 2017

STATE OF CALIFORNIA
Department of Transportation, District 3
Sacramento County, California

Prepared By: _____ Date: July 18, 2017

Charlotte Marks, Biologist
Foothill Associates
590 Menlo Drive, Suite 5
Rocklin, CA 95765
(916) 435-1202

Submitted By: _____ Date: July 19, 2017

Donna Keeler, Senior Planner
County of El Dorado, Transportation Division
2850 Fairlane Court
Placerville, CA 95667
(530) 621-3829

Recommended
for Approval By: _____ Date: 8/1/17

Kenneth Russo, Associate Environmental Planner
California Department of Transportation, District 3
703 B Street
Marysville, CA 95901
(530) 741-4291

Approved By: _____ Date: 8/1/17

Laura Loeffler, Environmental Branch Chief
California Department of Transportation, District 3
703 B Street
Marysville, CA 95901
(530) 741-4592

The County of El Dorado (County) is proposing to construct a portion of the Sacramento-Placerville Transportation Corridor (SPTC) in El Dorado County (EDC), consisting of an 8-foot wide paved Class 1 multi-use bicycle and pedestrian trail along a 2.2-mile segment connecting the existing El Dorado Trail with the proposed 25.5-mile Class I bike path that would extend from Oriental Street (milepost [MP] 142.6) west to Latrobe Road Crossing/El Dorado-Sacramento County line (MP 126.2) to the west. This segment extends from just east of Missouri Flat Road west to Oriental Street and includes a 12-foot-wide concrete bike/pedestrian overcrossing to connect the existing El Dorado Trail at its existing terminus just east of Missouri Flat Road with the proposed trail segment west of Missouri Flat Road.

The approximately 37-acre Biological Study Area (BSA) is located entirely within the SPTC right-of-way from northwest of MP 143 within the Town of El Dorado, just north of Pleasant Valley Road and Oriental Street, to east of MP 144 at Old Depot Road south of the City of Placerville, in El Dorado County, California. The BSA is characterized by disturbed non-native annual grassland, oak woodland, and foothill pine woodland habitats. The BSA experiences high levels of human disturbance, including pedestrian and bicycle traffic, trash, encampments, and fire damage. The BSA is bordered primarily by low-density housing, with the exception of one area between Forni Road and Missouri Flat Road that consists of light industrial development.

A total of five terrestrial biological communities occur within the BSA: non-native annual grassland, foothill pine woodland, oak woodland, riparian woodland, and disturbed/developed areas. Total impacts, both temporary and permanent, to theses habitats include: 1.24 acre of non-native annual grassland, 1.39 acre of foothill pine woodland, 3.35 acres of oak woodland, and 3.16 acres of disturbed/developed areas.

A total of approximately 12.62 acres of oak canopy, or 34 percent total canopy cover, was mapped in the BSA. The project is expected to remove approximately 1.06 acres (8 percent) of the existing oak canopy. Under the current General Plan Policy 7.4.4.4, the proposed project adheres to the total allowable impacts. Mitigation of oak tree canopy loss will be required at a 1:1 ratio. In addition, under the new proposed *El Dorado County Oak Retention Management Plan* (ORMP) to be adopted in 2017, impacts to individual trees, including Heritage trees, also require mitigation.

The project could affect potentially occurring non-listed special-status plants including: Brandegee's clarkia (*Clarkia biloba* ssp. *biloba*), Ewan's larkspur (*Delphinium hansenii* ssp. *ewanianum*), Humboldt lily (*Lilium humboldtii* ssp. *humboldtii*), oval-leaved viburnum (*Viburnum ellipticum*), Red Hills soaproot (*Chlorogalum grandiflorum*), Sierra clarkia (*Clarkia virgata*), streambank spring beauty (*Claytonia parviflora* ssp. *grandiflora*), and True's manzanita (*Arctostaphylos mewukka* ssp. *truei*). The project could affect potentially occurring non-listed special-status wildlife including: coast horned lizard (*Phrynosoma coronatum*), western pond turtle (*Actinemys marmorata*), and nesting migratory birds. No impacts to federal or State-

listed species or designated critical habitat for federally-listed species is anticipated; therefore, no incidental take permits or authorizations will be required for the project.

The project design may potentially impact jurisdictional waters of the U.S. One depressional seasonal wetland, four intermittent drainages, twelve ephemeral drainages, and three ditches occur within the BSA. The project will have no impacts to the depressional seasonal wetland or intermittent drainages. A total of less than 0.01 acre of impacts will occur to the ephemeral drainages, and less than 0.01 acre of impacts to the ditches will occur within the BSA. Therefore, the project may require a 401 and 404 permit or be subject to waste discharge requirements under the Porter-Cologne Water Quality Control Act.

Several invasive plant species and noxious weeds are present within the disturbed non-native grassland and the ruderal/developed areas. Mitigation measures shall be implemented to avoid the spread of invasive plant species and noxious weeds.

Measures to avoid and minimize impacts to biological resources shall be implemented.

Table of Contents

**List of Tables**



**List of Figures**



**List of Appendices**

| | |
|---|---|
| ADA | American Disabilities Act |
| BMP | Best Management Practice |
| BSA | Biological Survey Area |
| CFR | California Federal Register |
| Cal-IPC | California Invasive Plant Council |
| Caltrans | California Department of Transportation |
| CDFG | California Department of Fish and Game |
| CDFW | California Department and Fish and Wildlife |
| CDFA | California Department of Food and Agriculture |
| CEQA | California Environmental Quality Act |
| CESA | California Endangered Species Act |
| CNPS | California Native Plant Society |
| CNDDB | California Natural Diversity Database |
| CWA | Clean Water Act |
| DBH | Diameter at Breast Height |
| DG | Decomposed granite |
| EDC | El Dorado County |
| EO | Executive Order |
| FESA | Federal Endangered Species Act |
| FHWA | Federal Highway Administration |
| HAWK | High-Intensity Activated Cross Walk |
| HMA | Hot Mixed Asphalt |
| MBTA | Migratory Bird Treaty Act |
| MSL | Mean Sea Level |
| NPDES | Non-Pollutant Discharge Elimination System |
| NEPA | Natural Environmental Policy Act |
| NES | Natural Environment Study |
| NRCS | Natural Resources Conservation Service |
| PIA | Project Impact Area |
| OHWM | Ordinary High Water Mark |
| ORMP | Oak Retention Management Plan |
| RUFA | Reciprocal Use and Funding Agreement |
| RWQCB | Regional Water Quality Control Board |
| SNC | sensitive natural community |

| | |
|---|---|
| SPTC | Sacramento -Placerville Transportation Corridor |
| SPTC – JPA | Sacramento -Placerville Transportation Corridor Joint Power Authority |
| SPTC MP EIR | Sacramento -Placerville Transportation Corridor Master Plan EIR |
| SWRCB | State Water Resources Control Board |
| USACOE | U.S. Army Corps of Engineers |
| USDA | U.S. Department of Agriculture |
| USEPA | U.S. Environmental Protection Agency |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | U.S. Geological Survey |

# 1.0 INTRODUCTION

## *1.1. Project Location*

The approximately 37-acre BSA is located entirely within the SPTC right-of-way from northwest of MP 143 within the Town of El Dorado, just north of Pleasant Valley Road and Oriental Street, to east of MP 144 at Old Depot Road south of Placerville, El Dorado County, California, within portions of Sections 24, 26, 34, and 35, Township 10 North, Range 10 East, on the *Placerville*, California USGS 7.5-topographic quadrangle, 38° 41' 39.825" North, 120° 50' 21.216" West (**Figure 1**).

The Project Impact Area (PIA) includes a footprint of approximately 0.63 acres of temporary impacts and 8.52 acres of permanent impacts associated with the proposed project (**Figure 2**).

## *1.2. Background and Project Purpose*

### 1.2.1. Sacramento – Placerville Transportation Corridor

The SPTC is a 53-mile segment of the Southern Pacific Railway Corporation's Placerville Branch railroad right-of-way (Rail Corridor) from Sacramento to Placerville, California. The SPTC Joint Powers Authority (SPTC – JPA) is a public entity formed in 1991 for the purpose of purchasing the SPTC and consists of four member agencies: the County of El Dorado, the City of Folsom, the County of Sacramento, and the Sacramento Regional Transit District, and one Member-at-Large that serves on the SPTC - JPA Board of Directors.

The SPTC – JPA purchased the 53-mile Rail Corridor segment in 1996 for the purpose of preserving it for transportation uses, and coordinating usage and maintenance by the member agencies. Upon acquiring the Rail Corridor, the SPTC – JPA and its member agencies entered into a Reciprocal Use and Funding Agreement (RUFA) to establish the joint rights and responsibilities for the member agencies with respect to the ownership and use of the Rail Corridor. The RUFA allocates segments of the Rail Corridor among the SPTC – JPA member agencies; each member agency has primary usage rights and maintenance responsibility for its allocation of the Rail Corridor which has been granted through an easement to each member by the SPTC – JPA. The SPTC – JPA has railbanked[1] this portion of the Rail Corridor under the Rails to Trails Act and the corridor remains subject to the jurisdiction of the federal Surface Transportation Board.

[1] Railbanking, as defined by the National Trails System Act, 16 USC 1247 (d), is a voluntary agreement between a railroad company and a trail agency to use an out-of-service rail corridor as a trail until a railroad might need the corridor again for rail service. Because a railbanked corridor is not considered abandoned, it can be sold, leased or donated to a trail manager without reverting to adjacent landowners (Rails to Trails Conservancy, accessed online May 24, 2015 - http://www.railstotrails.org/build-trails/trail-building-toolbox/railbanking/).

### 1.2.2. Project Purpose

The proposed El Dorado Trail Extension — Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project (Proposed Project) would implement the Class 1 Trail within Section C2 of Segment C identified by the SPTC Master Plan.

## *1.3. Planning and California Environmental Quality Act Evaluation*

Several County planning documents anticipated construction of the Proposed Project.

### 1.3.1. Sacramento -Placerville Transportation Corridor Master Plan and Environmental Impact Report

The County of El Dorado certified the *Sacramento-Placerville Transportation Corridor Master Plan Final Environmental Impact Report* (SPTC MP EIR) and adopted the *Sacramento-Placerville Transportation Corridor Master Plan* (Master Plan) and *Mitigation Monitoring Program* on February 5, 2003. The Master Plan covers future uses within an approximately 28-mile segment of SPTC railway right-of-way extending from the El Dorado/Sacramento County line to Apex, near the City of Placerville. The Master Plan provides guidance on the type of uses that may occur within the corridor to facilitate future individual development proposals within the corridor, including the Proposed Project, which is identified as Segment C, Section C2 of the Master Plan, and would provide linkage between Segment D and Section C1.

The SPTC MP EIR prepared for the Master Plan was a "first-tier" environmental review, assessing impacts with a broad approach as guidance for the future review of individual projects.

### 1.3.2. El Dorado County Bicycle Transportation Plan and El Dorado County Parks and Trail Master Plan

The Proposed Project is a "Tier 1" project in both the 2010 *El Dorado County Bicycle Transportation Plan* and the 2012 *El Dorado County Parks and Trail Master Plan*. Tier One projects are those identified with the highest priority, as they address an immediate critical need, provide strategic benefit and/or are relatively simple to implement.

## *1.4. Funding*

The El Dorado Trail from Missouri Flat Road to El Dorado Road (CIP #97014) and the El Dorado Trail at Missouri Flat Road Bike/Pedestrian Overcrossing (CIP #97015) projects are independently identified in the County's Capital Improvement Program (CIP) as separate projects, with each segment receiving separate Federal Highway Administration Congestion Mitigation and Air Quality (CMAQ) grant awards for planning and environmental and engineering analysis. In addition, each segment would likely be constructed at different times, depending upon the timing of construction funding. However, due to the locality and interconnection of the two segments, the Trail and the Overcrossing are being combined within the California Environmental Quality Act (CEQA) analyses as a single project.

## *1.5. Project Description*

The Proposed Project includes the development of an 8-foot wide paved Class 1 multi-use bicycle and pedestrian trail, with a pedestrian overcrossing at Missouri Flat Road. Proposed trail amenities may also include the installation of fencing or railing, and small culvert crossings.

### 1.5.1. Trail Design

The Proposed Project includes the development of an 8-foot wide paved Class 1 multi-use bicycle and pedestrian trail, extending approximately 2.2 miles, with 2-foot shoulders on either side, and signage, as well as signalized pedestrian crossings proposed at Forni Road and Blanchard Road. Proposed trail amenities may include the installation of fencing or railing, and small culvert crossings.

### 1.5.2. Bike/Pedestrian Overcrossing Design

A bike/pedestrian overcrossing is proposed to connect the existing El Dorado Trail at its existing terminus just east of Missouri Flat Road with the proposed trail segment west of Missouri Flat Road. The crossing would provide a direct connection between trail segments separated by the roadway and would eliminate the need for trail users to divert from the trail to the nearest signal crossing on Missouri Flat Road at Golden Center Drive. The proposed overcrossing would be developed within County right-of-way, with both approaches located within SPTC right-of-way.

The proposed overcrossing would consist of a prefabricated steel truss with a weathered steel, rust-colored finish. The deck would be constructed of a 12-foot-wide reinforced concrete deck. The main (single) span would be approximately 160 feet in length, spanning Missouri Flat Road. Piers would be located on each side of the Missouri Flat Road, constructed of reinforced concrete with a stacked rock type architectural finish. The main span truss would have an approximate overall depth ranging from 12 ½ to 15 feet, with the top of the truss in an arch, with an overhead clearance of 17 ½ feet over Missouri Flat Road.

The piers would also support end span structures at each side of the main span. The west and east end spans would be approximately 50 and 75 feet in length, respectively. End span structures would consist of precast/ pre-stressed concrete girders with a reinforced concrete deck, matching the main span deck width. The approach spans would have a smooth concrete finish.

Retaining wall structure approaches would be constructed beyond the end spans. The west and east structure approaches would extend approximately 190 and 320 feet, respectively, and would vary in height from zero to approximately 16 feet above ground. The wall faces of the structure approaches would also have a stacked rock type architectural finish, matching the piers.

Steel railing would be constructed along the entire overcrossing length (approach structures, end spans, and main span) on both sides, and would have either a galvanized steel or painted finish.

Lighting for the overcrossing may be considered as an added safety feature. If used, a low-level walkway illumination system, such as a handrail tube lighting would likely be utilized. The lighting would be designed to only illuminate deck walkway surfaces, minimizing any light outside of the overcrossing structure.

### 1.5.3. Rail and Road Crossing and Signage

The proposed trail would require rail crossings at Oriental Street, and near Blanchard and Forni Roads. Each rail crossing would be adequately posted with warning signs and pavement delineations for both trail users and railroad operators.

A conventional mid-block traffic signal would be placed at the proposed pedestrian crossing at Forni Road and Blanchard Road and would follow the California MUTCD 2014 traffic signal design standards. Signage for both trail users and motorists would be posted to ensure safety and may include one or more of the following components:

- Striping;
- Signage; and/or
- High-Intensity Activated Cross Walk (HAWK) Signal.

### 1.5.4. Parking

Parking currently exists along Oriental Street at the western end of the project site and within an existing parking lot for trail users east of Missouri Flat Road. Overcrossing construction would necessitate the relocation of this existing parking lot to a new location approximately 0.14 miles southeast of the existing parking lot. A new parking lot is currently proposed as a component of the Diamond Springs Parkway Project, approximately 0.14 miles southeast of the existing parking lot east of Missouri Flat Road.

### 1.5.5. Construction

Project construction is planned to commence during spring 2020 and would involve a combination of standard types of construction equipment, including, but not limited to, backhoe/skiploader, grader, excavator, compactor/roller, asphalt paver, and trucks.

**Construction Staging**

As shown on **Figure 2** three potential staging areas for construction equipment are proposed within the project site. One potential staging area is identified adjacent to Blanchard Road, south of Panorama Drive. A second potential staging area is identified south of Amber Lane, north of Halyard Lane. The third and final potential staging area would be located north of Halyard Lane, west of Missouri Flat Road and adjacent to the proposed overcrossing. All staging areas are located within the existing SPTC – JPA right-of-way.

## *1.6. Sacramento-Placerville Transportation Corridor Master Plan*

The SPTC Master Plan identifies the following guidelines and standards for SPTC trail development relevant to the Proposed Project.

## *1.7. General Trail Guidelines*

The following general guidelines from the SPTC Master Plan are applicable to the development of the Proposed Project.

1. Trails will be open from dawn to dusk.

2. **Figure 3** identifies design considerations for at grade crossings as presented within the SPTC Master Plan. Design for individual road crossings would consider these alternatives in light of traffic volumes, and vertical and horizontal sight distance.

3. **Figure 4** identifies construction guidelines for paved trails as presented within the SPTC Master Plan.

4. Several types of signage will be used to properly implement uses of the corridor. Signs would serve many purposes:

   - Identify permitted uses, regulations, and penalties for unsafe and unlawful uses;
   - Identify potential hazards or unsafe conditions;
   - Identify proper etiquette for shared uses;
   - Provide directions and information regarding historic landmarks and destinations; and
   - Control opposing and cross traffic.

5. Maintenance, vegetation control, and other fire prevention/control actions would periodically be undertaken within the SPTC.

   Maintenance includes those activities necessary to preserve the value of the SPTC and the infrastructure. This includes those activities related to maintaining proper drainage. Maintaining assets directly related to private ventures will be required of and paid for by the applicable private enterprise. Other maintenance will be performed by the County on a routine basis. In addition to routine preventative maintenance, this also includes consistent removal of trash, debris, and other refuse.

   Vegetation within the SPTC will be properly maintained to protect the integrity of rail and trail infrastructure, and to ensure that the corridor will serve as a "fire break" for fires that are in the immediate vicinity of the corridor.

6. To the extent possible, all trails will be designed in accordance with the American With Disabilities Act (ADA) criteria.

## *1.8. Safety Enforcement of Proper Uses*

It is a priority to ensure that the paved Class 1 multi-use bicycle and pedestrian trail within the SPTC is used properly. To ensure proper use, the County will:

- Work with volunteers and public safety agencies to establish patrols for the purpose of educating trail users on proper shared trail etiquette, environmental stewardship, and safe trail use.

- Install bollard and gated fences at access points to keep motorized vehicles out; removable bollards and restricted-access gates will allow access for maintenance and emergency vehicles.

## *1.9. Guidelines for Environmental Protection and Enhancement Strategies*

### 1.9.1. Fencing and Landscaping

Fencing provided in whole or in part for safety reasons will be designed and constructed with maximum consideration to standards shown in **Figure 4** for rail and trail projects. Other types of fencing intended for aesthetic reasons will give consideration to the natural surroundings.

Landscaping will consist of trees shrubs, and other flora native to the area. Maximum consideration will be given to those plants that are most drought resistant, and that require the least amount of maintenance.

### 1.9.2. Signage

Signs will follow adopted local State and Federal requirements. Additional signage will be included along trails in the corridor, generally consistent with the SPTC Master Plan (**Figure 5**). Additionally, interpretive trail signs may be included in project designs to enhance the experience for users.

# 2.0 STUDY METHODS

The following sections describe federal, State, and local environmental laws and policies that are relevant to this Natural Environment Study (NES) and the studies required for this project.

## *2.1. Regulatory Requirements*

### 2.1.1. Federal Endangered Species Act

The U.S. Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. The FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3)(19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

### 2.1.2. Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of State and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

### 2.1.3. Executive Order 13112 – Invasive Species

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration (FHWA) guidance issued August 10, 1999 directs the use of the State's invasive species list, maintained by the California Invasive Species Council, to define the invasive plants that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project. Under this EO, federal agencies cannot authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the U.S. or elsewhere unless all reasonable measures to minimize risk of harm have been analyzed and considered.

### 2.1.4. Section 404 of the Clean Water Act

The U.S. Army Corps of Engineers (USACOE) regulates discharge of dredge or fill material into waters of the U.S. under Section 404 of the Clean Water Act (CWA). "Discharges of fill material" is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or

impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)]. In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a Federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of waters is present. Methods for delineating wetlands and non-tidal waters are described below.

- Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. §328.3(b)]. Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the "normal circumstances" for the site.

- The lateral extent of non-tidal waters is determined by delineating the ordinary high water mark (OHWM) [33 C.F.R. §328.4(c)(1)]. The OHWM is defined by the USACOE as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. §328.3(e)].

Ditches excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water are not considered waters of the U.S. because they are not tributaries or they do not have a significant nexus to downstream traditional navigable waters (USACOE, USEPA 2007).

### 2.1.5. California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. CESA requires state agencies to consult with the California Department of Fish and Wildlife (CDFW), formally California Department of Fish and Game (CDFG), when preparing California Environmental Quality Act (CEQA) documents. The purpose is to ensure that the state lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code §2080). CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur and allows CDFW to identify

"reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code § 2081).

### 2.1.6. Section 401 Water Quality Certification

Section 401 Water Quality Certification was established to comply with CWA Sections 301, 302, 303, 306, and 307 and is regulated by the Regional Water Quality Control Board (RWQCB). Anyone that proposes to conduct a project that may result in a discharge to U.S. surface waters and/or "waters of the state" including wetlands (all types) year-round and seasonal streams, lakes and all other surface waters would require a federal permit. At a minimum, any beneficial uses lost must be replaced by a mitigation offsetting impacts at least equal function, value, and area.

### 2.1.7. Porter-Cologne Water Quality Control Act

Section 13260(a) of the Porter-Cologne Water Quality Control Act (contained in the California Water Code) requires any person discharging waste or proposing to discharge waste, other than to a community sewer system, within any region that could affect the quality of the waters of the State (all surface and subsurface waters) to file a report of waste discharge. The discharge of dredged or fill material may constitute a discharge of waste that could affect the quality of waters of the State. Waste Discharge Requirements Permits are required pursuant to California Water Code Section 13260 for any persons discharging or proposing to discharge waste, including dredge/fill, that could affect the quality of the waters of the State.

### 2.1.8. California Department of Fish & Wildlife Streambed Alteration Agreement

The California Department of Fish and Wildlife has jurisdiction under Section 1600 *et seq*. of the California Fish and Game Code. Under Sections 1602 and 1603, a private party must notify CDFW if a proposed project will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds…except when the department has been notified pursuant to Section 1601." Additionally, CDFW may assert jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over 4 inches in diameter at breast height (DBH). If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures.

### 2.1.9. California Department of Fish and Game Codes

Fully protected fish species are protected under Section 5515; fully protected amphibian and reptile species are protected under Section 5050; fully protected bird species are protected under Section 3511; and fully protected mammal species are protected under Section 4700. The California Fish and Game Code defines take as "hunt, pursue, catch, capture, or kill, or

attempt to hunt, pursue, catch, capture, or kill." Except for take related to scientific research, all take of fully protected species is prohibited.

Section 3503 of the California Fish and Game Code prohibits the killing of birds or the destruction of bird nests. Section 3503.5 prohibits the killing of raptor species and the destruction of raptor nests. Sections 2062 and 2067 define endangered and threatened species.

### 2.1.10. California Department of Fish and Wildlife Species of Concern

In addition to formal listing under FESA and CESA, species receive additional consideration by CDFW and local lead agencies during the CEQA process. Species that may be considered for review are included on a list of "Species of Special Concern," developed by the CDFW. It tracks species in California whose numbers, reproductive success, or habitat may be threatened.

### 2.1.11. California Native Plant Society

The California Native Plant Society (CNPS) maintains a rank of plant species native to California with low population numbers, limited distribution, or otherwise threatened with extinction. This information is published in the *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2016). The CNPS rankings categorize plants as follows:

- Rank 1A: Plants presumed extinct in California;
- Rank 1B: Plants rare, threatened, or endangered in California or elsewhere;
- Rank 2: Plants rare, threatened, or endangered in California, but more numerous elsewhere;
- Rank 3: Plants about which we need more information; and
- Rank 4: Plants of limited distribution.

### 2.1.12. El Dorado County General Plan Section 7.4.4.4

The *El Dorado County General Plan*, adopted in 2004, regulates impacts to tree canopy under General Plan Policy 7.4.4.4. This policy set forth percentages of on-site canopy retention requirements for development projects until the County developed a County-wide strategy. In 2008, the County adopted the *El Dorado County Oak Woodland Management Plan* (OWMP) to implement these General Plan oak woodland protection policies. The County's adoption of the OWMP was challenged in court. In 2012, the Appellate Court upheld the CEQA challenge to the OWMP and directed the County to prepare an Environmental Impact Report for the OWMP. Currently, a General Plan amendment is being prepared to clarify and refine the County's oak tree protection policies.

As a result, only Option "A" of Policy 7.4.4.4 is applicable to oak woodland mitigation. Impacts to oak woodland canopy are currently assessed under the *Interim Interpretive Guidelines* amended October 12, 2007.

*Policy 7.4.4.4* *For all new development projects (not including agricultural cultivation and actions pursuant to an approved Fire Safe Plan necessary to protect existing structures, both of which are exempt from this policy) that would result in soil disturbance on parcels that (1) are over an acre and have at least 1 percent total canopy cover or (2) are less than an acre and have at least 10 percent total canopy cover by woodlands habitats as defined in this General Plan and determined from base line aerial photography or by site survey performed by a qualified biologist or licensed arborist, the County shall require one of two mitigation options: (1) the project applicant shall adhere to the tree canopy retention and replacement standards described below; or (2) the project applicant shall contribute to the County's Integrated Natural Resources Management Plan (INRMP) conservation fund described in Policy 7.4.2.8.*

***Option A***

*The County shall apply the following tree canopy retention standards:*

| Percent Existing Canopy Cover | Canopy Cover to be Retained |
|---|---|
| 80–100 | 60% of existing canopy |
| 60–79 | 70% of existing canopy |
| 40–59 | 80% of existing canopy |
| 20–39 | 85% of existing canopy |
| 10-19 | 90% of existing canopy |
| 1-9 for parcels > 1 acre | 90% of existing canopy |

*Under Option A, the project applicant shall also replace woodland habitat removed at 1:1 ratio. Impacts on woodland habitat and mitigation requirements shall be addressed in a Biological Resources Study and Important Habitat Mitigation Plan as described in Policy 7.4.2.8. Woodland replacement shall be based on a formula, developed by the County, that accounts for the number of trees and acreage affected.*

To date, the County is in the process of revising the ORMP. The comment period on the Draft Environmental Impact Report closed on August 15, 2016. The new plan is expected to be adopted in 2017. Under the proposed new plan, an oak woodland removal permit will be required prior to removal of oak trees that are part of an oak woodland. Mitigation requirements will be based on the percentage of existing oak woodland removed and is outlined below in **Table 2**.

**TABLE 2 — OAK WOODLAND MITIGATION RATIOS**

| Percent of Oak Woodland Impact | Oak Woodland Mitigation Ratio |
|---|---|
| 0 – 50% | 1:1 |
| 50.1 – 75% | 1.5:1 |
| 75.1 – 100% | 2:1 |

Mitigation may be completed with a combination of the following options: acquisition of an off-site conservation easement, payment of in-lieu fees, or either on-site or off-site replacement planting of up to 50 percent of the required mitigation area.

A tree removal permit shall be required prior to the removal of any individual native oak tree not located in an oak woodland and for the removal of all Heritage trees (native oaks with a trunk diameter of 36" or greater at breast height). Trees removed under permit shall require replacement planting or payment of in-lieu fees in an amount equivalent to the number of trunk inches removed.

## *2.2. Studies Required*

### 2.2.1. Literature Search

Available information pertaining to the natural resources of the region was reviewed. All references reviewed for this assessment are listed in **Section 6.0**. The following site-specific information was reviewed:

- California Department of Fish and Wildlife (CDFW). 2016. California Natural Diversity Data Base (CNDDB: *Aukum, Camino, Coloma, Fiddletown, Garden Valley, Latrobe, Placerville, Shingle Springs,* and *Slate Mountain,* U.S. Geological Survey (USGS) 7.5-minute series quadrangle (quadrangle)), Sacramento, CA. [Accessed 10/13/2016];

- California Native Plant Society. 2016. *Inventory of Rare and Endangered Pla*nts (online edition, v8-02) (CNPS: *Aukum, Camino, Coloma, Fiddletown, Garden Valley, Latrobe, Placerville, Shingle Springs,* and *Slate Mountain* quadrangles). [Accessed 10/13/2016]; and

- U.S. Fish and Wildlife Service. 2016. *Information for Planning and Conservation* (IPaC) *Trust Resource Report: My Project, El Dorado County, CA*. [Accessed 10/11/2016].

### 2.2.2. Personnel and Survey Dates

Foothill Associates' biologists, Meredith Branstad, Charlotte Marks, and Zachary Neider conducted biological surveys, an aquatic resource delineation, and arborist surveys on September 22, and October 7, 2016, and January 23 and 24, 2017.

Mrs. Branstad has over 12 years of experience working as a Senior Biologist, with emphasis in wetland delineations, landscape architecture, biological resource assessments, and special-

status species surveys. Ms. Marks has over nine years of experience working as a biologist with emphasis in wetland delineations, biological resource assessments, special-status species surveys, and preserve management. Mr. Neider has over three years of experience working as a biologist, with an emphasis in botany, watershed management, and restoration.

### 2.2.3. Biological Study Area

The boundary of the BSA is designated as the right-of-way (ROW) along approximately 2.2 miles of railroad track extending from Missouri Flat Road to Railroad Park along Oriental Street. The ROW includes the 9.15 acres of the PIA. Portions of the PIA that occur outside of the ROW, were expanded to include the full extent of the limits of work.

### 2.2.4. Survey Methods

Biological surveys were conducted to characterize general biological resources and to determine the potential for sensitive biological resources to occur within the BSA. The project footprint and vicinity were surveyed on foot and the habitat types present were characterized and mapped. Habitat types within the BSA were assessed for their potential to support special-status plant and wildlife species. The botanical inventories were conducted in accordance with CDFW's (2009) plant survey protocols. Plant species observed within the BSA that are designated as invasive by the California Invasive Plant Council (Cal-IPC), or as noxious weeds by the California Department of Food and Agriculture (CDFA) were noted during the biological surveys.

The aquatic resource delineation consisted of mapping wetlands and waterways within the BSA in accordance with USACOE standards. Soil, vegetative, and hydrological data were recorded. The results of the aquatic resources delineation are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2016). The Aquatic Resources Delineation Report was submitted to the USACOE with a request for a Preliminary Jurisdictional Determination on December 16, 2016.

Additionally, an oak woodland analysis was completed to assess the potential impacts to oak canopy with respect to the County's General Plan and oak woodland mitigation guidelines (Foothill Associates 2017).

### 2.2.5. Agency Coordination and Professional Contacts

There has been no direct coordination with wildlife agency personnel to date on this project. The USFWS, CDFW, and CNPS databases were all queried through their online portals prior to field work and again on October 11 and 13, 2016, as detailed above.

The Aquatic Resources Delineation Report was submitted to the USACOE with a request for a Preliminary Jurisdictional Determination on December 16, 2016. A field verification site visit with the USACOE was conducted on February 14, 2017. The results of the field determination have been integrated into this report.

### 2.2.6. Limitations That May Influence the Results

Due to the time of year the initial site assessments were conducted; spring and summer protocol-level floristic surveys were not performed.

# 3.0 RESULTS: ENVIRONMENTAL SETTING

## *3.1. Description of the Existing Biological and Physical Conditions*

The BSA is located within Township 10 North, Range 10 East, Sections 24, 26, 34, and 35 of the *Placerville* quadrangle. The approximate location of the center of the BSA is 38°41'33.64" North, 120°50'30.56" West NAD 83 State Plane California Zone II (U.S. feet). The BSA is bordered primarily by low-density housing. One exception is an area between Forni Road and Missouri Flat Road along the southern side of the trail, which consists of light industrial development.

## *3.2. Study Area*

The approximate 37-acre BSA comprises primarily the SPTC ROW limits and small additional areas at the road crossings (**Figure 2**). It currently experiences low pedestrian and bicycle traffic along the existing unpaved trail. A few areas along the eastern portion of the railroad tracks showed signs of encampments, including evidence of constructed fire pits that had been recently charred.

## *3.3. Physical Conditions*

The general topography of the BSA has been largely influenced by the construction of the railroad. The immediate areas adjacent to the railroad tracks are mildly sloping, with a few areas along the central portion of the BSA that are moderately sloped with the railroad at the base. Elevations range from 1,604 feet (488 meters) above mean sea level (MSL) in the southwestern portion of the BSA to 1,795 feet (547 meters) above MSL in the northeastern portion of the BSA.

The BSA is comprised of eight soil types: **Argonaut Gravelly Loam, 2 to 15 Percent Slopes**; **Auburn Silt Loam, 2 to 30 Percent Slopes**; **Auburn Very Rocky Silt Loam, 2 to 30 Percent Slopes**; **Boomer Very Rocky Loam, 3 to 30 percent slopes; Diamond Springs Very Fine Sandy Loam, 9 to 15 Percent Slopes**; **Placer Diggings**; **Sobrante Silt Loam, 3 to 15 Percent Slopes**; and **Tailings** (**Figure 6**). General characteristics and properties associated with these soils are described below and summarized in **Table 1** (USDA, NRCS 1974 and 2016).

**TABLE 1 — SOIL TYPES**

| Soil Unit | Soil Type | Inclusions | Available Water Holding Capacity |
|---|---|---|---|
| AkC | Argonaut Gravelly Loam, 2 to 15 Percent Slopes | Auburn silt loam; Sobrante silt loam. | Low (~3.9 inches) |
| AwD | Auburn Silt Loam, 2 to 30 Percent Slopes | Argonaut gravelly loam; Perkins gravelly loam, moderately deep variant; Sobrante silt loam. | Very low (~2.3 inches) |
| AxD | Auburn Very Rocky Silt Loam, 2 to 30 Percent Slopes | Argonaut very rocky loam; Boomer very rocky loam; Sobrante very rocky silt loam. | Very low (~2.3 inches) |
| BkD | Boomer Very Rocky Loam, 3 to 30 Percent Slopes | Auburn very rocky silt loam; Argonaut very rocky loam; Sites very rocky loam; Sobrante very rocky silt loam. | Moderate (~7.1 inches) |
| DfC | Diamond Springs Very Fine Sandy Loam, 9 to 15 Percent Slopes | Auberry coarse sandy loam; Boomer gravelly loam. | Moderate (~6.8 inches) |
| PrD | Placer Diggings | None. | Very Low (~1.2 inches) |
| SuC | Sobrante Silt Loam, 3 to 15 Percent Slopes | Auburn silt loam; Argonaut gravelly loam; Boomer gravelly loam. | Low (~3.9 inches) |
| TaD | Tailings | None. | Very Low (~1.2 inches) |

### Argonaut Gravelly Loam

This soil is well-drained and underlain by metabasic or basic rocks at depth of 20 to 40 inches. Permeability is very slow. It is undulating to moderately steep on broad ridges from 500 to 1,600 (sometimes up to 2,500) feet in elevation (USDA, NRCS 1974 and 2016). This soil has hydric inclusions in alluvial fan remnants.

### Auburn Silt Loam Series

Soils included in this series include Auburn silt loam and Auburn very rocky silt loam, 2 to 30 percent slopes. This series consists of soils that are well-drained and underlain by hard metamorphic rock at depth of 12 to 96 inches. Permeability is moderate. These soils are undulating to very steep on foothills typically located between 500 to 1,800 feet above MSL (USDA, NRCS 1974 and 2016). There are no hydric inclusions in this soil series.

### Boomer Very Rocky Loam

This soil is well-drained and typically adjacent to major drainageways and depth to the parent rock is of 24 to 40 inches. It is undulating to very steep consisting of hillslopes, ridges and mountain slopes (USDA, NRCS 1974 and 2016). There are no hydric inclusions in this soil.

### Diamond Springs Very Fine Sandy Loam

This soil is well-drained and formed from metamorphed igneous rocks and underlain by fine-grained acid igneous rocks at depth of 24 to 50 inches. It is undulating to very steep on uplands typically located between 1,200 to 2,000 feet above MSL (USDA, NRCS 1974 and 2016). There are no hydric inclusions in this soil series.

**Placer Diggings**

This land type consists of areas of stony, cobbly, and gravelly material, commonly in beds of creeks and other streams or of areas that have been placer mined and contain enough fine sand or silt to support some grass for grazing. The material that makes up this land type is a mixture of rocks and is commonly stratified or poorly sorted with the depth of the soil material being variable and ranging from six inches to more than five feet (USDA, NRCS 1974 and 2016). This land type includes hydric soil inclusions in man-made channels.

**Sobrante Silt Loam**

This soil is well-drained and underlain by fine-grained metamorphic rocks at a depth of more than 22 to 36 inches. It is undulating to hilly and found in the foothills, typically located between 800 to 1,800 feet above MSL (USDA, NRCS 1974 and 2016). There are no hydric inclusions in this soil.

**Tailings**

This land type consists of cobbly and stony tailings from dredge and hydraulic mining and in hard rock mine dumps. All the soil matter has either been washed away from hydraulic mining or has been buried from dredge mining or mine dumps. The depth to the underlying rock is more than 48 inches (USDA, NRCS 1974 and 2016). This land type has hydric inclusions in drainageways and depressions.

## *3.4. Biological Conditions within the Biological Study Area*

The BSA is within the Northern Sierra Nevada Foothills (n SNF) sub-region of the Sierra Nevada (SN) region of the California Floristic Province. This sub-region comprises a lower, mostly narrow, north-south strip in the westernmost one-third to one-fifth of the Sierra Nevada region with the Great Valley to the west the Sierra Nevada North to the east and the Tehachapi Mountain Area to the south (UCB 2016). Annual average precipitation is approximately 38 to 39 inches and primarily falls between November and March (WeatherDB 2016).

A total of five terrestrial biological communities occur within the BSA: non-native annual grassland, foothill pine woodland, oak woodland, riparian woodland, and disturbed/developed areas. The following aquatic features occur within the BSA: depressional seasonal wetland, ephemeral drainages, intermittent drainages, and ditches. These biological communities are illustrated on **Figure 2** and are discussed in detail in the following sections.

### 3.4.1. Terrestrial Communities

Non-native annual grassland occurs throughout the BSA. Non-native annual grassland is characterized primarily by an assemblage of non-native grasses and herbaceous species. Scattered patches of coyote brush (*Baccharis pilularis*) are present throughout the non-native annual grassland. Dominant vegetation observed within this vegetation community includes: wild oat (*Avena fatua*), bur chervil (*Anthriscus caucalis*), rose clover (*Trifolium hirtum*), and yellow star-thistle (*Centaurea solstitialis*). This habitat demonstrates evidence of human

disturbance, including pedestrian and non-vehicular traffic (i.e. bicycles), and trash. Photographs of typical non-native annual grassland are included in **Appendix D**.

Foothill pine woodland includes a mixed overstory of coniferous trees including ponderosa pine (*Pinus ponderosa*) and foothill pine (*Pinus sabiniana*). Typical understory species include toyon (*Heteromeles arbutifolia)*, manzanita (*Arctostaphylos manzanita*), and coyote bush. Foothill pine woodland occurs primarily in the northeastern portion of the BSA. Photographs of foothill pine habitat are included in **Appendix D**.

Oak woodland occurs throughout the BSA. It is comprised of a variety of native oak trees and shrubs, including valley oak (*Quercus lobata*), interior live oak (*Quercus wislizeni*), blue oak (*Quercus douglasii*), oracle oak (*Quercus* x *morehus*), and California black oak (*Quercus kelloggii*). Understory consists of species described in the non-native annual grassland community, toyon, and coyote brush. Photographs of typical oak woodland habitat are included in **Appendix D**.

Riparian woodland occurs along the intermittent drainage in the southwestern portion of the BSA. It is comprised of a variety of native oak trees and shrubs, including valley oak and willow (*Salix* sp.). Understory consists of Himalayan blackberry (*Rubus armeniacus*), poison oak (*Toxicodendron diversilobum*), and greater periwinkle (*Vinca major*). Photographs of typical riparian habitat are included in **Appendix D**.

Disturbed/developed areas occur throughout the BSA. This habitat is comprised of the railroad track and the associated gravel surrounding the railroad track, ornamental landscaping, buildings, paved roads, and lots. The majority of the disturbed/developed areas lack herbaceous vegetation. Limited vegetation observed along disturbed unpaved areas include: yellow star-thistle and medusahead (*Elymus caput-medusae*).

### 3.4.2. Aquatic Resources

One depressional seasonal wetland occurs within the central portion of the BSA. This feature was primarily dominated by Himalayan blackberry, until vegetation management activities were conducted by the California Conservation Corp (CCC) in January, 2017. During the February site visit, this feature was dominated by annual wetland plants, such as curly dock (*Rumex crispus*) and rye grass (*Festuca perennis*).

Ephemeral drainages occur throughout portions of the BSA. These features are generally comprised of herbaceous vegetation occurring along the banks, however, some features lacked vegetation altogether. Dominant vegetation observed within these features include: rye grass, yellow star-thistle, and curly dock.

Intermittent drainages occur within the southwestern and northeastern portions of the BSA. These features have a defined bed and bank, with minimal herbaceous vegetation. Dominant vegetation observed within these features include: pennyroyal (*Mentha pulegium*), wild fennel (*Foeniculum vulgare*), and curly dock.

Three ditches occur within the southwestern and central portions of the BSA. Vegetation observed within these features include: plant species identified within the non-native annual grassland terrestrial community.

### 3.4.3. Wildlife and Wildlife Corridors

The BSA provides habitat for wildlife species within the dense shrub and trees that border the railroad tracks and existing informal trail. Species observed foraging within the BSA include: western scrub jay (*Aphelocoma californica*), northern flicker (*Colaptes auratus*), spotted towhee (*Pipilo maculatus*), and western gray squirrel (*Sciurus griseus*). A complete list of wildlife observed within the BSA is included in **Appendix E**.

Wildlife corridors link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. Fragmentation can also occur when a portion of one or more habitats is converted into another habitat, such as when woodland or scrub habitat is altered or converted into grasslands after a disturbance such as fire, mudslide, or grading activities. Wildlife corridors mitigate the effects of this fragmentation by: (1) allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs.

The BSA is not part of a major or local wildlife corridor/travel route because it does not connect two significant habitats. The center of the BSA consists of developed areas comprising the existing informal trail that runs parallel and south-southwest along the railroad tracks. The BSA is bisected by multiple roadways, including Forni Road, Blanchard Road, Oriental Street, and Missouri Flat Road, which fragment the natural habitat. Additionally, residential and industrial developments are located to the north and south of the BSA. Therefore, no wildlife corridors occur within the BSA.

## *3.5. Regional Species and Habitats of Concern*

The biological communities present within the BSA are common throughout the local area and region. The CDFW (2016) identifies the following sensitive natural communities (SNC) within five miles of the PIA: Central Valley Drainage Hardhead/Squawfish Stream, Central Valley Drainage Resident Rainbow Trout Stream, and Sacramento-San Joaquin Foothills/Valley Ephemeral Stream. None of these communities are present within the BSA.

No critical habitat is designated within the BSA.

A review of regionally occurring special-status species was compiled based on the USFWS (2016) list of federally-listed species with the potential to occur within the BSA (**Appendix A**), CNDDB (CDFW 2016a) queries of special-status species documented on the *Aukum, Camino,*

*Coloma, Fiddletown, Garden Valley, Latrobe, Placerville, Shingle Springs,* and *Slate Mountain* (**Appendix B**), and CNPS Ranking List (2016) of special-status plants on the *Placerville* quadrangle and eight surrounding quadrangles (**Appendix C**).

**Table 2** below identifies the special-status species based on the database searches, along with their listing status, habitat requirements, and a rational as to whether the species would potentially occur within the BSA (Habitat Present, HP), have no habitat or potential for occurrence (Absent, A), or are present (Present, P) within the BSA.

**TABLE 2 — REGIONALLY OCCURRING SPECIAL-STATUS SPECIES**

| Special-Status Species | Regulatory Status (Federal; State; Local; CNPS) | General Habitat Description | Potential for Occurrence within the BSA and Rationale |
|---|---|---|---|
| **Plants** | | | |
| Bisbee Peak rush-rose<br>*Crocanthemum suffrutescens* | --; --; --; 3.2 | Perennial evergreen shrub found often on gabbroic or lone soils, often in burned or disturbed areas and chaparral from 75 to 670 meters (CNPS 2016).<br><br>Blooming period: April – August. | **A**; the BSA does not provide suitable soil or substrate for this species. |
| Brandegee's clarkia<br>*Clarkia biloba* ssp. *biloba* | --; --; --; 4.2 | Annual herb found often in roadcuts within chaparral, cismontane woodland, and lower montane coniferous forest from 75 to 915 meters (CNPS 2016).<br><br>Blooming period: May – July. | **HP**; the oak woodland and foothill pine woodland within the BSA provides habitat for this species.<br><br>Two CNDDB occurrences are documented within five miles of the BSA (CDFW 2016a). |
| Chaparral sedge<br>*Carex xerophila* | --; --; --; 1B.2 | Perennial herb found in serpentinite or gabbroic soils within chaparral, cismontane woodland, and lower montane coniferous forest from 440 to 770 meters (CNPS 2016).<br><br>Blooming period: March - June | **A**; the BSA does not provide suitable soil or substrate for this species. |
| Congdon's onion<br>*Allium sanbornii* var. *congdonii* | --; --; --; 4.3 | Perennial bulbiferous herb found in serpentinite or volcanic substrate in chaparral or cismontane woodland from 300 to 990 meters (CNPS 2016).<br><br>Blooming period: April – July | **A**; the BSA does not provide suitable soil or substrate for this species. |
| El Dorado bedstraw<br>*Galium californicum* ssp. *sierrae* | FE; CR; --; 1B.2 | Perennial herb found on gabbroic soils within chaparral, cismontane woodland, and lower coniferous forest from 100 to 585 meters (CNPS 2016).<br><br>Blooming period: May – June. | **A**; the BSA does not provide suitable soil or substrate for this species. |
| El Dorado mule ears<br>*Wyethia reticulata* | --; --; --; 1B.2 | Perennial herb found on clay or gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest from 185 to 630 meters (CNPS 2016).<br><br>Blooming period: April – August. | **A**; the BSA does not provide suitable soil or substrate for this species. |
| Ewan's larkspur<br>*Delphinium hansenii* ssp. *ewanianum* | --; --; --; 4.2 | Perennial herb found in rocky soils in cismontane woodland and valley and foothill grassland from 60 to 600 meters (CNPS 2016).<br><br>Blooming period: March – May | **HP**; the oak woodland and non-native annual grassland within the BSA provides habitat for this species. |
| Fresno ceanothus<br>*Ceanothus fresnensis* | --; --; --; 4.3 | Perennial evergreen shrub found in openings of cismontane woodland and lower montane coniferous forest from 900 to 2,103 meters (CNPS 2016).<br><br>Blooming period: May – July. | **A**; the BSA is outside of the know elevational range for this species. |
| Hernandez bluecurls<br>*Trichostema rubisepalum* | --; --; --; 4.3 | Annual herb found on gravelly volcanic or serpentinite soils within broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and vernal pools from 300 to 1,435 meters (CNPS 2016).<br><br>Blooming period: June – August. | **A**; the BSA does not provide suitable soil or substrate for this species. |
| Humboldt lily<br>*Lilium humboldtii* ssp. *humboldtii* | --; --; --; 4.2 | Perennial bulbiferous herb found in openings in chaparral, cismontane woodland, and lower montane coniferous forest from 90 to 1,280 meters (CNPS 2016).<br><br>Blooming period: May – July | **HP**; the oak woodland and foothill pine woodland within the BSA provides habitat for this species. |
| Jepson's onion<br>*Allium jepsonii* | --; --; --; 1B.2 | Perennial bulbiferous herb found on serpentine or volcanic soils in chaparral, lower montane coniferous forest, and cismontane woodland from 300 to 1,320 meters (CNPS 2016).<br><br>Blooming period: April – August. | **A**; the BSA does not provide suitable soil or substrate for this species.<br><br>Two CNDDB occurrences are documented within five miles of the BSA (CDFW 2016a). |
| Layne's butterweed (=ragwort)<br>*Packera layneae* | FT; CR; --; 1B.2 | Perennial herb found on serpentine or gabbroic, rocky soils in cismontane woodland and chaparral from 200 to 1,085 meters (CNPS 2016).<br><br>Blooming period: April – August. | **A**; the BSA does not provide suitable soil or substrate for this species.<br><br>Four CNDDB occurrences are documented within five miles of the BSA (CDFW 2016a). |
| Nissenan manzanita<br>*Arctostaphylos nissenana* | --; --; --; 1B.2 | Perennial evergreen shrub found on rocky substrate in closed cone coniferous forest and chaparral from 450 to 1,100 meters (CNPS 2016).<br><br>Blooming period: February – March | **A**; the BSA does not provide suitable habitat for this species.<br><br>Five CNDDB occurrences are documented within five miles of the BSA (CDFW 2016). |
| Oval-leaved viburnum<br>*Viburnum ellipticum* | --; --; --; 2B.3 | Perennial deciduous shrub found in chaparral, cismontane woodland, and lower montane coniferous forest from 215 to 1,400 meters (CNPS 2016).<br><br>Blooming period: May – June | **HP**; the foothill pine woodland and oak woodland within the BSA provides habitat for this species.<br><br>One CNDDB occurrence is documented within five miles of the BSA (CDFW 2016a). |
| Parry's horkelia<br>*Horkelia parryi* | --; --; --; 1B.2 | Perennial herb found on Ione formation in chaparral and cismontane woodland from 80 to 1,070 meters (CNPS 2016).<br><br>Blooming period: April – September. | **A**; the BSA does not provide suitable soil or substrate for this species.<br><br>One CNDDB occurrence is documented within five miles of the BSA (CDFW 2016a). |

| Special-Status Species | Regulatory Status (Federal; State; Local; CNPS) | General Habitat Description | Potential for Occurrence within the BSA and Rationale |
|---|---|---|---|
| Pine Hill ceanothus<br>*Ceanothus roderickii* | FE; CR; --; 1B | Perennial evergreen shrub found on serpentine or gabbro soils in chaparral or cismontane woodland from 245 to 630 meters (CNPS 2016).<br><br>Blooming period: April-June | **A**; the BSA does not provide suitable soil or substrate for this species. |
| Pine Hill flannelbush<br>*Fremontodendron decumbens* | FE; CR; --; 1B | Perennial evergreen shrub found on rocky gabbroic or serpentinite in chaparral and cismontane woodland soils from 425 to 760 meters (CNPS 2016).<br><br>Blooming period: April-July | **A**; the BSA does not provide suitable soil or substrate for this species. |
| Pleasant Valley mariposa lily<br>*Calochortus clavatus* var. *avius* | --; --; --; 1B.2 | Perennial bulbiferous herb found in Josephine silt loam or volcanic soils in lower montane coniferous forest from 305 to 1,800 meters (CNPS 2016).<br><br>Blooming period: May – July | **A**; the BSA does not provide suitable soil or substrate for this species. |
| Red Hills soaproot<br>*Chlorogalum grandiflorum* | --; --; --; 1B | Perennial bulbiferous herb found gabbro, serpentine, or other soils in chaparral, cismontane woodland, and lower montane coniferous forest from 245 to 1,240 meters (CNPS 2016).<br><br>Blooming period: May-June | **HP**; the foothill pine woodland and oak woodland within the BSA provides habitat for this species.<br><br>One CNDDB occurrence is documented within five miles of the BSA (CDFW 2016a). |
| Sierra arching sedge<br>*Carex cyrtostachya* | --; --; --; 1B.2 | Perennial herb found in meadows, seeps, marshes, swamps, margins of riparian forests and mesic areas of lower montane coniferous forest from 610 to 1,360 meters (CNPS 2016).<br><br>Blooming period: May – August | **A**; the BSA is outside of the know elevational range for this species. |
| Sierra bolandra<br>*Bolandra californica* | --; --; --; 4.3 | Perennial herb found in mesic or rocky soils in lower and upper montane coniferous forest from 975 to 2,450 meters (CNPS 2016).<br><br>Blooming period: June – July | **A**; the BSA is outside of the know elevational range for this species. |
| Sierra clarkia<br>*Clarkia virgata* | --; --; --; 4.3 | Annual herb found in cismontane woodland and lower montane coniferous forest from 400 to 1,615 meters (CNPS 2016).<br><br>Blooming period: May – August | **HP**; the foothill pine woodland and oak woodland within the BSA provides habitat for this species. |
| Starved daisy<br>*Erigeron miser* | --; --; --; 1B.3 | Perennial herb usually found on rocky substrate in upper montane coniferous forest from 1,840 to 2,620 meters (CNPS 2016).<br><br>Blooming period: June – October. | **A**; the BSA is outside of the know elevational range for this species. |
| Stebbins' morning glory<br>*Calystegia stebbinsii* | FE; CE; --; 1B.1 | Perennial rhizomatous herb found in openings of chaparral and cismontane woodland on gabbro or serpentinite soils from 185 to 1,090 meters (CNPS 2016).<br><br>Blooming period: April – July. | **A**; the BSA does not provide suitable soil or substrate for this species.<br><br>Two CNDDB occurrences are documented within five miles of the BSA (CDFW 2016a). |
| Streambank spring beauty<br>*Claytonia parviflora* ssp. *grandiflora* | --; --; --; 4.2 | Annual herb found in rocky soils in cismontane woodland from 250 to 1,200 meters (CNPS 2016).<br><br>Blooming period: February – May | **HP**; the oak woodland within the BSA provides habitat for this species. |
| True's manzanita<br>*Arctostaphylos mewukka* ssp. *truei* | --; --; --; 4.2 | Perennial evergreen shrub found in chaparral and lower montane coniferous forests, sometimes roadside from 425 to 1,390 meters (CNPS 2016).<br><br>Blooming period: February – July | **HP**; the foothill pine woodland within the BSA provides habitat for this species. |
| Van Zuuk's morning-glory<br>*Calystegia vanzuukiae* | --; --; --; 1B.3 | Perennial rhizomatous herb found in gabbroic or serpentinite soils in chaparral and cismontane woodland from 500 to 1,180 meters (CNPS 2016).<br><br>Blooming period: May – August | **A**; the BSA does not provide suitable soil or substrate for this species. |
| Yellow bur navarretia<br>*Navarretia prolifera* ssp. *lutea* | --; --; --; 4.3 | Annual herb found in chaparral and cismontane woodland from 853 to 1,402 meters (CNPS 2016).<br><br>Blooming period: May – July | **A**; the BSA is outside of the know elevational range for this species. |
| **Amphibians/Reptiles** | | | |
| California red-legged frog<br>*Rana draytonii* | FT; CSC; --; -- | Requires a permanent water source and is typically found along quiet, slow-moving streams, ponds, or marsh communities with emergent vegetation. Believed extirpated from the Central Valley floor since 1970s. | **A**; the BSA does not provide habitat for this species. |
| Foothill yellow-legged frog<br>*Rana boylii* | --; CSC; --; -- | Found in shallow flowing streams with some cobble in a variety of habitats including woodlands, riparian forest, coastal scrub, chaparral, and wet meadows from 0 to 1,830 meters. Rarely encountered far from permanent water sources. | **A**; the BSA does not provide habitat for this species. |
| Coast (California) horned lizard<br>*Phrynosoma blainvillii* | --; CSC; --; -- | Grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose sandy soil. Often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills. | **HP**; the non-native annual grassland, foothill pine woodland, and oak woodland within the BSA provides habitat for this species. |

| Special-Status Species | Regulatory Status (Federal; State; Local; CNPS) | General Habitat Description | Potential for Occurrence within the BSA and Rationale |
|---|---|---|---|
| Western pond turtle<br>*Actinemys marmorata* | --; CSC; --; -- | Typically associated with permanent ponds, lakes, streams, irrigation ditches and canals, and marshes, or pools in intermittent drainages, usually lined with abundant vegetation and either rocky or muddy bottom substrates. Requires aquatic basking sites, such as logs, rocks, cattail mats or exposed banks. Turtles are active from February to November, in which breeding occurs from April to May. Overwintering occurs in upland terrestrial habitats (approximately 300 feet) close to water sources, in which they will bury themselves under loose soil (Californiaherps 2016; CDFW 2016b). | **HP**; the intermittent drainage within the BSA, conveys fast flowing water during periods of inundation, but does not hold water long enough throughout the year to support aquatic breeding habitat; however overwintering upland habitat occurs for this species.<br><br>Four CNDDB occurrences are documented within five miles of the BSA (CDFW 2016a). |
| **Fish** | | | |
| Central Valley steelhead<br>*Oncorhynchus mykiss* | FT; --; --; -- | Inhabits rivers and streams tributary to the Sacramento-San Joaquin Rivers and Delta ecosystems. | **A**; the BSA does not provide habitat for this species. |
| Delta smelt<br>*Hypomesus transpacificus* | FT; CE; --; -- | Inhabits shallow fresh or brackish water tributary to the Delta ecosystem; spawns in freshwater sloughs and channel edgewaters. Known almost exclusively in the Fresno-San Joaquin estuary. | **A**; the BSA does not provide habitat for this species. |
| **Birds** | | | |
| Bald eagle<br>*Haliaeetus leucocephalus* | FD; CFP, CE; --; -- | Breeding habitat most commonly includes areas within 2.5 miles (4.0 kilometers) of coastal areas, bays, rivers, lakes, and reservoirs. Nests usually are in tall trees or on pinnacles or cliffs near water. | **A**; the BSA does not contain suitable foraging or nesting habitat for this species.<br><br>One CNDDB occurrence is documented within five miles of the BSA (CDFW 2016a). |
| Bank swallow<br>*Riparia riparia* | --; CT; --; -- | Nests in riverbanks and forages over riparian areas and adjacent uplands. | **A**; the BSA does not provide nesting habitat for this species.<br><br>One CNDDB occurrence is documented within five miles of the BSA (CDFW 2016a). |
| Great gray owl<br>*Strix nebulosa* | --; CE; --; -- | In California, prefers pine and fir forests adjacent to montane meadows between 750 and 2,250 meters in California. | **A**; the BSA does not provide habitat for this species and is outside of the typical range of the species. |
| Northern goshawk<br>*Accipiter gentilis* | --; CSC; --; -- | Found in high-elevation forested areas with cleared openings for foraging. | **A**; the BSA does not provide habitat for this species. |
| Tricolored blackbird<br>*Agelaius tricolor* | --; CSC; --; --<br>(nesting colony) | Nests in dense blackberry, cattail, tules, bulrushes, sedges, willow, or wild rose within freshwater marshes. Nests in large colonies of at least 50 pairs (up to thousands of individuals). | **A**; the BSA does not provide habitat for this species. |
| Willow flycatcher<br>*Empidonax traillii* | --; CE; --; -- | Breeds in moist, shrubby areas often with standing or running water, interspersed with meadows, from 600 to 2,400 meters. Winters in shrubby clearings and early successional growth. | **A**; the BSA does not occur within the known geographic range for this species.<br><br>One CNDDB occurrence is documented within five miles of the BSA (CDFW 2016a). |
| Other Raptors (Hawks, Owls and Vultures) and Migratory Birds | MBTA and §3503.5 Department of Fish and Game Code | Nests in a variety of communities including cismontane woodland, mixed coniferous forest, chaparral, montane meadow, riparian, annual grassland, and urban communities. | **HP**; the non-native annual grassland and the trees within the riparian habitat, foothill pine woodland, and oak woodland provide nesting habitat for these species.<br><br>Several CNDDB occurrences are documented within five miles of the BSA (CDFW 2016a). |
| **Mammals** | | | |
| Fisher<br>*Martes pennanti* | FC; CT; --; -- | Found in the Cascades, Sierra Nevada and Klamath Mountains and in a few areas in the North Coast Ranges. Occurs in intermediate to large-tree stages of north coast coniferous forests, old growth and deciduous riparian forests with a high percent canopy cover (Zeiner *et al.* 1990). | **A**; the BSA does not provide habitat for this species. |

| **BSA Potential:** | **Federally-Listed Species:** | **California State Listed Species:** | **CNPS* Rank Categories:** |
|---|---|---|---|
| A = Absent – no habitat present and no further work needed. | FE = federal endangered | CFP = California fully protected | 1A = plants presumed extinct in California |
| HP = Habitat Present-habitat is, or may be present. | FT = federal threatened | CE = California state endangered | 1B = plants rare, threatened, or endangered in California and elsewhere |
| P = Present – the species is present. | FPD = proposed for delisting | CT = California state threatened | 2 = plants rare, threatened, or endangered in California, but common elsewhere |
| | FC = candidate | CR = California state rare | 3 = plants about which we need more information |
| | FD = delisted | CSC = California species of special concern | 4 = plants of limited distribution |
| Source: Foothill Associates | CH = Critical Habitat | | |

# 4.0 RESULTS: BIOLOGICAL RESOURCES, DISCUSSION OF IMPACTS AND MITIGATION

This section identifies species with the potential to occur, potential impacts, and avoidance and minimization measures. Temporary and permanent impacts to habitat types are summarized below in **Table 3**.

**TABLE 3 — TEMPORARY AND PERMANENT IMPACTS BY HABITAT TYPE**

| Biological Community | Within the BSA (Acreage)* | Temporary Impacts (Acreage) | Permanent Impacts (Acreage) |
|---|---|---|---|
| Non-Native Annual Grassland | 5.57 | 0.34 | 0.90 |
| Foothill Pine Woodland | 5.49 | 0.04 | 1.35 |
| Oak Woodland | 11.68 | 0.11 | 3.24 |
| Riparian Woodland | 0.50 | — | — |
| Depressional Seasonal Wetland | 0.02 | — | — |
| Ephemeral Drainage | 0.02 | <0.01 | <0.01 |
| Intermittent Drainage | 0.04 | — | — |
| Ditch | <0.01 | — | <0.01 |
| Disturbed/Developed | 13.44 | 0.14 | 3.02 |
| **Total** | **36.77*** | **0.64** | **8.53** |

*GIS calculations may not reflect exact acreage of Biological Study Area due to rounding.

## *4.1. Natural Communities of Special Concern*

Under CEQA, a project that substantially adversely affects any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS, will have an impact on the environment. For this NES, the term "sensitive natural community" includes those communities that, if eliminated or substantially degraded, would sustain a significant adverse impact as defined under CEQA and habitats which require a permit if impacted (e.g. wetlands, other waters, riparian areas, and oak trees). These community types are important, as further degradation and destruction threatens these community types as well as associated populations of dependent plant and wildlife species and significantly reduces their regional distribution and viability.

As described in **Section 3.0**, SNCs in the BSA include potential Waters of the U.S., Waters of the State, riparian woodland habitat, and oak trees and oak woodland.

### 4.1.1. Waters of the U.S. and Waters of the State

**Survey Results**

One depressional seasonal wetland (0.02 acre), four intermittent drainages (0.04 acre), twelve ephemeral drainages (0.02 acre), and three ditches (<0.01 acre) occur within the BSA (**Figure 2**). The depressional seasonal wetland is considered a jurisdictional wetland because it meets the three-parameter criteria established by the USACOE. The intermittent drainages and some of

the ephemeral drainages are considered waters of the U.S. because they demonstrate an ordinary high-water mark (OHWM) and are hydrologically connected to the Sacramento River, a navigable water of the U.S. Other ephemeral drainages and the ditches appear to have no significant nexus with navigable waters and therefore, may not be subject to USACOE jurisdiction, but would still likely be considered Waters of the State by the RWQCB.

**Project Impacts**

The project will have permanent impacts to less than 0.01 acre of ephemeral drainage and less than 0.01 acre of ditch, and temporary impacts to less than 0.01 acre of ephemeral drainage. The project will have no impacts to the intermittent drainages and depressional seasonal wetland.

**Avoidance and Minimization Measures**

MM-1. To minimize changes to wetland hydrology, the project will maintain existing grades and drainage patterns to the greatest extent possible.

MM-2. The project proponent shall obtain coverage under the State Water Resources Control Board (SWRCB) Non-Pollutant Discharge Elimination System (NPDES) General Permit, issued by the RWQCB, and implement water quality Best Management Practices (BMPs) to prevent discharge of pollutants to surface waters during construction. These BMPs will include standard measures for sediment-tracking reduction, such as vehicle washing and street sweeping, and revegetation of all areas disturbed by construction with native species.

MM-3. If features are determined to be waters of the U.S. then they would be subject to permitting requirements under Section 404 of the Clean Water Act. Prior to any discharge of dredged or fill material into any federal jurisdictional features, the project proponent shall obtain authorization under a Section 404 Permit from the USACOE and a 401 Water Quality Certification from the RWQCB.

MM-4. Any construction activities that may affect waters of the U.S. shall be conducted during the dry season.

MM-5. Any requirements as set forth by the regulatory agencies (i.e. USACOE and RWQCB) shall be implemented and completed.

**Compensatory Mitigation**

Compensatory mitigation for permanent and temporary impacts to the ephemeral drainages and ditches are anticipated to consist of on-site restoration and purchase of up to 0.10 acre of credits at a suitable mitigation bank.

**Cumulative Impacts**

No cumulative impacts to potentially jurisdictional features will occur as a result of the project due to the implementation of the avoidance measures discussed above.

### 4.1.2. Riparian Woodland

**Survey Results**

A total of 0.50 acre of riparian woodland was mapped in the BSA.

**Project Impacts**

The project will have no direct impacts on the riparian woodland habitat because all work will be done on the opposite side of the raised railroad bed, approximately 100 feet from the riparian woodland. Indirect impacts may include construction noise and dust.

**Avoidance and Minimization Measures**

As described in MM-2 above, standard dust control BMPs will be implemented in accordance with the requirements of the NPDES permit. Specific measures to minimize impacts of construction noise and disturbance to species of concern are addressed in the discussion of each species.

**Compensatory Mitigation**

No compensatory mitigation will be required due to the implementation of the avoidance measures discussed above.

**Cumulative Impacts**

No cumulative impacts will occur as a result of the project due to the implementation of the avoidance measures discussed above.

### 4.1.3. Oak Trees and Oak Woodland

**Survey Results**

A total of 11.68 acres of oak woodland habitat was mapped in the BSA. This oak canopy acreage includes parts of the oak woodland, foothill pine woodland, riparian woodland, and individual oak trees in the non-native annual grassland. Approximately 12.62 acres of oak tree canopy are found in the BSA. A detailed analysis of oak canopy impacts is included under separate cover (**Appendix F**) and summarized below.

**Project Impacts**

The project is expected to remove approximately 8 percent (approximately 1.06 acres) of the existing oak canopy. According to General Plan Policy 7.4.4.4, the project must retain 85 percent (approximately 10.73 acres) of the existing canopy. Therefore, the proposed impacts adhere to the retention standards under the current policy. However, under the ORMP, which is expected to be adopted in spring 2017, impacts to oak woodland habitat and individual native oak trees, including Heritage trees, shall be mitigated.

**Avoidance and Minimization Measures**

MM-6. Standard tree protection measures will be implemented to protect trees to remain. These include:

- Tree Protection Fencing, consisting of four-foot tall, brightly-colored, high-visibility plastic fencing, shall be placed around the perimeter of the tree protection zone (TPZ) (dripline radius + 1 foot) of all protected trees within 20 feet of the project footprint. The TPZ is the minimum distance for placing protective fencing. Tree protection fencing should be placed as far outside of the TPZ as possible. Signs shall be placed along the fence denoting this as a Tree Protection Zone that shall not be moved until construction is complete. Trees or tree clusters with canopy extending beyond 50 feet from proposed project boundaries may be fenced only along sides facing the project. In cases where proposed work infringes on TPZ, fence shall be placed at edge of work.
- Whenever possible, fence multiple trees together in a single TPZ.
- Tree protection fencing shall not be moved without prior authorization from the Project Arborist and the County of El Dorado.
- No parking, portable toilets, dumping or storage of any construction materials, grading, excavation, trenching, or other infringement by workers or domesticated animals is allowed in the TPZ.
- No signs, ropes, cables, or any other item shall be attached to a protected tree, unless recommended by an ISA-Certified Arborist.
- Underground utilities should be avoided in the TPZ, but if necessary shall be bored or drilled. If boring is impossible, all trenching will be done by hand under the supervision of an ISA-Certified Arborist.
- No cut or fill within the dripline of existing native oak is permitted. If cut or fill within the dripline is unavoidable, any mitigation requirements shall be determined by El Dorado County.
- Pruning of living limbs or roots over two inches in diameter shall be done under the supervision of an ISA-Certified Arborist.
- All wood plant material smaller than six inches in diameter shall be mulched on site. Resulting mulch shall be spread in a layer four to six inches deep in the TPZ of preserved trees. Mulch shall not be placed touching the trunk of preserved trees.
- Appropriate fire prevention techniques shall be employed around all significant trees to be preserved. This includes cutting tall grass, removing flammable debris within the TPZ, and prohibiting the use of tools that may cause sparks, such as metal bladed trimmers or mowers.

**Compensatory Mitigation**

Compensatory mitigation will be in accordance with the policies in effect at the time of project construction. Under the current guidelines, mitigation planting would be at a 1:1 ratio (totaling 212 trees) in the form of either on-site or off-site mitigation planting, establishment of an off-

site conservation easement, or payment of in-lieu fees. Under the proposed ORMP, mitigation planting would also be at a 1:1 ratio (totaling 212 trees) in the form of either on-site or off-site mitigation planting, establishment of an off-site conservation easement, or payment of in-lieu fees. Additionally, six Heritage trees measuring a total of 284 diameter inches would be impacted, the replacement number of trees would include: 568 1-gallon, or 426 5-gallon, or 284 15-gallon trees. No individual native oak trees, other than the Heritage trees, are proposed to be removed.

**Cumulative Impacts**

No cumulative impacts will occur as a result of the project due to the implementation of the avoidance measures and compensatory mitigation discussed above.

## *4.2. Special-Status Plant Species*

The following special-status plants have the potential to occur within the BSA: Brandegee's clarkia, Ewan's larkspur, Humboldt lily, oval-leaved viburnum, Red Hills soaproot, Sierra clarkia, streambank spring beauty, and True's manzanita. These species are discussed in detail below.

### 4.2.1. Potentially Occurring Plants

Brandegee's clarkia is ranked as a CNPS 4 species. It is an annual herb found often in roadcuts within chaparral, cismontane woodland, and lower montane coniferous forest habitats from 246 to 3,001 feet (75 to 915 meters) above MSL. The identification period for this species is from May through July. There are two documented CNDDB records of this species occurring within five miles of the BSA (CDFW 2016a). The oak woodland and foothill pine woodland within the BSA provides habitat for this species. Since biological surveys were conducted outside of the evident and identifiable period for this species, Brandegee's clarkia could potentially be present within the BSA.

Ewan's larkspur is ranked as a CNPS 4 species. It is a perennial herb found in rocky soils in cismontane woodland and valley and foothill grassland from 197 to 1,969 feet (60 to 600 meters) above MSL. The identification period for this species is from March through May. There are no documented CNDDB records for this species occurring within five miles of the BSA (CDFW 2016a). The oak woodland and non-native annual grassland within the BSA provides habitat for this species. Since biological surveys were conducted outside of the evident and identifiable period for this species, Ewan's larkspur could potentially be present within the BSA.

Humboldt lily is ranked as a CNPS 4 species. It is a perennial bulbiferous herb found in openings in chaparral, cismontane woodland, and lower montane coniferous forest from 295 to 4,199 feet (90 to 1,280 meters) above MSL. The identification period for this species is from May through July. There are no documented CNDDB records for this species occurring within five miles of the BSA (CDFW 2016a). The oak woodland and foothill pine woodland within the BSA provides habitat for this species. Since biological surveys were conducted outside of the evident and identifiable period for this species, Humboldt lily could potentially be present within the BSA.

Oval-leaved viburnum is ranked as a CNPS 2B species. It is a perennial deciduous shrub found in cismontane woodland, lower montane coniferous forest, and chaparral from 705 to 4,593 feet (215 to 1,400 meters) above MSL. The identification period for this species is from May through June. There is one documented CNDDB records for this species occurring within five miles of the BSA (CDFW 2016a). The oak woodland and foothill pine woodland within the BSA provides habitat for this species. Since biological surveys were conducted outside of the evident and identifiable period for this species, oval-leaved viburnum could potentially be present within the BSA.

Red Hills soaproot is ranked as a CNPS 1B species. It is a perennial bulbiferous herb found gabbro, serpentine, or other soils in chaparral, cismontane woodland, and lower montane coniferous forest from 804 to 4,068 feet (245 to 1,240 meters) above MSL. The identification period for this species is from May through June. There is one documented CNDDB record for this species occurring within five miles of the BSA (CDFW 2016a). The oak woodland and foothill pine woodland within the BSA provides habitat for this species. Since biological surveys were conducted outside of the evident and identifiable period for this species, Red Hills soaproot could potentially be present within the BSA.

Sierra clarkia is ranked as a CNPS 4 species. It is an annual herb found in cismontane woodland and lower montane coniferous forest from 1,312 to 5,299 feet (400 to 1,615 meters) above MSL. The identification period for this species is from May through August. There are no documented CNDDB records for this species occurring within five miles of the BSA (CDFW 2016a). The oak woodland and foothill pine woodland within the BSA provides habitat for this species. Since biological surveys were conducted outside of the evident and identifiable period for this species, Sierra clarkia could potentially be present within the BSA.

Streambank spring beauty is ranked as a CNPS 4 species. It is an annual herb found in rocky habitat within cismontane woodland from 820 to 3,937 feet (250 to 1,200 meters) above MSL. The identification period for this species is from February through May. There are no documented CNDDB records for this species occurring within five miles of the BSA (CDFW 2016a). The oak woodland within the BSA provides habitat for this species. Since biological surveys were conducted outside of the evident and identifiable period for this species, streambank spring beauty could potentially be present within the BSA.

True's manzanita is ranked as a CNPS 4 species. It is a perennial evergreen shrub found in chaparral and lower montane coniferous forests, and sometimes found along roadsides from 1,394 to 4,560 feet (425 to 1,390 meters) above MSL. The identification period for this species is from February through July. There are no documented CNDDB records for this species occurring within five miles of the BSA (CDFW 2016a). The foothill pine woodland within the BSA provides marginal habitat for this species. Since biological surveys were conducted outside of the evident and identifiable period for this species, True's manzanita could potentially be present within the BSA.

**Survey Results**

While none of these special-status plants were observed within the BSA, the September and October 2016 and January 2017 biological surveys were conducted outside of the evident and identifiable blooming periods. Therefore, these species have the potential to occur within the BSA.

**Project Impacts**

If special-status plant species are present, the project has the potential to directly or indirectly impact these species. Permanent direct impacts could occur through removal of 0.90 acre of non-native annual grassland, 3.24 acres of oak woodland, and 1.35 acres of foothill pine habitat that constitute suitable habitat for potentially occurring special-status plants. Temporary direct impacts could result from the movement of equipment and workers. Indirect impacts could result from construction dust.

**Avoidance and Minimization Efforts**

One or more of the following measures shall be implemented to avoid or minimize potential direct project impacts on the special-status plants:

MM-7. A qualified botanist shall conduct focused botanical surveys within the blooming periods for these species within the non-native annual grassland, oak woodland and foothill pine habitats prior to commencement of the construction phase. Two botanical surveys shall be conducted, one in March and one in June, during the evident and identifiable blooming periods for all potentially occurring special-status plants. If time permits, these surveys shall be conducted during the Project Approval and Environmental Document phase of the project so that the NES may be amended to include the results of the survey. If no special-status plants are observed, then a letter report documenting the results of the survey should be provided to the project proponent for their records, and no additional measures are recommended.

MM-8. If any of the special-status plants occur within the vicinity of the PIA, they should be avoided to the extent feasible. The plant locations should be identified on a map, and a 10-foot buffer should be established around the plants with high visibility construction fencing. The construction fencing should remain intact until construction is complete.

MM-9. If the plants cannot be avoided, a mitigation plan should be prepared in consultation with the CDFW. At minimum, the mitigation plan should include locations where the plants will be transplanted in suitable habitat adjacent to the project footprint, success criteria, and monitoring activities. The CDFW would need to approve the mitigation plan prior to transplantation and commencement of construction activities.

Additionally, indirect impacts to special-status plants in the vicinity will be minimized through the implementation of standard dust control BMPs in accordance with the requirements of the NPDES permit, as described in MM-2, above.

**Compensatory Mitigation**

No compensatory mitigation will be required due to the implementation of the avoidance measures discussed above.

**Cumulative Impacts**

No cumulative impacts to special-status plants will occur as a result of the project due to the implementation of the avoidance measures discussed above.

## *4.3. Special-Status Animal Species*

The following special-status species have the potential to occur within the BSA: coast horned lizard, western pond turtle, and raptors and migratory birds.

### 4.3.1. Coast Horned Lizard

Coast horned lizard is a California Species of Special Concern. Coast horned lizard inhabits open areas of sandy soil and low vegetation in valleys, foothills, and semiarid mountains from sea level to 8,000 feet above MSL. It is typically found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. This species is often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills (Zeiner *et. al.* 1988). There are four CNDDB records for this species within five miles of the BSA (CDFW 2016a). The non-native annual grassland, foothill pine woodland, and oak woodland communities provide habitat for this species.

**Survey Results**

No coast horned lizards were observed during the biological surveys.

**Project Impacts**

The project has the potential to directly impact coast horned lizard through removal of 0.90 acres of non-native annual grassland, 3.24 acres of oak woodland, and 1.35 acres of foothill pine habitat. Permanent direct impacts could occur through ground disturbance of the soil, and removal of trees and shrubs. Temporary impacts could result from staging areas and construction activities associated with the trail work. Indirect impacts could result from disturbance caused by the movement of equipment and workers.

**Avoidance and Minimization Efforts**

The following measures shall be implemented to avoid and minimize potential project impacts on coast horned lizard:

MM-10. A qualified biologist shall conduct a pre-construction survey for special-status species within the PIA within 14 days prior to the start of ground disturbance. If

no coast horned lizards are observed, then no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey or halts for more than 14 days, a new survey is recommended.

MM-11. If coast horned lizards are found, a qualified biologist shall conduct a second pre-construction survey within 24 hours prior to commencement of construction activities, and be present on-site during initial ground-clearing and grading activities for the purpose of relocating any coast horned lizards found within the construction footprint to suitable habitat away from the construction zone, but within the project site.

MM-12. If coast horned lizards are found, a qualified biologist shall conduct an environmental awareness training to all construction personnel. The training should include identification of special-status species, required practices before the start of construction, general measures that are being implemented to conserve the species as they relate to the project, penalties for non-compliance, and boundaries of the PIA and of the permitted disturbance zones. Supporting materials containing training information should be prepared and distributed. Upon completion of training, all construction personnel should sign a form stating that they have attended the training and understand all the measures. Proof of this instruction should be kept on file with the project proponent. The project proponent should provide the CDFW with a copy of the training materials and copies of the signed forms by project staff indicating that training has been completed within 30 days of the completion of the first training session. Copies of signed forms should be submitted monthly as additional training occurs for new employees. The crew foreman should be responsible for ensuring that construction personnel adhere to the guidelines and restrictions. If new construction personnel are added to the site, the crew foreman should ensure that the personnel receive the mandatory training before starting work.

**Compensatory Mitigation**

No compensatory mitigation will be required due to the implementation of the avoidance measures discussed above.

**Cumulative Impacts**

No cumulative impacts to coast-horned lizard will occur as a result of the project due to the implementation of the avoidance measures discussed above.

### 4.3.2. Western Pond Turtle

Western pond turtle is a California Species of Special Concern. The western pond turtle is typically found along quiet streams and ponds with basking sites and muddy bottoms, feeding on aquatic plants, fishes, and invertebrates (Zeiner *et al.* 1988 and Rosenberg *et. al*. 2009). They are generally associated with permanent or nearly permanent water sources (CDFW 2016b) and

prefer areas of deep water with low velocity and high temperatures (Reese and Hartwell 1997a). Upland habitats adjacent to creeks and ponds are used throughout the year for nesting and overwintering. Turtles may also overwinter within a pond by burrowing into the mud on the pond bottom (CDFW 2016b and Riensche *et al.* 2013). Although studies have shown that the typical terrestrial use area can extend up to 500 meters from the edge of the aquatic habitat, the weighted average of recorded terrestrial use is 94 meters, or approximately 300 feet. Western pond turtles prefer to overwinter in areas with moderate woody vegetation and leaf litter, and are unlikely to use annual grasslands (Reese and Hartwell 1997b, Davis 1998, Pilliod *et al.* 2013, and Rathbun *et al.* 2002). Eggs are laid between May and August and hatch in approximately 80 days. Hatchlings often stay in or around the nest through the winter. Nests are generally found within 30 meters (100 feet) of water in areas with little vegetative cover and good sun exposure (Rathbun *et al*. 2002). Little is known about dispersal patterns of western pond turtles, but genetic analysis shows most movement is along drainages (Riensche *et al.* 2013). There are four CNDDB records for this species within five miles of the BSA (CDFW 2016a). The riparian woodland community along the intermittent drainage provides upland overwintering habitat for this species.

**Survey Results**

No western pond turtles were observed during the biological surveys. The riparian woodland habitat along the intermittent drainage provides upland habitat within the BSA.

**Project Impacts**

The project will have no direct impacts to western pond turtle because all construction activities will take place at least 100 feet away from the edge of the potential habitat within riparian woodland across the raised railroad bed and existing disturbed/ developed areas. However, indirect impacts may result from noise and construction activities, if western pond turtles are present.

**Avoidance and Minimization Efforts**

One or more of the following measures shall be implemented to avoid and minimize potential project impacts on western pond turtle:

A pre-construction survey shall be conducted as described in MM-7, above.

If western pond turtle is found, then an environmental awareness training shall be conducted, as described in MM-9, above.

MM-13. Since no work is planned within the areas of riparian woodland and intermittent drainage, no direct impacts to western pond turtle are anticipated in these areas of potential upland habitat. However, if any work occurs in these areas, which is not currently anticipated, a qualified biologist will be present on-site during initial ground-clearing and grading activities for the purpose of relocating any western pond turtles found within the construction footprint within suitable habitat to suitable habitat away from the construction zone, but within the project site.

**Compensatory Mitigation**

No compensatory mitigation will be required due to the implementation of the avoidance measures discussed above.

**Cumulative Impacts**

No cumulative impacts to western pond turtle will occur as a result of the project due to the implementation of the avoidance measures discussed above.

### 4.3.3. Migratory Birds and other Bird of Prey

All raptors, including common species not considered special-status, are protected under the California Fish and Game Code (Section 3503.5). Removal or destruction of an active raptor nest is considered a violation of the Fish and Game Code. In addition, migratory birds are protected under the MBTA of 1918 (16 U.S.C 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21).

**Survey Results**

No active nests were observed during the September and October 2016 and January 2017 biological surveys; however, the surveys were conducted outside of the breeding season for most species. The non-native annual grassland and the trees and shrubs within the oak woodland, foothill pine woodland, and riparian woodland habitats provide nesting habitat for migratory birds and raptors during the nesting season (February 15 through August 31) and foraging habitat year-round.

**Project Impacts**

Project implementation could result in permanent and temporary direct impacts to migratory birds and birds of prey. Permanent direct impacts could occur to ground-nesting birds through destruction of nests if present within the PIA during clearing and grading operations. Permanent direct impacts could also occur through removal of trees should any active nests be present. Temporary direct impacts could occur through disturbance of nesting migratory birds and birds of prey during tree removal and/or vegetation clearing and grading associated with construction activities. Nest abandonment could result in mortality of chicks or eggs.

**Avoidance and Minimization Efforts**

The following measures shall be implemented to avoid or minimize potential project impacts on nesting migratory birds and other birds of prey:

MM-14. If feasible, removal of trees and shrubs and initial ground disturbance should be conducted between September 1 and February 14, outside of the nesting season.

If construction begins during the nesting season (February 15 and August 31), a pre-construction survey shall be conducted as described in MM-7, above.

If active nests are found, then an environmental awareness training shall be conducted, as described in MM-9, above and MM-12 shall also be required.

MM-15. If any active nests are located within the BSA, a qualified biologist shall establish an appropriate buffer zone around the nests. The Qualified Biologist should mark the buffer zone with construction tape or pin flags and maintain the buffer zone until the end of breeding season or until the young have successfully fledged. Buffer zones are typically 100 feet for migratory bird nests and 250 feet for raptor nests, but should be based on the specific site conditions. If active nests are found onsite, a qualified biologist shall monitor nests weekly during construction to evaluate potential nesting disturbance by construction activities. If establishing the typical buffer zone is impractical, the qualified biologist may reduce the buffer depending on the species and daily monitoring is recommended to ensure that the nest is not disturbed and no forced fledging occurs. Daily monitoring shall occur until the qualified biologist determines that the nest is no longer occupied. Once it has been determined that the nest is no longer active, then a letter report would be submitted to the project proponent and the CDFW for their records and no additional measures are recommended.

**Compensatory Mitigation**

No compensatory mitigation will be required due to the implementation of the avoidance measures discussed above.

**Cumulative Impacts**

No cumulative impacts to migratory birds and raptors will occur as a result of the project due to the implementation of the avoidance measures discussed above.

# 5.0 CONCLUSIONS AND REGULATORY DETERMINATIONS

## *5.1. Federal Endangered Species Act Consultation Summary*

No federally-listed species, as identified in the official species list issued on October 11, 2016 (**Appendices A through C**), were observed or have the potential to occur within the BSA. No designated critical habitat for any federally-listed species occurs within the BSA. Section 7 consultation has not been initiated as of the date of preparation of this report and based on the analysis presented in this NES, Section 7 consultation will not be required.

## *5.2. Federal Fisheries and Essential Fish Habitat Consultation Summary*

No special-status fish species, designated critical habitat for federally-listed fish species, or Essential Fish Habitat occur within the BSA. Neither Essential Fish Habitat Consultation nor Section 7 consultation has been initiated as of the date of preparation of this report and based on the analysis presented within this NES, neither consultation is required.

## *5.3. California Endangered Species Act Consultation Summary*

No state-listed species were observed within the BSA during the biological surveys. No take of state-listed species is anticipated; therefore, no incidental take permits will be required for the project.

The following State Species of Special Concern have the potential to occur within the BSA: coast horned lizard and western pond turtle.

## *5.4. Other Waters Coordination Summary*

An aquatic resource delineation was submitted to the USACOE on December 16, 2016. A field verification site visit with the USACOE was conducted on February 14, 2017. A total of approximately 0.09 acres of aquatic features, consisting of a depressional seasonal wetland, intermittent drainages, ephemeral drainages, and ditches, are present within the BSA. As described in **Section 4.1.1**, while some features may not be considered Waters of the U.S., all features are expected to be considered Waters of the State.

Should the project result in impacts to any waters of the U.S., a Section 404 Authorization would be required by the USACOE and 401 Water Quality Certification would be required.

If the ephemeral drainages and ditches are determined to not be subject to federal jurisdiction, these features may still be subject to waste discharge requirements under the Porter-Cologne Water Quality Control Act should the project result in impacts to these features. Section 13260(a) of the Porter-Cologne Water Quality Control Act (contained in the California Water Code) requires any person discharging waste or proposing to discharge waste, other than to a community sewer system, within any region that could affect the quality of the waters of the State (all surface and subsurface waters) to file a report of waste discharge. The discharge of dredged or fill material may constitute a discharge of waste that could affect the quality of

waters of the State. A report of waste discharge will be filed for impacts to non-federal waters, if required.

## *5.5. Invasive Plant Species*

Several invasive plant species and noxious weeds are present within the disturbed non-native grassland and the ruderal/developed areas. Invasive plant and noxious weed species present in the BSA are identified in **Appendix E**. The following measures addressing invasive species abatement and control will be incorporated into the final project design and contract specifications:

- After construction, affected areas will be revegetated with plant species native to the vicinity and approved by a Caltrans Biologist. The plant mix will avoid the use of any species listed in the Cal-IPC Invasive Plant Inventory with a high or moderate rating.

# 6.0 REFERENCES


Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, eds. 2012. *The Jepson Manual: Vascular Plants of California*, *2nd Edition*. University of California, Berkeley.

Barbour, Michael G., Todd Keeler-Wolf, and Allan A. Schoenherr, Editors. 2007. *Terrestrial Vegetation of California*, Third Edition. University of California Press, Berkeley and Los Angeles, California.

Calflora. 2016. *The Calflora Database: Information on California plants for Education, Research and Conservation*. Berkeley, California. Available online at: http://www.calflora.org. [Accessed 09/13/2016].

Californiaherps. 2016. *A Guide to the Amphibians and Reptiles of California*. Available online at: http://californiaherps.com. [Accessed 10/12/2016].

California Department of Fish and Wildlife (CDFW). 2009. *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities*. State of California, California Natural Resources Agency. Department of Fish and Wildlife. November 24, 2009.

CDFW. 2016a. California Natural Diversity Database, Biogeographic Data Branch, Department of Fish and Wildlife. *Aukum, Camino, Coloma, Fiddletown, Garden Valley, Latrobe, Placerville, Shingle Springs,* and *Slate Mountain* U.S. Geological Survey (USGS) 7.5-minute series quadrangle (quadrangle)), Sacramento, CA. Accessed [09/13/2016 and 10/13/2016].

CDFW. 2016b. *California Wildlife Habitat Relationships System* (CWHR): *Life History Accounts and Range Maps*. Available online at: http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. [Accessed on 09/15/16].

California Department of Transportation (Caltrans). 2003. *Construction Site Best Management Practices*. Sacramento, California. March 2003. Available online at: http://www.dot.ca.gov/hq/construc/stormwater/CSBMPM_303_Final.pdf .

Caltrans. 2013. *Construction Site Monitoring Program Guidance Manual*. Sacramento, California. August 2013. Available online at: http://www.dot.ca.gov/hq/construc/stormwater/caltrans_guidance_manual-rev1.pdf .

Cornell Lab of Ornithology. 2016. *All About Birds.* Ithaca, NY. Available online at: https://www.allaboutbirds.org. [Accessed on 09/15/16].

County of El Dorado. 2004a. *El Dorado County General Plan: Conservation and Open Space Element*. El Dorado County Planning Department. Available online at: http://www.co.eldorado.ca.us/Planning/AdoptedGeneralPlan/7_conservation.pdf.

County of El Dorado. 2004b. *El Dorado County General Plan*. Placerville, California. 2004 El Dorado County. 2007. *Interim Interpretive Guidelines for El Dorado County General Plan Policy 7.4.4.4*. Available online at: http://www.edcgov.us/Government/Planning/General_Plan_Oak_Woodlands.aspx.

California Department of Food and Agriculture (CDFA). 2015. *Noxious Weed Information*. Available at: http://www.cdfa.ca.gov/plant/ipc/noxweedinfo/noxweedinfo_hp.htm . Accessed on October 13, 2016.

California Invasive Plant Council (CalIPC). 2016. *Invasive Plant Inventory*. Available at: http://www.cal-ipc.org/ip/inventory/index.php#inventory . Accessed [10/11/2016].

California Native Plant Society (CNPS). 2016. *Online Electronic Inventory of Rare and Endangered Vascular Plants of California*. Online edition, v8-02. *Aukum, Camino, Coloma, Fiddletown, Garden Valley, Latrobe, Placerville, Shingle Springs,* and *Slate Mountain* quadrangles. Available online at http://www.cnps.org/cnps/rareplants/inventory. Accessed [09/13/2016 and 10/13/2016].

Davis, Caroline J. 1998. *Western Pond Turtle (Clemmys marmorata pallida) Winter Habitat Use and Behavior*. San Jose State University. Accessed from www.elkhornsloughctp.org.

Foothill Associates. 2016. *Aquatic Resources Delineation Report* [for the] *±37-Acre El Dorado Trail Extension — Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project*. Rocklin, CA. December 16, 2016.

Foothill Associates. 2017. *El Dorado Trail Extension — Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project Oak Woodland Analysis, Placerville, California*. Rocklin, CA. June 21, 2017.

GoogleEarth. 2016. Aerial Imagery.

NatureServe. 2015. *NatureServe Explorer: An Online Encyclopedia of Life* [Web Application]. Version 7.1. Last updated October 2015. NatureServe, Arlington, Virginia. Available online at: http://www.natureserve.org/explorerr . Accessed [09/14/2016].

Pilliod, David S., Justin L. Welty, and Robert Stafford. 2013. Terrestrial Movement Patterns of Western Pond Turtles (*Actinemys marmorata*) in Central California. Pages 207-221 in *Herpetological Conservation and Biology*.

Rathbun, G. B., N. J. Scott, T. G. Murphey. 2002. Terrestrial habitat use by Pacific pond turtles in a Mediterranean climate. *Southwestern Naturalist* 47(2):225–235.

Reese, Devin A. and Hartwell H Welsh. 1997a. Habitat Use by Western Pond Turtle in the Trinity River, California. *Journal of Wildlife Management* 62(3):842-853.

Reese, Devin A. and Hartwell H Welsh. 1997b. Use of Terrestrial Habitat by Western Pond Turtles, *Clemmys marmorata*: Implications for Management. Pages 352-357 in *Proceedings of Conservation, Restoration, and Management of Tortoises and Turtles. An International Conference*.

Riensche, David L., Douglas A. Bell, Amda L. Dwyer, Janelle A. Dorcy. 2013. *Movement Patterns and Habitat Use by the Western Pond Turtle (Actinemys marmorata) in the East Bay Regional Park District*. Poster presentation prepared for The Wildlife Society 2013 Annual Conference.

Rosenberg, Daniel, J. Gervais, D. Vesely, S. Barnes, L. Holts, R. Horn, R. Swift, L. Todd, and C. Yee. 2009. *Conservation Assessment of the Western Pond Turtle in Oregon*.

Sawyer, John O. and Todd Keeler-Wolf. 1995. *A Manual of California Vegetation*. California Native Plant Society, Sacramento, California.

Sibley, D. A. 2003. *The Sibley Field Guide to Birds of Western North America*. Alfred A. Knopf, New York.

Stebbins, R. C. 2003. *Western Amphibians and Reptiles. 3rd Edition*. Boston: Houghton Mifflin Co.

University of California, Berkeley (UCB). 2016. *The Jepson Herbarium: Geographic Subdivisions*. Regents of the University. Last Updated October 11, 2016. Available at: http://ucjeps.berkeley.edu/eflora/geography.html. Accessed [10/17/2016].

U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 1974. *Soil Survey of El Dorado Area, California*. USDA, NRCS, in cooperation with the Regents of the University of California (Agricultural Experiment Station).

USDA, NRCS. 2016. *National Hydric Soils List by State*. Available online at: http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/ . Accessed [09/23/2016].

U.S. Fish and Wildlife Service (USFWS). 2016. *Information for Planning and Conservation (IPaC) Trust Resource Report: My Project, El Dorado County*. Available online at: http://ecos.fws.gov/ipac/gettingStarted/index. Accessed [09/13/16 and 10/11/16].

U.S. Geological Survey (USGS). 1978. *Placerville, California*. 7.5 -minute series topographic quadrangle. U.S. Department of the Interior.

WeatherDB. 2016. Weather History. Available online at: http://rainfall.weatherdb.com/l/8072/Elk-Grove-California Accessed [10/13/2016].

Zeiner D.C., W.R. Laudenslayer Jr., K.E. Mayer, and M. White, eds. 1988. *California's Wildlife, Volume I, Amphibians and Reptiles.* State of California: The Resource Agency,

Department of Fish and Game, Sacramento, CA. Available online at: http://www.dfg.ca.gov/whdab/html/cawildlife.html. Accessed [09/13/2016].

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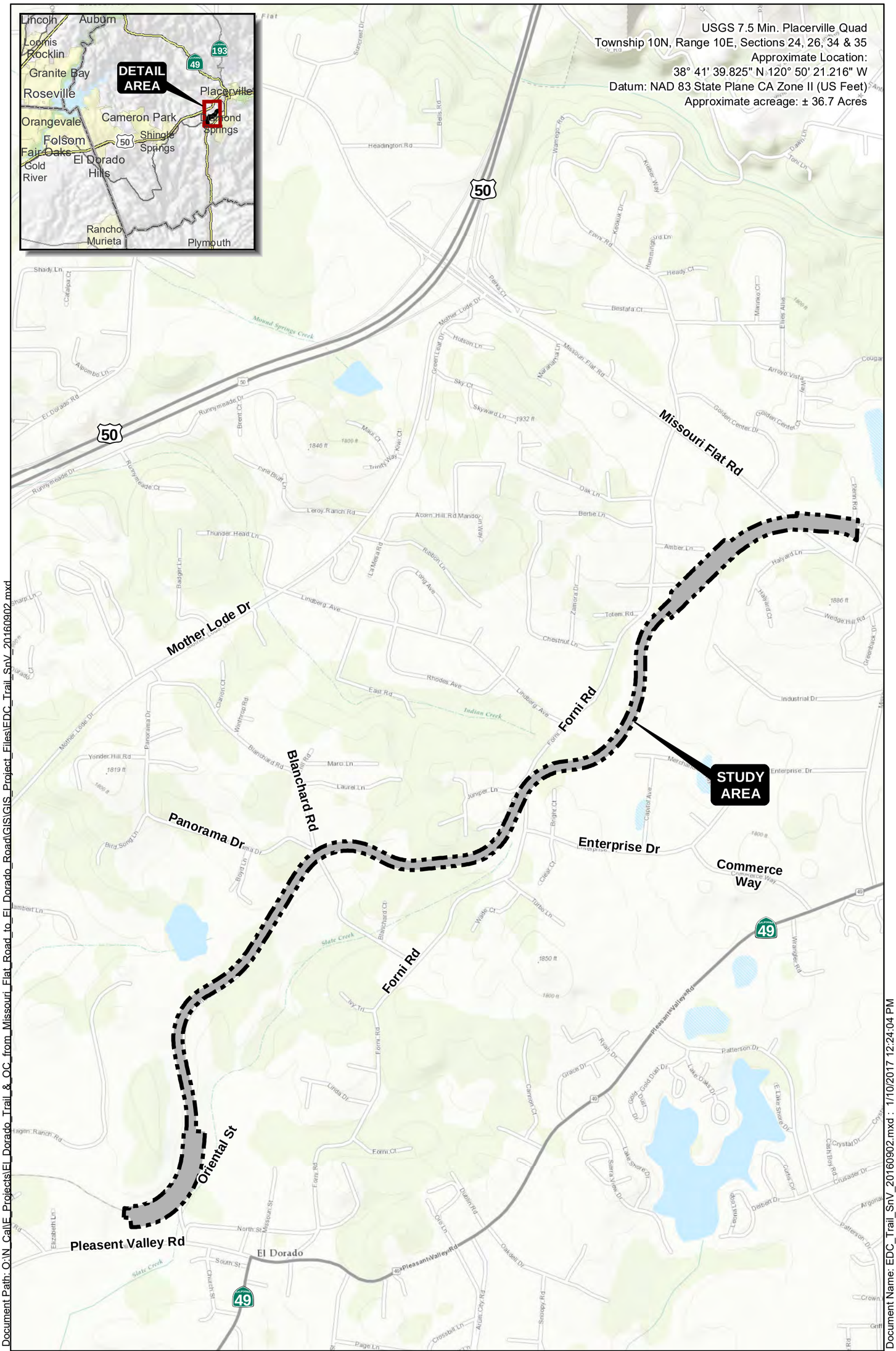


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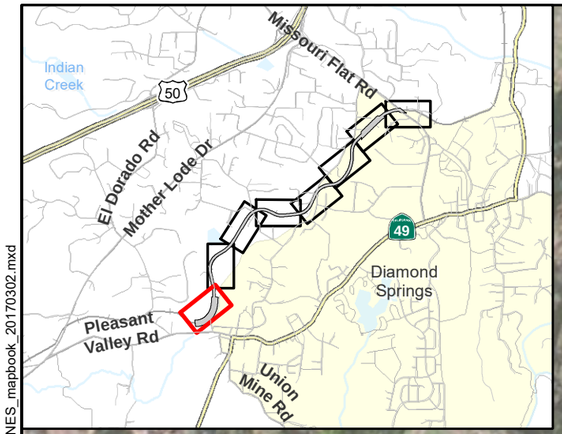
**Figure 1**

EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING PROJECT




**Permanent Biological Impacts to PIA***

- Non-Native Annual Grassland (0.90 Acres)
- Foothill Pine Woodland (1.35 Acres)
- Oak Woodland (3.24 Acres)
- Ephemeral Drainage (<0.01 Acres)
- Disturbed/Developed (3.02 Acres)
- Ditch (<0.01 Acres)

**Temporary Biological Impacts to PIA***

- Non-Native Annual Grassland (0.34 Acres)
- Foothill Pine Woodland (0.04 Acres)
- Oak Woodland (0.11 Acres)
- Ephemeral Drainage (<0.01 Acres)
- Disturbed/Developed (0.14 Acres)

**Biological Communities***

- Non-Native Annual Grassland (5.57 Acres)
- Foothill Pine Woodland (5.49 Acres)
- Oak Woodland (11.68 Acres)
- Riparian Woodland (0.50 Acres)
- Depressional Seasonal Wetland (0.02 Acres)
- Ephemeral Drainage (0.02 Acres)
- Intermittent Drainage (0.04 Acres)
- Ditch (<0.01 Acres)
- Disturbed/Developed (13.44 Acres)

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**Other Features**

- Permanent Impact Area (8.52 Acres)
- Temporary Impact Area (0.63 Acres)
- Biological Study Area (36.73 Acres)

* Biological Communities and Impact acreages are calculated at 4 significant figures and rounded to 2 significant figures.

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QA/QC: KJS, AMP
Date: 06/22/2017

# EL DORADO TRAIL BIOLOGICAL STUDY AREA AND PROJECT IMPACT AREA

FIGURE 2
SHEET 1



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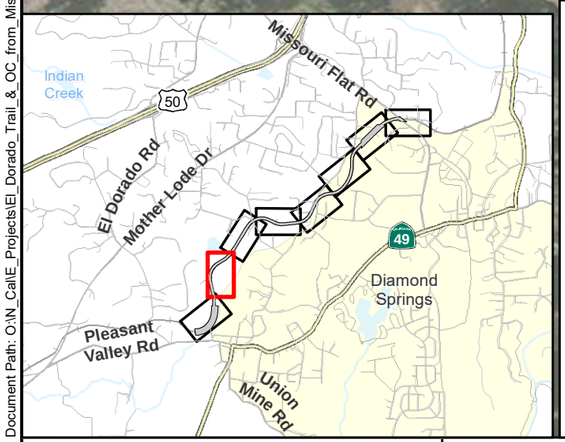


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# EL DORADO TRAIL BIOLOGICAL STUDY AREA AND PROJECT IMPACT AREA

FIGURE 2
SHEET 2



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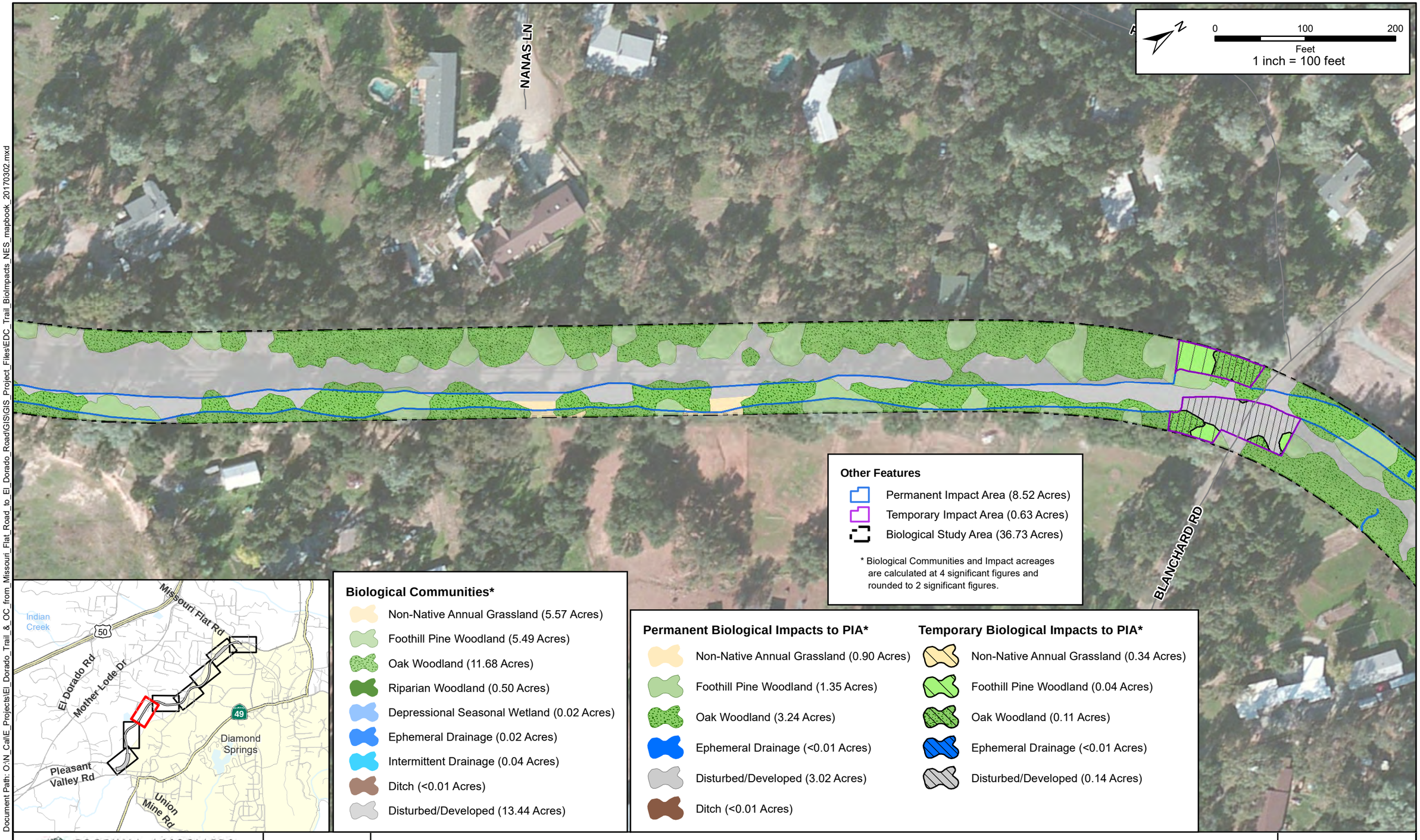


**Other Features**

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- Biological Study Area (36.73 Acres)

* Biological Communities and Impact acreages are calculated at 4 significant figures and rounded to 2 significant figures.




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# EL DORADO TRAIL BIOLOGICAL STUDY AREA AND PROJECT IMPACT AREA

FIGURE 2
SHEET 3



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**Other Features**

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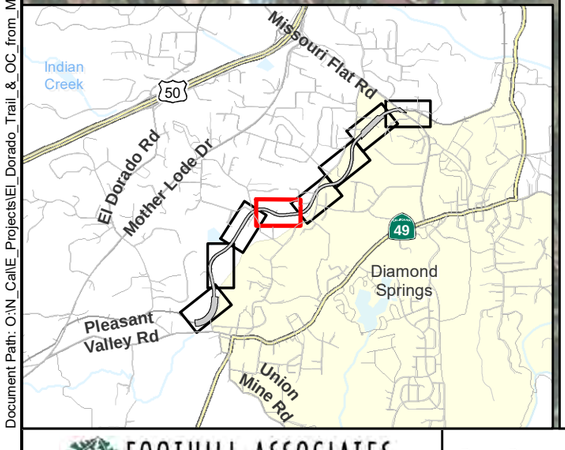


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# EL DORADO TRAIL BIOLOGICAL STUDY AREA AND PROJECT IMPACT AREA

FIGURE 2
SHEET 4



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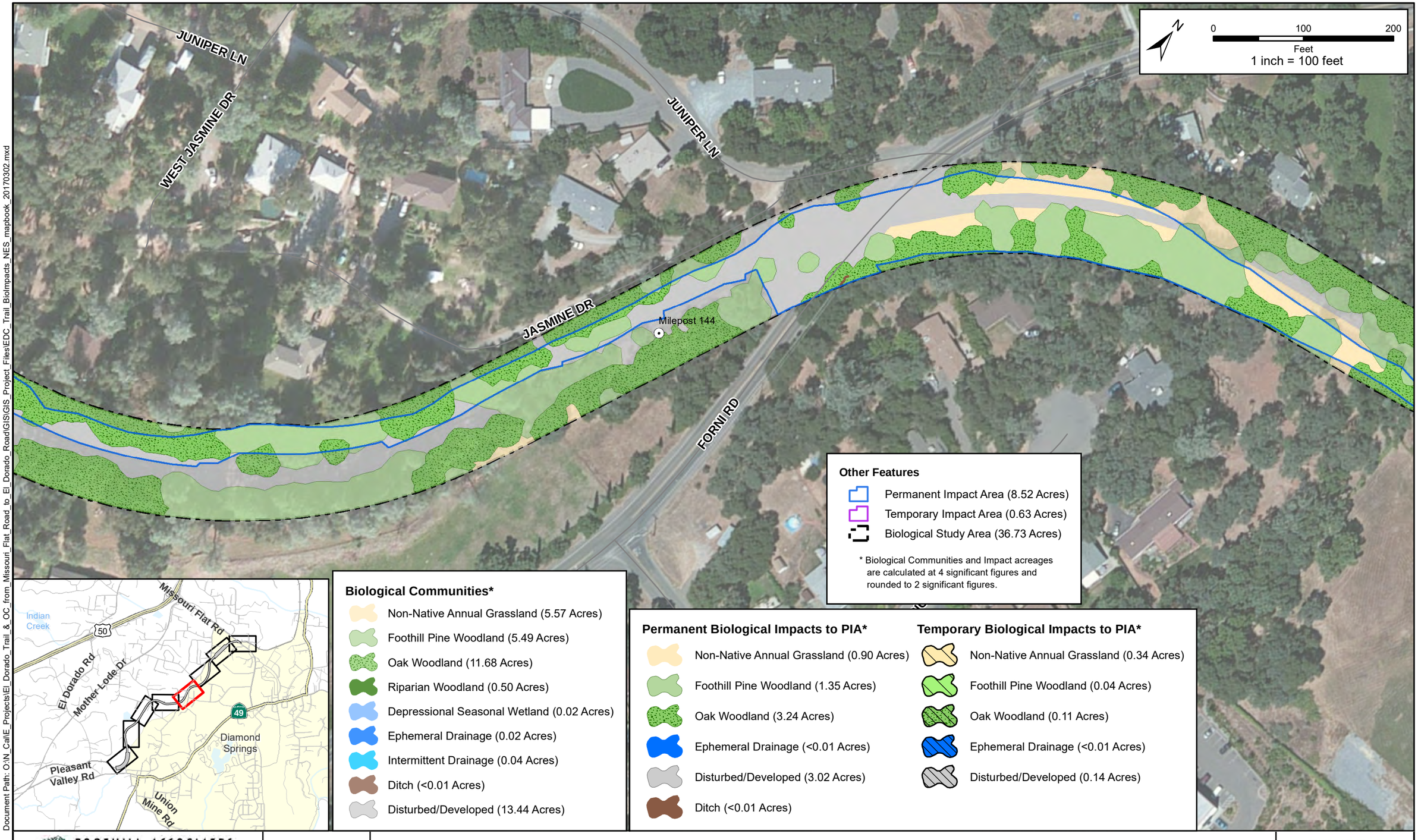


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# EL DORADO TRAIL BIOLOGICAL STUDY AREA AND PROJECT IMPACT AREA

FIGURE 2
SHEET 5



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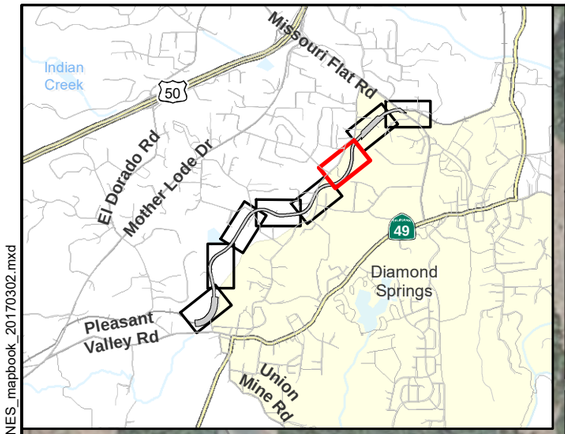


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# EL DORADO TRAIL BIOLOGICAL STUDY AREA AND PROJECT IMPACT AREA

FIGURE 2
SHEET 6



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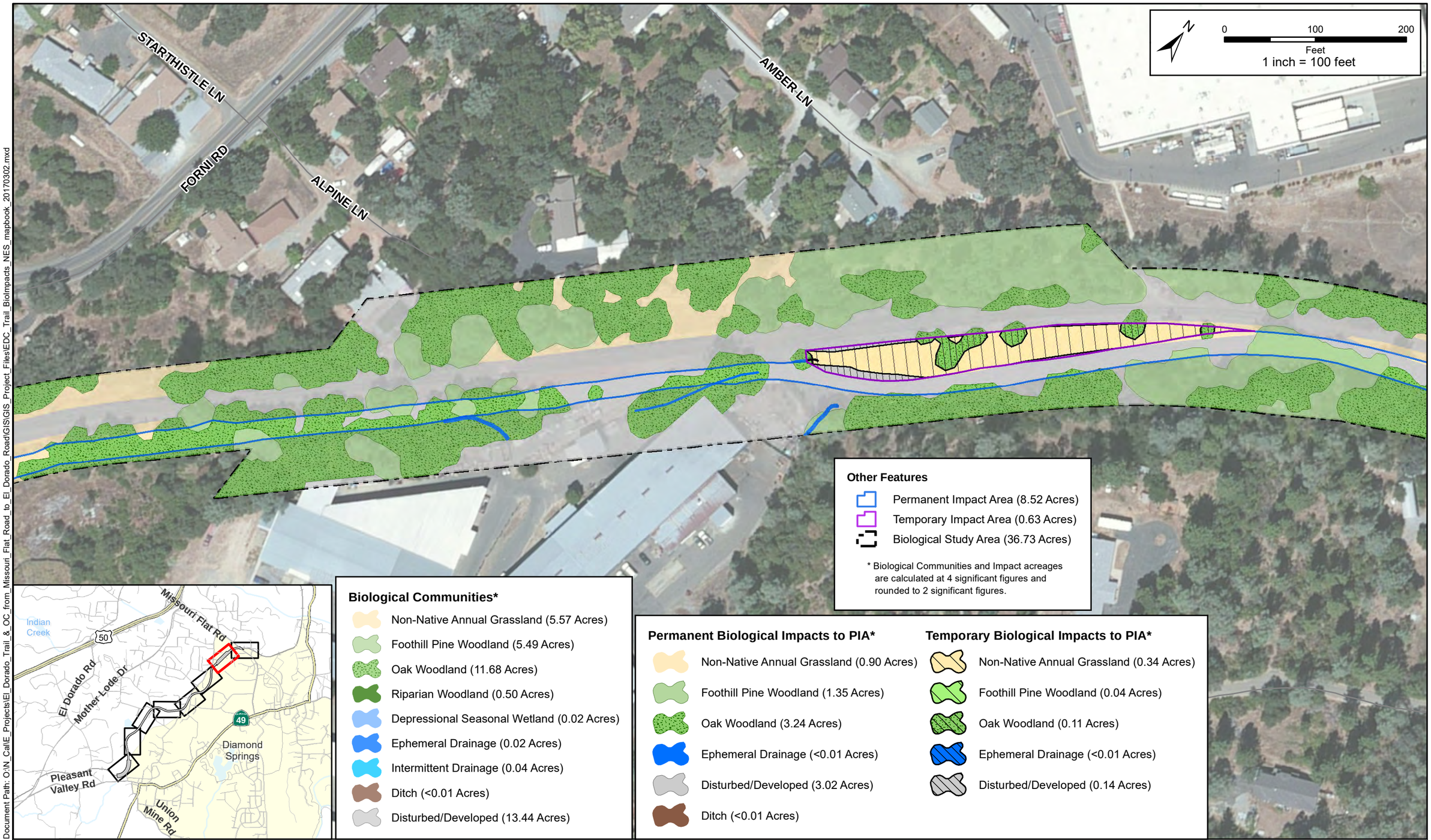


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# EL DORADO TRAIL BIOLOGICAL STUDY AREA AND PROJECT IMPACT AREA

FIGURE 2
SHEET 7



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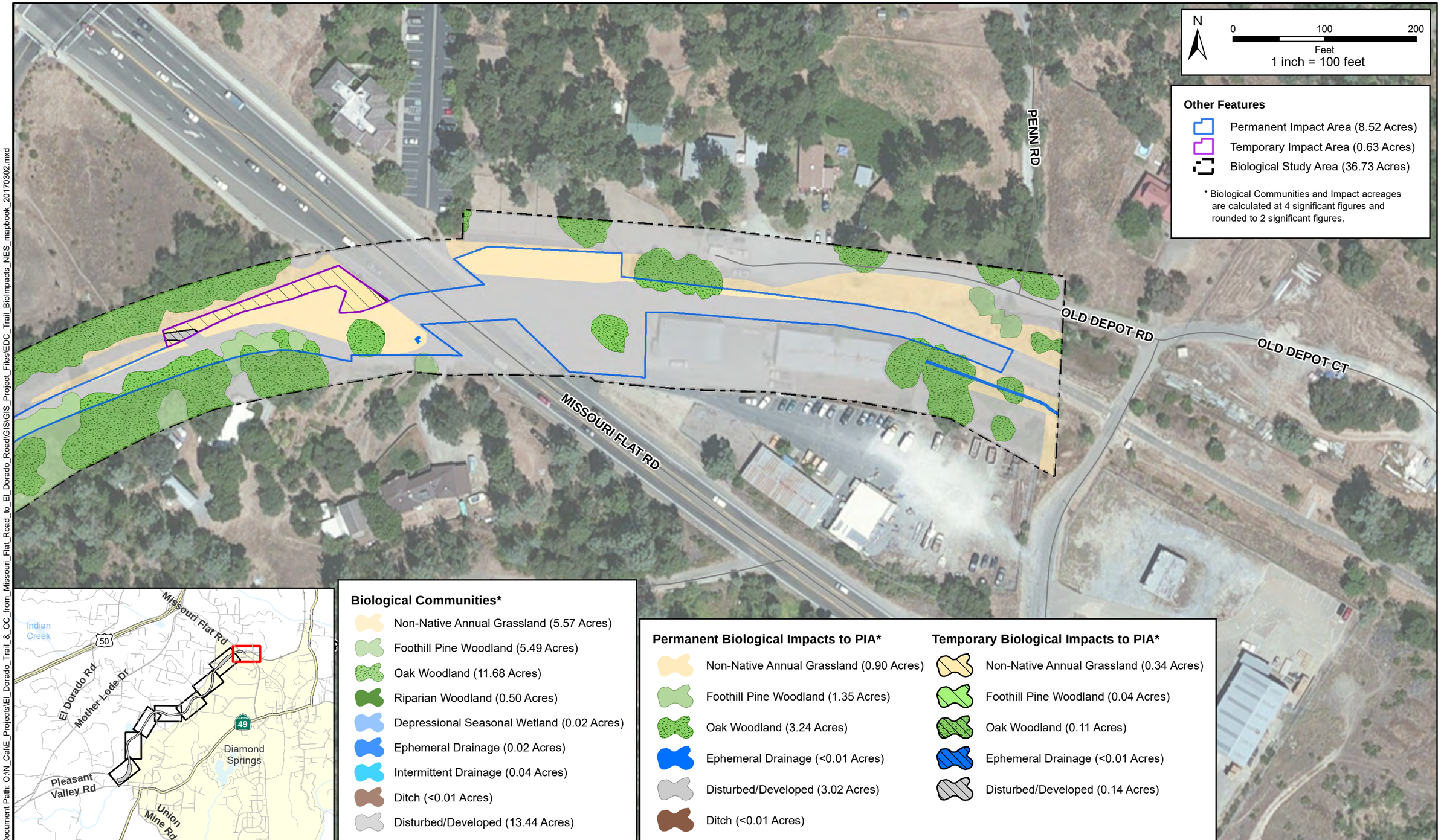


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# EL DORADO TRAIL BIOLOGICAL STUDY AREA AND PROJECT IMPACT AREA

FIGURE 2
SHEET 8



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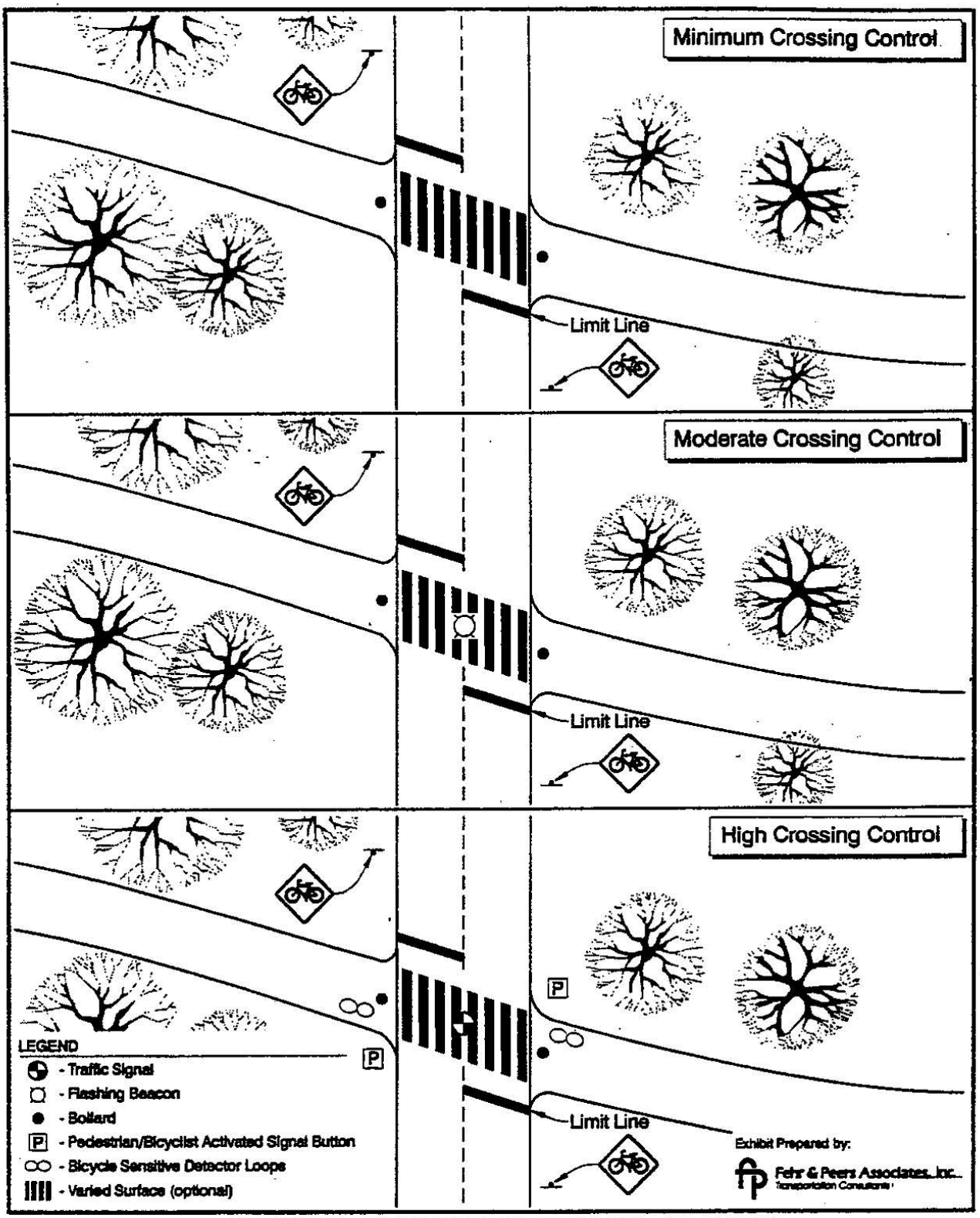


MAP DOES NOT IMPLY GEOMETRIC CONFIGURATION

# DESIGN CONSIDERATIONS FOR AT-GRADE CROSSINGS

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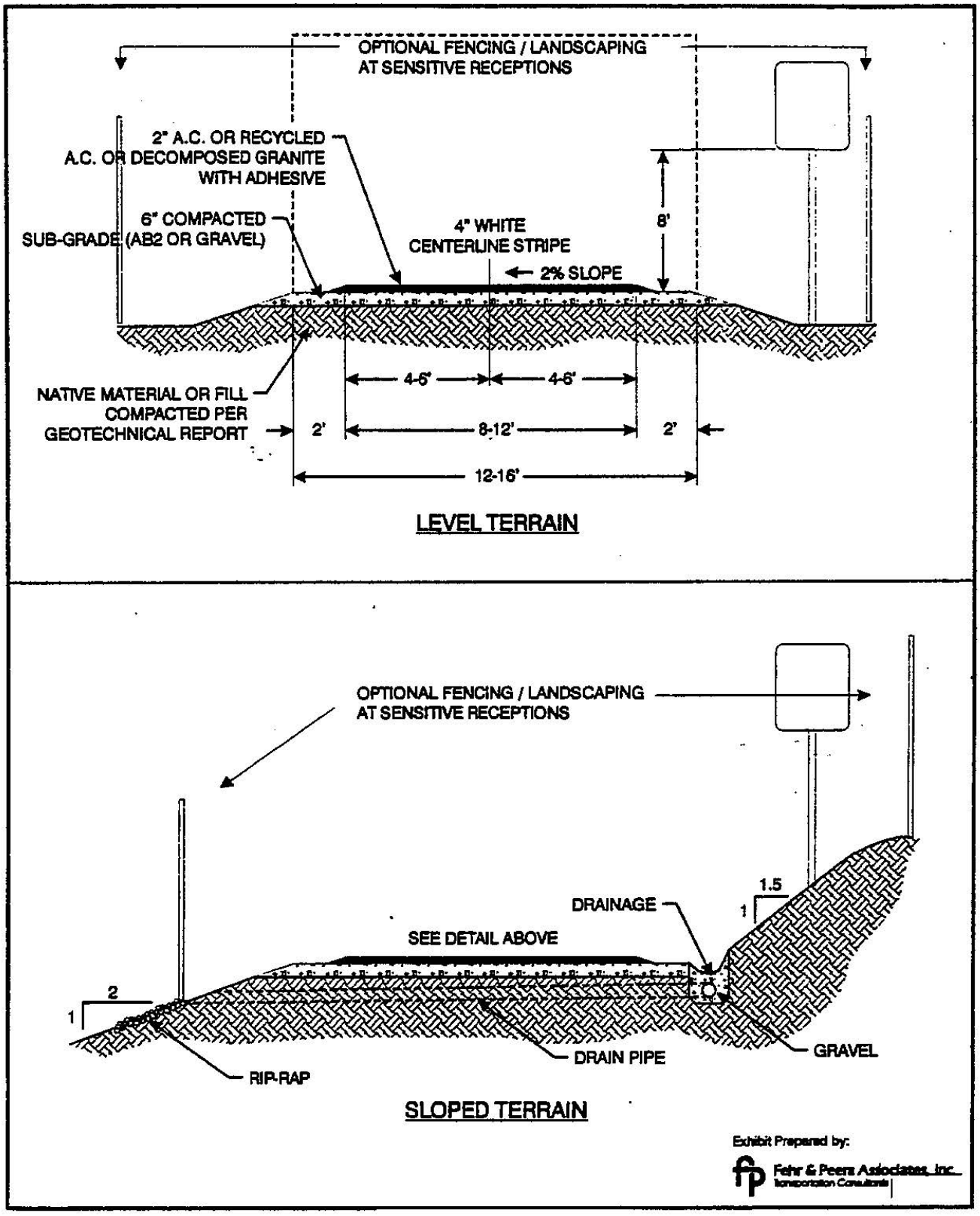
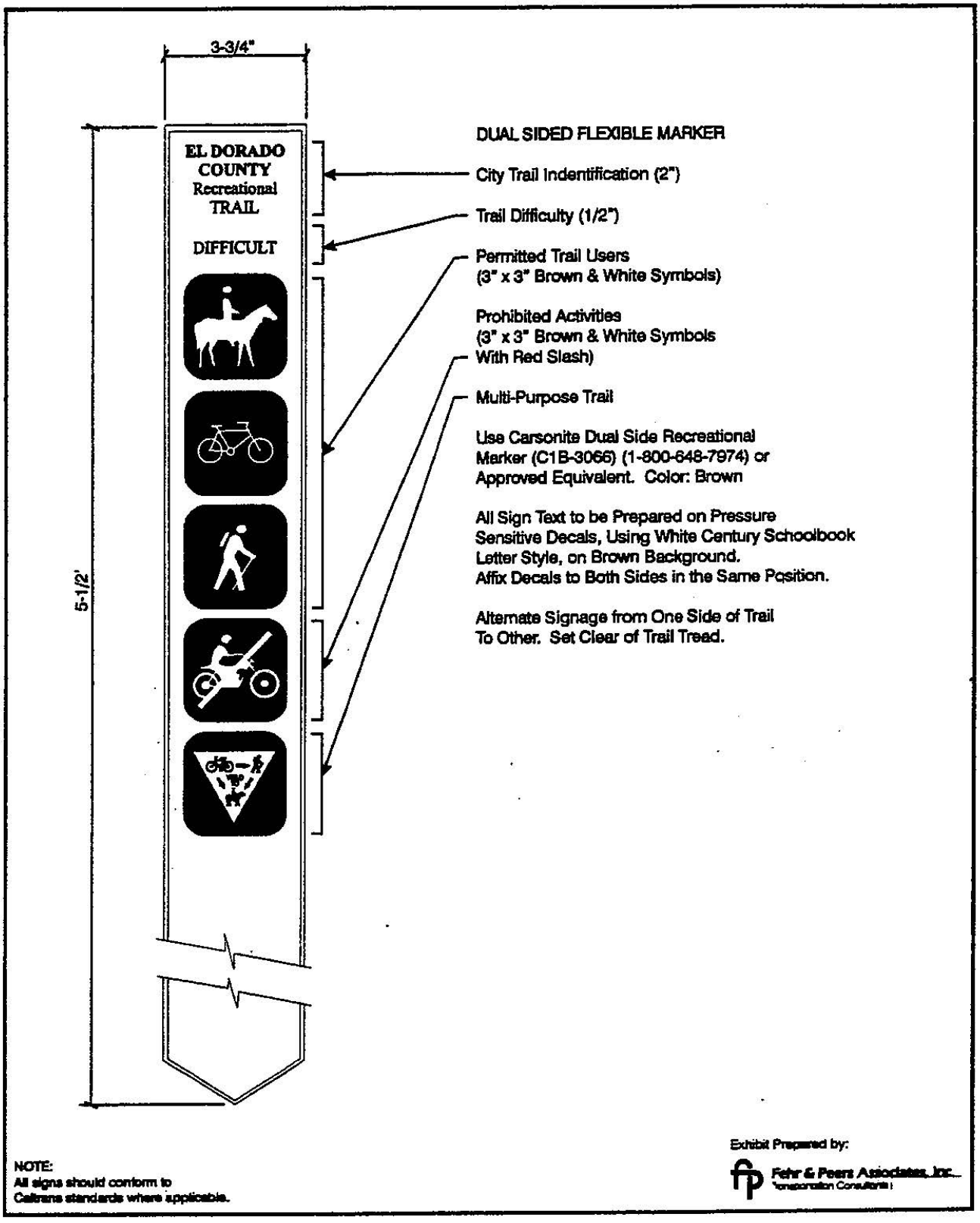
|---|---|---|---|
| FOOTHILL ASSOCIATES<br>ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE | NO SCALE<br>© 2017 | Layout By: CTGH<br>Date: 01/09/17 | FIGURE 3 |




# TYPICAL CROSS SECTION: PAVED TRAIL

| | | | |
|---|---|---|---|
| FOOTHILL ASSOCIATES<br>ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE | NO SCALE<br>© 2017 | Layout By: CTGH<br>Date: 01/09/17 | FIGURE 4 |




# TYPICAL SIGNAGE

| | | | |
|---|---|---|---|
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Document Path: O:\N_Cal\E_Projects\El Dorado Trail & OC from Missouri Flat Road to El Dorado Road\GIS\GIS_Project_Files\EDC_Trail_Soils_20160920.mxd

EL DORADO RD

LINDBERG AVE

Study Area
± 36.7 Acres

AkC
AxD
SuC
DfC
PrD
AxD
PrD
BkD
PrD
PrD
BkD
PrD
TaD
AxD
AwD
DfC

BLANCHARD RD

FORNI RD

COMMERCE WAY

ENTERPRISE DR

MISSOURI FLAT RD

CHINA GARDEN RD

LIME KILN RD

STATE HWY 49

UNION MINE RD

## Soil Type

- AkC - ARGONAUT GRAVELLY LOAM, 2 TO 15 PERCENT SLOPES
- AxD - AUBURN VERY ROCKY SILT LOAM, 2 TO 30 PERCENT SLOPES
- DfC - DIAMOND SPRINGS VERY FINE SANDY LOAM, 9 TO 15 PERCENT SLOPES
- SuC - SOBRANTE SILT LOAM, 3 TO 15 PERCENT SLOPES
- AwD - AUBURN SILT LOAM, 2 TO 30 PERCENT SLOPES
- BkD - BOOMER VERY ROCKY LOAM, 3 TO 30 PERCENT SLOPES
- PrD - PLACER DIGGINGS
- TaD - TAILINGS

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0 750 1,500
Feet
1 inch = 750 feet

# EL DORADO TRAIL SOIL TYPES

USDA, Soil Conservation Service, digital soil data derived from SSURGO data, El Dorado County CA, 2010

Drawn By: MUB
QA/QC: AMP
Date: 01/16/2017

Figure 6



Document Name: EDC_Trail_Soils_20160920.mxd : : 1/16/2017 12:32:01 PM

# Appendix A — USFWS List of Special-Status Species

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
FEDERAL BUILDING, 2800 COTTAGE WAY, ROOM W-2605
SACRAMENTO, CA 95825
PHONE: (916)414-6600 FAX: (916)414-6713

Consultation Code: 08ESMF00-2017-SLI-0074 October 11, 2016

Event Code: 08ESMF00-2017-E-00105

Project Name: El Dorado Trail Extension — Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and

the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: El Dorado Trail Extension — Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike

# Official Species List

**Provided by:**

Sacramento Fish and Wildlife Office
FEDERAL BUILDING
2800 COTTAGE WAY, ROOM W-2605
SACRAMENTO, CA 95825
(916) 414-6600

**Consultation Code:** 08ESMF00-2017-SLI-0074
**Event Code:** 08ESMF00-2017-E-00105

**Project Type:** ** OTHER **

**Project Name:** El Dorado Trail Extension — Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike

**Please Note:** The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

**Project Location Map:**


**Project Coordinates:** The coordinates are too numerous to display here.

**Project Counties:** El Dorado, CA

# Endangered Species Act Species List

There are a total of 4 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

| **Amphibians** | **Status** | **Has Critical Habitat** | **Condition(s)** |
|---|---|---|---|
| California red-legged frog *(Rana draytonii)*<br>Population: Wherever found | Threatened | Final designated | |
| **Fishes** | | | |
| Delta smelt *(Hypomesus transpacificus)*<br>Population: Wherever found | Threatened | Final designated | |
| steelhead *(Oncorhynchus (=salmo) mykiss)*<br>Population: Northern California DPS | Threatened | | |
| **Flowering Plants** | | | |
| Layne's butterweed *(Senecio layneae)*<br>Population: Wherever found | Threatened | | |

# Critical habitats that lie within your project area

There are no critical habitats within your project area.

# Appendix B — CDFW List of Special-Status Species

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE RareFind

**Query Summary:**
Quad IS (Aukum (3812056) OR Camino (3812066) OR Coloma (3812078) OR Fiddletown (3812057) OR Garden Valley (3812077) OR Latrobe (3812058) OR Placerville (3812067) OR Shingle Springs (3812068) OR Slate Mtn. (3812076))

Print Close

**CNDDB Element Query Results**

| Scientific Name | Common Name | Taxonomic Group | Element Code | Total Occs | Returned Occs | Federal Status | State Status | Global Rank | State Rank | CA Rare Plant Rank | Other Status | Habitats |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Accipiter gentilis | northern goshawk | Birds | ABNKC12060 | 428 | 1 | None | None | G5 | S3 | null | BLM_S-Sensitive, CDF_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive | North coast coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest |
| Agelaius tricolor | tricolored blackbird | Birds | ABPBXB0020 | 838 | 1 | None | None | G2G3 | S1S2 | null | BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern | Freshwater marsh, Marsh & swamp, Swamp, Wetland |
| Allium jepsonii | Jepson's onion | Monocots | PMLIL022V0 | 27 | 2 | None | None | G2 | S2 | 1B.2 | BLM_S-Sensitive, USFS_S-Sensitive | Chaparral, Cismontane woodland, Lower montane coniferous forest, Ultramafic |
| Arctostaphylos nissenana | Nissenan manzanita | Dicots | PDERI040V0 | 13 | 10 | None | None | G1 | S1 | 1B.2 | BLM_S-Sensitive, USFS_S-Sensitive | Chaparral, Closed-cone coniferous forest |
| Ardea alba | great egret | Birds | ABNGA04040 | 37 | 1 | None | None | G5 | S4 | null | CDF_S-Sensitive, IUCN_LC-Least Concern | Brackish marsh, Estuary, Freshwater marsh, Marsh & swamp, Riparian forest, Wetland |
| Ardea herodias | great blue heron | Birds | ABNGA04010 | 137 | 1 | None | None | G5 | S4 | null | CDF_S-Sensitive, IUCN_LC-Least Concern | Brackish marsh, Estuary, Freshwater marsh, Marsh & swamp, Riparian forest, Wetland |
| Bombus occidentalis | western bumble bee | Insects | IIHYM24250 | 282 | 2 | None | None | G2G3 | S1 | null | USFS_S-Sensitive, XERCES_IM-Imperiled | null |
| Calochortus clavatus var. avius | Pleasant Valley mariposa-lily | Monocots | PMLIL0D095 | 131 | 2 | None | None | G4T2 | S2 | 1B.2 | BLM_S-Sensitive, USFS_S-Sensitive | Lower montane coniferous forest |
| Calystegia stebbinsii | Stebbins' morning-glory | Dicots | PDCON040H0 | 13 | 8 | Endangered | Endangered | G1 | S1 | 1B.1 | SB_RSABG-Rancho Santa Ana Botanic Garden | Chaparral, Cismontane woodland, Ultramafic |
| Calystegia vanzuukiae | Van Zuuk's morning-glory | Dicots | PDCON040Q0 | 9 | 1 | None | None | G2Q | S2 | 1B.3 | null | Chaparral, Cismontane woodland, Ultramafic |
| Carex cyrtostachya | Sierra arching sedge | Monocots | PMCYP03M00 | 13 | 1 | None | None | G2 | S2 | 1B.2 | null | Lower montane coniferous forest, Marsh & swamp, Meadow & seep, Riparian forest |
| | | | | | | | | | | | | Chaparral, Cismontane woodland, Lower |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carex xerophila | chaparral sedge | Monocots | PMCYP03M60 | 15 | 6 | None | None | G2G3 | S2S3 | 1B.2 | null | montane coniferous forest, Ultramafic |
| Ceanothus roderickii | Pine Hill ceanothus | Dicots | PDRHA04190 | 8 | 5 | Endangered | Rare | G1 | S1 | 1B.2 | SB_RSABG-Rancho Santa Ana Botanic Garden | Chaparral, Cismontane woodland, Ultramafic |
| Central Valley Drainage Hardhead/Squawfish Stream | Central Valley Drainage Hardhead/Squawfish Stream | Inland Waters | CARA2443CA | 11 | 1 | None | None | GNR | SNR | null | null | null |
| Central Valley Drainage Resident Rainbow Trout Stream | Central Valley Drainage Resident Rainbow Trout Stream | Inland Waters | CARA2421CA | 5 | 1 | None | None | GNR | SNR | null | null | null |
| Chlorogalum grandiflorum | Red Hills soaproot | Monocots | PMLIL0G020 | 82 | 15 | None | None | G2 | S2 | 1B.2 | BLM_S-Sensitive | Chaparral, Cismontane woodland, Lower montane coniferous forest, Ultramafic |
| Clarkia biloba ssp. brandegeeae | Brandegee's clarkia | Dicots | PDONA05053 | 89 | 10 | None | None | G4G5T4 | S4 | 4.2 | BLM_S-Sensitive | Chaparral, Cismontane woodland, Lower montane coniferous forest |
| Cosumnoperla hypocrena | Cosumnes stripetail | Insects | IIPLE23020 | 12 | 6 | None | None | G2 | S2 | null | null | Aquatic |
| Crocanthemum suffrutescens | Bisbee Peak rush-rose | Dicots | PDCIS020F0 | 31 | 8 | None | None | G2Q | S2 | 3.2 | null | Chaparral, Ione formation, Ultramafic |
| Emys marmorata | western pond turtle | Reptiles | ARAAD02030 | 1188 | 7 | None | None | G3G4 | S3 | null | BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive | Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland |
| Fremontodendron decumbens | Pine Hill flannelbush | Dicots | PDSTE03030 | 10 | 5 | Endangered | Rare | G1 | S1 | 1B.2 | SB_RSABG-Rancho Santa Ana Botanic Garden, SB_UCBBG-UC Berkeley Botanical Garden | Chaparral, Cismontane woodland, Ultramafic |
| Galium californicum ssp. sierrae | El Dorado bedstraw | Dicots | PDRUB0N0E7 | 16 | 12 | Endangered | Rare | G5T1 | S1 | 1B.2 | SB_RSABG-Rancho Santa Ana Botanic Garden | Chaparral, Cismontane woodland, Lower montane coniferous forest, Ultramafic |
| Horkelia parryi | Parry's horkelia | Dicots | PDROS0W0C0 | 44 | 13 | None | None | G2 | S2 | 1B.2 | BLM_S-Sensitive, USFS_S-Sensitive | Chaparral, Cismontane woodland, Ione formation |
| Lasionycteris noctivagans | silver-haired bat | Mammals | AMACC02010 | 138 | 3 | None | None | G5 | S3S4 | null | IUCN_LC-Least Concern, WBWG_M-Medium Priority | Lower montane coniferous forest, Oldgrowth, Riparian forest |
| Myotis yumanensis | Yuma myotis | Mammals | AMACC01020 | 262 | 2 | None | None | G5 | S4 | null | BLM_S-Sensitive, IUCN_LC-Least Concern, WBWG_LM-Low-Medium Priority | Lower montane coniferous forest, Riparian forest, Riparian woodland, Upper montane coniferous forest |
| Packera layneae | Layne's ragwort | Dicots | PDAST8H1V0 | 48 | 24 | Threatened | Rare | G2 | S2 | 1B.2 | SB_RSABG-Rancho Santa Ana Botanic Garden | Chaparral, Cismontane woodland, Ultramafic |
| Pekania pennanti | fisher - West Coast DPS | Mammals | AMAJF01021 | 726 | 1 | Proposed Threatened | Candidate Threatened | G5T2T3Q | S2S3 | null | BLM_S-Sensitive, CDFW_SSC-Species of Special | North coast coniferous forest, |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Concern, USFS_S-Sensitive | Oldgrowth, Riparian forest |
| Phrynosoma blainvillii | coast horned lizard | Reptiles | ARACF12100 | 735 | 4 | None | None | G3G4 | S3S4 | null | BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern | Chaparral, Cismontane woodland, Coastal bluff scrub, Coastal scrub, Desert wash, Pinon & juniper woodlands, Riparian scrub, Riparian woodland, Valley & foothill grassland |
| Rana boylii | foothill yellow-legged frog | Amphibians | AAABH01050 | 877 | 3 | None | None | G3 | S3 | null | BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened, USFS_S-Sensitive | Aquatic, Chaparral, Cismontane woodland, Coastal scrub, Klamath/North coast flowing waters, Lower montane coniferous forest, Meadow & seep, Riparian forest, Riparian woodland, Sacramento/San Joaquin flowing waters |
| Rana draytonii | California red-legged frog | Amphibians | AAABH01022 | 1393 | 1 | Threatened | None | G2G3 | S2S3 | null | CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable | Aquatic, Artificial flowing waters, Artificial standing waters, Freshwater marsh, Marsh & swamp, Riparian forest, Riparian scrub, Riparian woodland, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland |
| Riparia riparia | bank swallow | Birds | ABPAU08010 | 297 | 1 | None | Threatened | G5 | S2 | null | BLM_S-Sensitive, IUCN_LC-Least Concern | Riparian scrub, Riparian woodland |
| Sacramento-San Joaquin Foothill/Valley Ephemeral Stream | Sacramento-San Joaquin Foothill/Valley Ephemeral Stream | Inland Waters | CARA2130CA | 1 | 1 | None | None | GNR | SNR | null | null | null |
| Strix nebulosa | great gray owl | Birds | ABNSB12040 | 78 | 3 | None | Endangered | G5 | S1 | null | CDF_S-Sensitive, IUCN_LC-Least Concern, USFS_S-Sensitive | Lower montane coniferous forest, Oldgrowth, Subalpine coniferous forest, Upper montane coniferous forest |
| Viburnum ellipticum | oval-leaved viburnum | Dicots | PDCPR07080 | 38 | 1 | None | None | G4G5 | S3? | 2B.3 | null | Chaparral, Cismontane woodland, Lower montane coniferous forest |
| Wyethia reticulata | El Dorado County mule ears | Dicots | PDAST9X0D0 | 25 | 15 | None | None | G2 | S2 | 1B.2 | BLM_S-Sensitive, SB_RSABG-Rancho Santa Ana Botanic Garden | Chaparral, Cismontane woodland, Lower montane coniferous forest, Ultramafic |

# Appendix C — CNPS List of Special-Status Species

CNPS California Native Plant Society Rare and Endangered Plant Inventory

# Plant List

**27** matches found. *Click on scientific name for details*

**Search Criteria**

Found in 9 Quads around 38120F7

| Scientific Name | Common Name | Family | Lifeform | Rare Plant Rank | State Rank | Global Rank |
|---|---|---|---|---|---|---|
| Allium jepsonii | Jepson's onion | Alliaceae | perennial bulbiferous herb | 1B.2 | S2 | G2 |
| Allium sanbornii var. congdonii | Congdon's onion | Alliaceae | perennial bulbiferous herb | 4.3 | S3 | G3T3 |
| Arctostaphylos mewukka ssp. truei | True's manzanita | Ericaceae | perennial evergreen shrub | 4.2 | S3 | G4?T3 |
| Arctostaphylos nissenana | Nissenan manzanita | Ericaceae | perennial evergreen shrub | 1B.2 | S1 | G1 |
| Bolandra californica | Sierra bolandra | Saxifragaceae | perennial herb | 4.3 | S4 | G4 |
| Calochortus clavatus var. avius | Pleasant Valley mariposa lily | Liliaceae | perennial bulbiferous herb | 1B.2 | S2 | G4T2 |
| Calystegia stebbinsii | Stebbins' morning-glory | Convolvulaceae | perennial rhizomatous herb | 1B.1 | S1 | G1 |
| Calystegia vanzuukiae | Van Zuuk's morning-glory | Convolvulaceae | perennial rhizomatous herb | 1B.3 | S2 | G2Q |
| Carex xerophila | chaparral sedge | Cyperaceae | perennial herb | 1B.2 | S2S3 | G2G3 |
| Ceanothus fresnensis | Fresno ceanothus | Rhamnaceae | perennial evergreen shrub | 4.3 | S4 | G4 |
| Ceanothus roderickii | Pine Hill ceanothus | Rhamnaceae | perennial evergreen shrub | 1B.1 | S1 | G1 |
| Chlorogalum grandiflorum | Red Hills soaproot | Agavaceae | perennial bulbiferous herb | 1B.2 | S2 | G2 |
| Clarkia biloba ssp. brandegeeae | Brandegee's clarkia | Onagraceae | annual herb | 4.2 | S4 | G4G5T4 |
| Clarkia virgata | Sierra clarkia | Onagraceae | annual herb | 4.3 | S3 | G3 |
| Claytonia parviflora ssp. grandiflora | streambank spring beauty | Montiaceae | annual herb | 4.2 | S3 | G5T3 |
| Crocanthemum suffrutescens | Bisbee Peak rush-rose | Cistaceae | perennial evergreen shrub | 3.2 | S2 | G2Q |
| Delphinium hansenii ssp. ewanianum | Ewan's larkspur | Ranunculaceae | perennial herb | 4.2 | S3 | G4T3 |
| Erigeron miser | starved daisy | Asteraceae | perennial herb | 1B.3 | S3? | G3? |
| Fremontodendron decumbens | Pine Hill flannelbush | Malvaceae | perennial evergreen shrub | 1B.2 | S1 | G1 |
| Galium californicum ssp. sierrae | El Dorado bedstraw | Rubiaceae | perennial herb | 1B.2 | S1 | G5T1 |
| Horkelia parryi | Parry's horkelia | Rosaceae | perennial herb | 1B.2 | S2 | G2 |
| Lilium humboldtii ssp. humboldtii | Humboldt lily | Liliaceae | perennial bulbiferous herb | 4.2 | S3 | G4T3 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Navarretia prolifera ssp. lutea | yellow bur navarretia | Polemoniaceae | annual herb | 4.3 | S3 | G4T3 |
| Packera layneae | Layne's ragwort | Asteraceae | perennial herb | 1B.2 | S2 | G2 |
| Trichostema rubisepalum | Hernandez bluecurls | Lamiaceae | annual herb | 4.3 | S4 | G4 |
| Viburnum ellipticum | oval-leaved viburnum | Adoxaceae | perennial deciduous shrub | 2B.3 | S3? | G4G5 |
| Wyethia reticulata | El Dorado County mule ears | Asteraceae | perennial herb | 1B.2 | S2 | G2 |

**Suggested Citation**

CNPS, Rare Plant Program. 2016. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website http://www.rareplants.cnps.org [accessed 13 October 2016].


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About the Rare Plant Program
CNPS Home Page
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**Contributors**
The Calflora Database
The California Lichen Society

# Appendix D — Representative Photographs

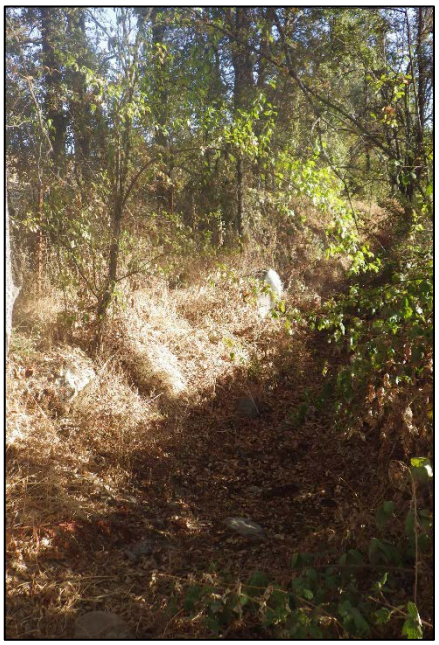


Photo 1: Riparian woodland along the intermittent drainage in the southwestern portion of the BSA.

Date: October 7, 2016 Photographer: Charlotte Marks

Photo 2: An ephemeral drainage within the BSA.

Date: October 7, 2016 Photographer: Charlotte Marks

## REPRESENTATIVE SITE PHOTOGRAPHS

Photo 3: Non-native annual grassland and oak woodland habitats within the BSA.

Date: September 22, 2016 Photographer: Charlotte Marks

Photo 4: Mixed pine and non-native annual grassland habitat within the BSA.

Date: October 7, 2016 Photographer: Charlotte Marks

Photo 5: Human disturbance along the existing trail within the BSA.

Date: September 22, 2016 Photographer: Charlotte

Photo 6: Potential staging area within the BSA, just west of Missouri Flat Road.

Date: October 7, 2016 Photographer: Charlotte Marks

# Appendix E — Plants and Wildlife Observed within the Biological Study Area

**El Dorado Trail Extension Project**
**Plant Species Observed within the Biological Study Area**

| Family | Scientific Name | Common Name | Native or Invasive |
|---|---|---|---|
| **Fabaceae** | *Acmispon americanus* var. *americanus* | Spanish lotus | N |
| **Sapindaceae** | *Aesculus californica* | California buckeye | N |
| **Simaroubaceae** | *Ailanthus altissima* | Tree of heaven | I |
| **Alliaceae** | *Allium* sp. | Onion | ~ |
| **Apiaceae** | *Anthriscus caucalis* | Bur chervil | NN |
| **Ericaceae** | *Arctostaphylos manzanita* | Common manzanita | N |
| **Eriaceae** | *Arctostaphylos* sp. | Manzanita | ~ |
| **Fabaceae** | *Astragalus* sp. | Milkvetch | N |
| **Poaceae** | *Avena fatua* | Wild oat | I |
| **Asteraceae** | *Baccharis pilularis* | Coyote brush | N |
| **Poaceae** | *Briza maxima* | Large quaking grass | I |
| **Poaceae** | *Bromus diandrus* | Ripgut grass | I |
| **Asteraceae** | *Carduus pycnocephalus* ssp. *pycnocephalus* | Italian thistle | I |
| **Rhamnaceae** | *Ceanothus* sp. | Ceonothus | N |
| **Pinaceae** | *Cedrus deodara* | Deodar cedar | NN |
| **Asteraceae** | *Centaurea solstitialis* | Yellow star-thistle | I |
| **Gentianaceae** | *Centaurium* sp. | Centaury | I |
| **Montiaceae** | *Claytonia perfoliata* | Miner's lettuce | N |
| **Euphorbiaceae** | *Croton setiger* | Turkey-mullein | N |
| **Cupressaceae** | *Cupressus arizonica* | Arizona cypress | NN |
| **Poaceae** | *Cynosurus echinatus* | Annual dogtail | NN |
| **Poaceae** | *Elymus caput-medusae* | Medusa head | I |
| **Poaceae** | Festuca perennis | Rye grass | I |
| **Moraceae** | *Ficus carica* | Edible fig | I |
| **Apiaceae** | *Foeniculum vulgare* | Sweet fennel | I |
| **Rosaceae** | *Heteromeles arbutifolia* | Toyon | N |
| **Hypericaceae** | *Hypericum perforatum* | St. John's wort | N |
| **Juglandaceae** | *Juglans hindsii* | Black walnut | N |
| **Juncaceae** | *Juncus mexicanus* | Mexican rush | N |
| **Juncaceae** | *Juncus patens* | Common rush | N |
| **Cupressaceae** | *Juniperus* sp. | Juniper | ~ |
| **Asteraceae** | *Lactuca serriola* | Prickly lettuce | I |
| **Lamiaceae** | *Mentha pulegium* | Pennyroyal | I |
| **Poaceae** | *Phalaris minor* | Little seed canarygrass | NN |
| **Viscaceae** | *Phoradendron sp.* | Mistletoe | N |
| **Pinaceae** | *Pinus ponderosa* | Ponderosa pine | N |
| **Pinaceae** | *Pinus sabiniana* | Foothill pine | N |
| **Salicaceae** | *Populus fremontii* | Cottonwood | N |
| **Fagaceae** | *Quercus douglasii* | Blue oak | N |
| **Fagaceae** | *Quercus kelloggii* | California black oak | N |
| **Fagaceae** | *Quercus lobata* | Valley oak | N |

**El Dorado Trail Extension Project**
**Plant Species Observed within the Biological Study Area**

| Family | Scientific Name | Common Name | Native or Invasive |
|---|---|---|---|
| **Fagaceae** | *Quercus x morehus* | Oracle oak | N |
| **Fagaceae** | *Quercus wislizeni* | Interior live oak | N |
| **Rosaceae** | *Rosa californica* | California rose | N |
| **Rosaceae** | *Rubus armeniacus* | Himalayan blackberry | I |
| **Polygonaceae** | *Rumex crispus* | Curly dock | I |
| **Salicaceae** | *Salix* sp. | Willow | ~ |
| **Anacardiaceae** | *Toxicodendron diversilobum* | Western poison oak | N |
| **Fabaceae** | *Trifolium hirtum* | Rose clover | I |
| **Themidaceae** | *Triteleia laxa* | Ithuriel's spear | N |
| **Scrophulariaceae** | *Verbascum blattaria* | Moth mullein | I |
| **Scrophulariaceae** | *Verbascum thapsus* | Woolly mullein | I |

**El Dorado Trail Extension Project**

**Wildlife Species Observed within the Biological Study Area**

| Scientific Name | Common Name |
|---|---|
| *Aphelocoma californica* | Western scrub jay |
| *Buteo lineatus* | Red-shouldered hawk |
| *Cathartes aura* | Turkey vulture |
| *Colaptes auratus* | Northern flicker |
| *Euphagus cyanocephalus* | Brewer's blackbird |
| *Sciurus grisues* | Western gray squirrel |
| *Zenaida macroura* | Mourning dove |
| *Piplio maculatus* | Spotted towhee |
| *Callipela californica* | California quail |
| *Regulus calendula* | Ruby-crowned kinglet |
| *Corvus corax* | Common raven |
| *Melozone crissalis* | California towhee |

# Appendix F – Oak Woodland Analysis

June 22, 2017

Donna Keeler
County of El Dorado
Community Development Agency
Transportation Division
2850 Fairlane Court
Placerville, CA 95667

**RE: El Dorado Trail Extension — Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project Oak Woodland Analysis**

Dear Ms. Keeler:

The purpose of this letter is to document the extent of existing oak canopy on the 36.7-acre El Dorado Trail Extension Project and to assess potential impacts to oak woodland canopy as a result of the proposed project. The proposed project consists of enhancing and extending the existing El Dorado Trail that runs parallel to the railroad tracks. The Study Area is located along the El Dorado Trail from Mile Point (MP) 142.6 northwest of Oriental Street, to MP 144.8 east of Missouri Flat Road in Placerville, El Dorado County, California. The Study Area is located within Township 10 North, Range 10 East, Sections 24, 26, 34, and 35 of the *Placerville* quadrangle. The approximate location of the center point of the Study Area is 38°41'33" North, 120°50'30" West (**Figure 1**).

## EL DORADO COUNTY OAK CANOPY GUIDELINES

The County of El Dorado regulates impacts to oak woodland canopy under General Plan Policy 7.4.4.4. All oak trees, of all sizes, are included in the measurement of oak canopy. All new development projects on parcels greater than one acre with at least one percent canopy cover must adhere to the retention standard described in **Table 1** below.

**Table 1 — Allowable Oak Canopy Impacts per Option A of the General Plan**

| Percent Existing Canopy Cover | Canopy Cover to be Retained |
|---|---|
| 80-100 | 60% of existing canopy |
| 60-79 | 70% of existing canopy |
| 40-59 | 80% of existing canopy |
| 20-39 | 85% of existing canopy |
| 10-19 | 90% of existing canopy |
| 1-9 for parcels >1 acre | 90% of existing canopy |

In addition to preservation of existing oak woodland canopy, mitigation for impacts to oak woodland canopy is required at a 1:1 ratio. Application of the policy is described in the Interim Interpretive Guidelines for El Dorado County General Plan Policy 7.4.4.4 (Option A), which was last amended on October 12, 2007. The policy states that mitigation can be in the form of on-site or off-site planting of oak trees or acorns, or obtaining an offsite conservation easement to protect existing oak woodland habitat in-lieu of planting. As per the Guidelines, a Monitoring and Reporting Plan needs to be prepared and is subject to maintenance and monitoring for up to ten years.

The County is in the process of revising the *El Dorado County Oak Resources Management Plan* (ORMP). The comment period on the draft Environmental Impact Report closed on August 15, 2016. The new plan is expected to be adopted some time in 2017. Under the proposed new plan, an oak woodland removal permit will be required prior to removal of oak trees that are part of an oak woodland. Mitigation requirements will be based on the percentage of existing oak woodland removed and is outlined below in **Table 2**.

**Table 2 — Oak Woodland Mitigation Ratios**

| Percent of Oak Woodland Impact | Oak Woodland Mitigation Ratio |
|---|---|
| 0 – 50% | 1:1 |
| 50.1 – 75% | 1.5:1 |
| 75.1 – 100% | 2:1 |

Mitigation may be completed with a combination of the following options: acquisition of an off-site conservation easement, payment of in-lieu fees, or either on-site or off-site replacement planting of up to 50 percent of the required mitigation area.

A tree removal permit shall be required prior to the removal of any individual native oak tree not located in an oak woodland and for the removal of all Heritage trees. A Heritage tree is defined as any living native oak of the genus *Quercus*, including blue oak (*Quercus douglasii*), valley oak (*Quercus lobata*), California black oak (*Quercus kelloggii*), interior live oak (*Quercus wislizeni*), canyon live oak (*Quercus chrysolepis*), Oregon oak (*Quercus garryana*), oracle oak (*Quercus* x *morehus*), or hybrids thereof, with a single main trunk or a multiple trunk with an aggregate diameter measuring 36” or greater at breast height. Mitigation for individual trees and Heritage trees will be based on an inch-for-inch standard. Replacement plantings for Heritage trees would be at ratios based on the total diameter inches removed and include: 2:1 for 1-gallon sized trees, 1.5:1 for 5-gallon sized trees, or 1:1 for 15-gallon sized trees. Mitigation may be completed with on- or off-site plantings, payment of in-lieu fees, or a combination of these options.

## METHODS

Foothill Associates International Society of Arboriculture (ISA) Certified Arborists, Charlotte Marks (WE-10519A), Zachary Neider (WE-11615A), and Meredith Branstad (WE-6727A) conducted field surveys on September 22 and October 7, 2016 and January 23 and 24, 2017 in

order to identify the total coverage of oak canopy and individual oak trees with the potential to be impacted by the proposed project. Oak canopy was delineated using GoogleEarth maps and ground-truthing in the field. Individual trees located in or overhanging the project impact area were mapped using handheld Trimble GeoXT units with sub-meter accuracy and the species, dripline radius, and approximate height of each tree was recorded. The individual tree data was merged with the aerial photo interpretation using ESRI® ArcMap (GIS Software package) to identify the total oak canopy in the Study Area. The project impact area footprint was overlain on the tree location data to identify trees to be removed and the associated canopy loss was calculated.

## RESULTS AND DISCUSSION

The mapped oak canopy area consists primarily of interior live oak (*Quercus wislizeni*) and valley oak (*Quercus lobata*); however occasional black oaks (*Quercus kelloggii*) were observed primarily within the northeastern portion of the Study Area and scattered blue oaks (*Quercus douglasii*) were observed within the southwestern portion of the Study Area. The vegetation understory consists primarily of non-native annual grassland, with areas of brush consisting of coyote bush (*Baccharis pilularis*), poison oak (*Toxicodendron diversiloba*), manzanita (*Arctostaphylos manzanita*), and oak saplings.

The oak woodland canopy to be removed is fragmented due to bisecting roadways, residential and industrial development, and the existing active El Dorado Trail. The oak canopy is not part of a larger habitat corridor, due to the fragmented nature of the oak woodland to be removed.

A total of approximately 12.62 acres of oak canopy are found within the Study Area, which equates to approximately 34 percent canopy cover within the Study Area. Therefore, according to General Plan Policy 7.4.4.4, the project must retain 85 percent (10.73 acres) of the existing canopy. It is estimated that permanent impacts from the proposed project will remove approximately 213 trees and result in the loss of approximately 1.06 acres (8 percent) of existing oak canopy as a result of grading, paving, and stormwater improvements. It is estimated that the project will preserve approximately 11.56 acres of the existing oak canopy. Oak canopy located within staging areas will be fenced and preserved onsite. Since the total anticipated impact to oak canopy is less than 15 percent, the project adheres to the retention standards as outlined under General Plan policy 7.4.4.4.

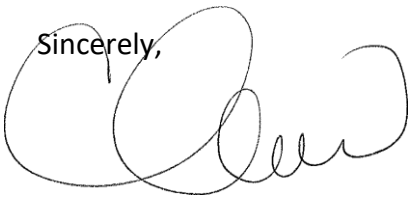
In addition to preservation of existing woodlands, replanting of the impacted oak canopy area is required under both the existing and proposed County policies. Final calculation and design of the oak canopy mitigation planting should be completed in accordance with the policies in effect at the time of project construction. Under the current guidelines, mitigation planting would be at a 1:1 ratio totaling 212 trees. Since the maximum tree planting density per acre is 200 trees, then a total acreage between one and two acres will be required for planting.

Under the new proposed ORMP, mitigation planting would also be at a 1:1 ratio totaling 212 trees. Since the maximum tree planting density per acre is 200 trees, then a total acreage between one and two acres will be required for planting. Additionally, since a total of six

Heritage trees measuring a total of 284 diameter inches would be impacted, the replacement number of trees would include: 568 1-gallon, or 426 5-gallon, or 284 15-gallon trees. Since no individual native oak trees are proposed to be removed that are not part of an oak woodland, no mitigation is required for individual oak trees with the exception of Heritage trees as outlined above.

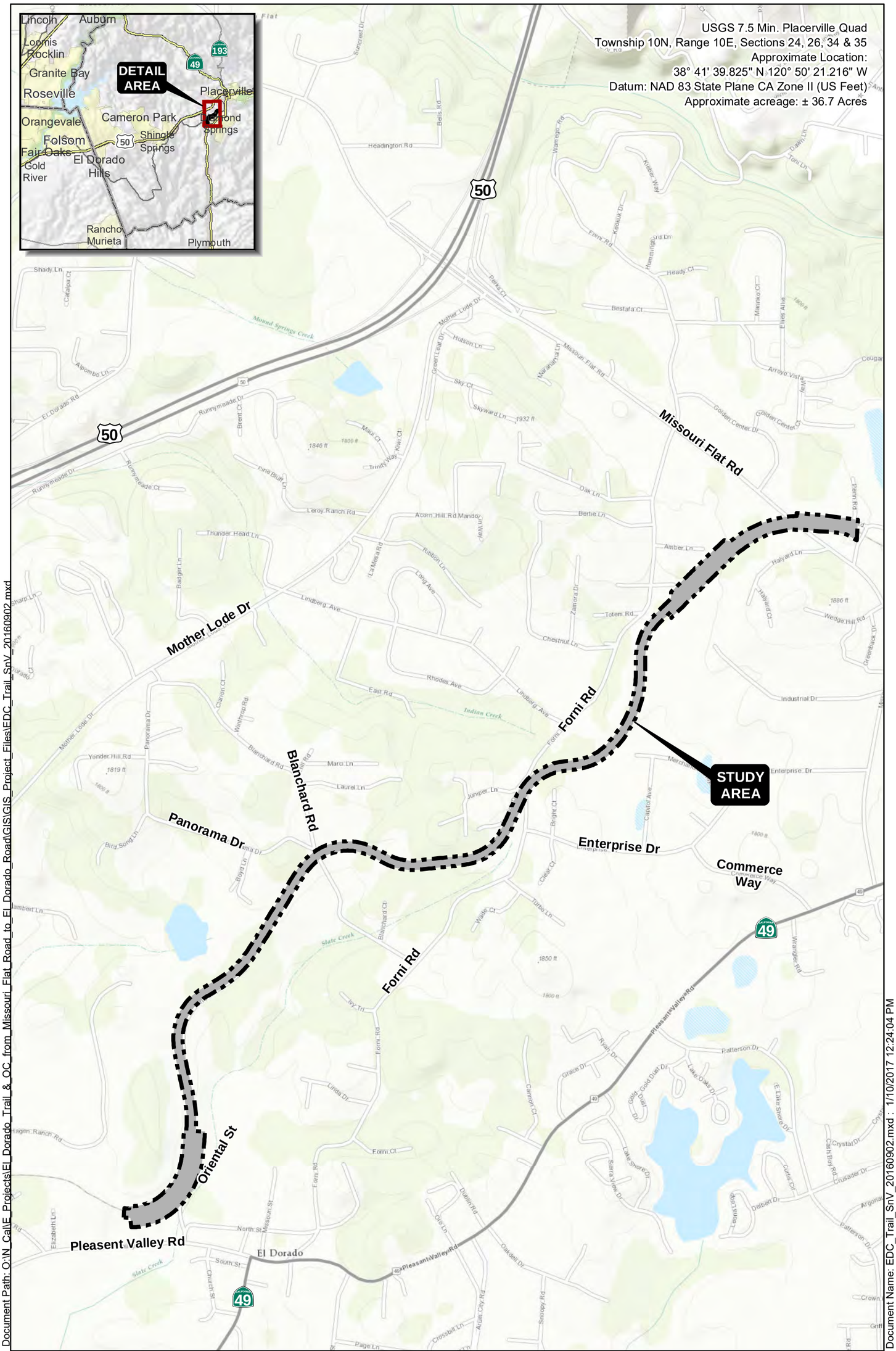
Please do not hesitate to call me at (916) 435-1202 or email cmarks@foothill.com if you have any questions about this report.

Sincerely,



Charlotte Marks
ISA-Certified Arborist 10519A

Enclosures (2)

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## SITE AND VICINITY

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING + PLANNING + LANDSCAPE ARCHITECTURE



N

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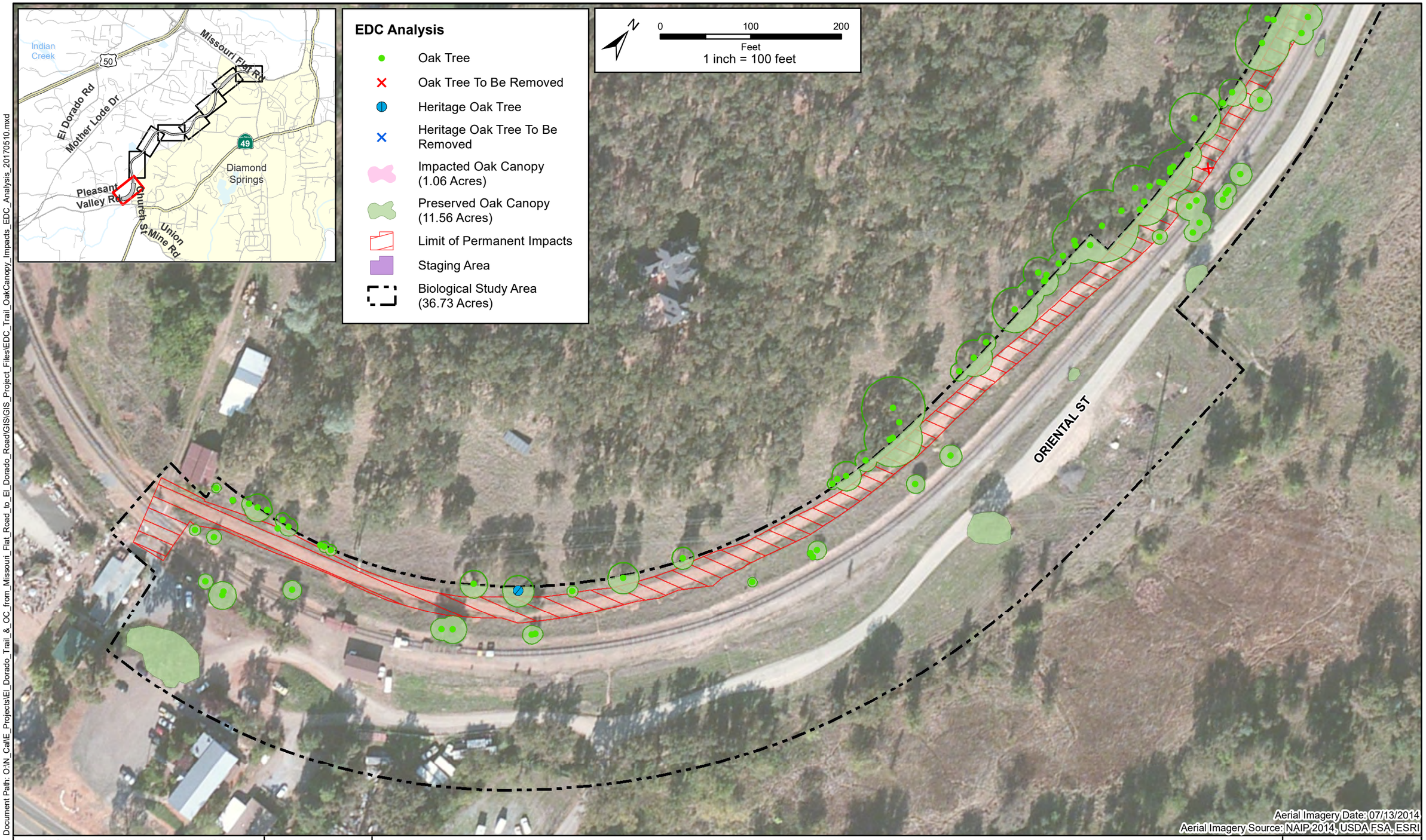
Feet
1 in = 1,000 feet

Drawn By: MUB
QA/QC: AMP
Date: 01/10/2017

**Figure 1**

EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING PROJECT

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Drawn By: MUB
QA/QC: CTG
Date: 06/06/2017

# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — OAK CANOPY IMPACTS

FIGURE 2
SHEET 1



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Milepost 143

ORIENTAL ST

**EDC Analysis**

- Oak Tree
- Oak Tree To Be Removed
- Heritage Oak Tree
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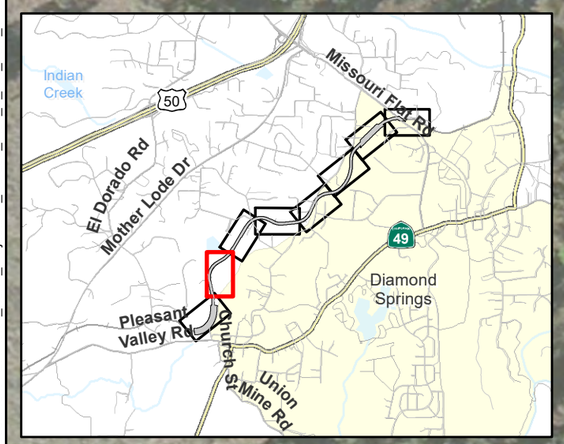
- Impacted Oak Canopy (1.06 Acres)
- Preserved Oak Canopy (11.56 Acres)
- Limit of Permanent Impacts
- Staging Area
- Biological Study Area (36.73 Acres)




N

0 100 200

Feet

1 inch = 100 feet

Aerial Imagery Date: 07/13/2014

Aerial Imagery Source: NAIP 2014, USDA FSA, ESRI

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Drawn By: MUB
QA/QC: CTG
Date: 06/06/2017

# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — OAK CANOPY IMPACTS

FIGURE 2
SHEET 2



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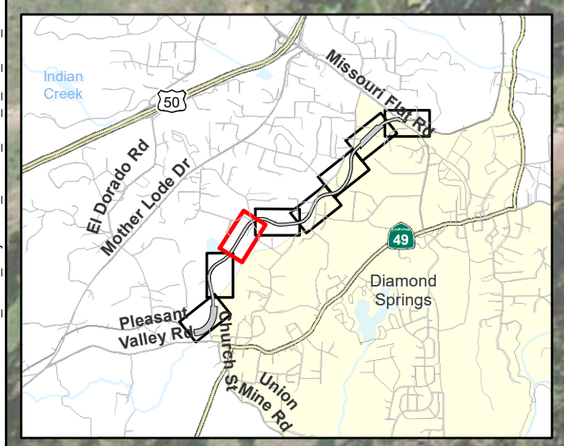
NANAS LN

PANORAMA DR

BLANCHARD RD

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N

0 100 200

Feet

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Aerial Imagery Date: 07/13/2014

Aerial Imagery Source: NAIP 2014, USDA FSA, ESRI

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Drawn By: MUB
QA/QC: CTG
Date: 06/06/2017

# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — OAK CANOPY IMPACTS

FIGURE 2
SHEET 3



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JUNIPER LN

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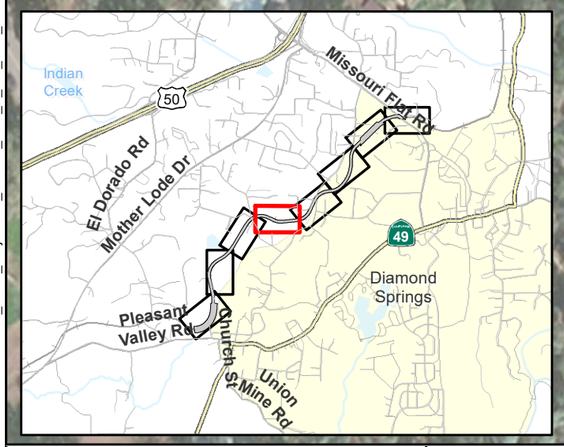


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Aerial Imagery Source: NAIP 2014, USDA FSA, ESRI

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QA/QC: CTG
Date: 06/06/2017

# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — OAK CANOPY IMPACTS

FIGURE 2
SHEET 4



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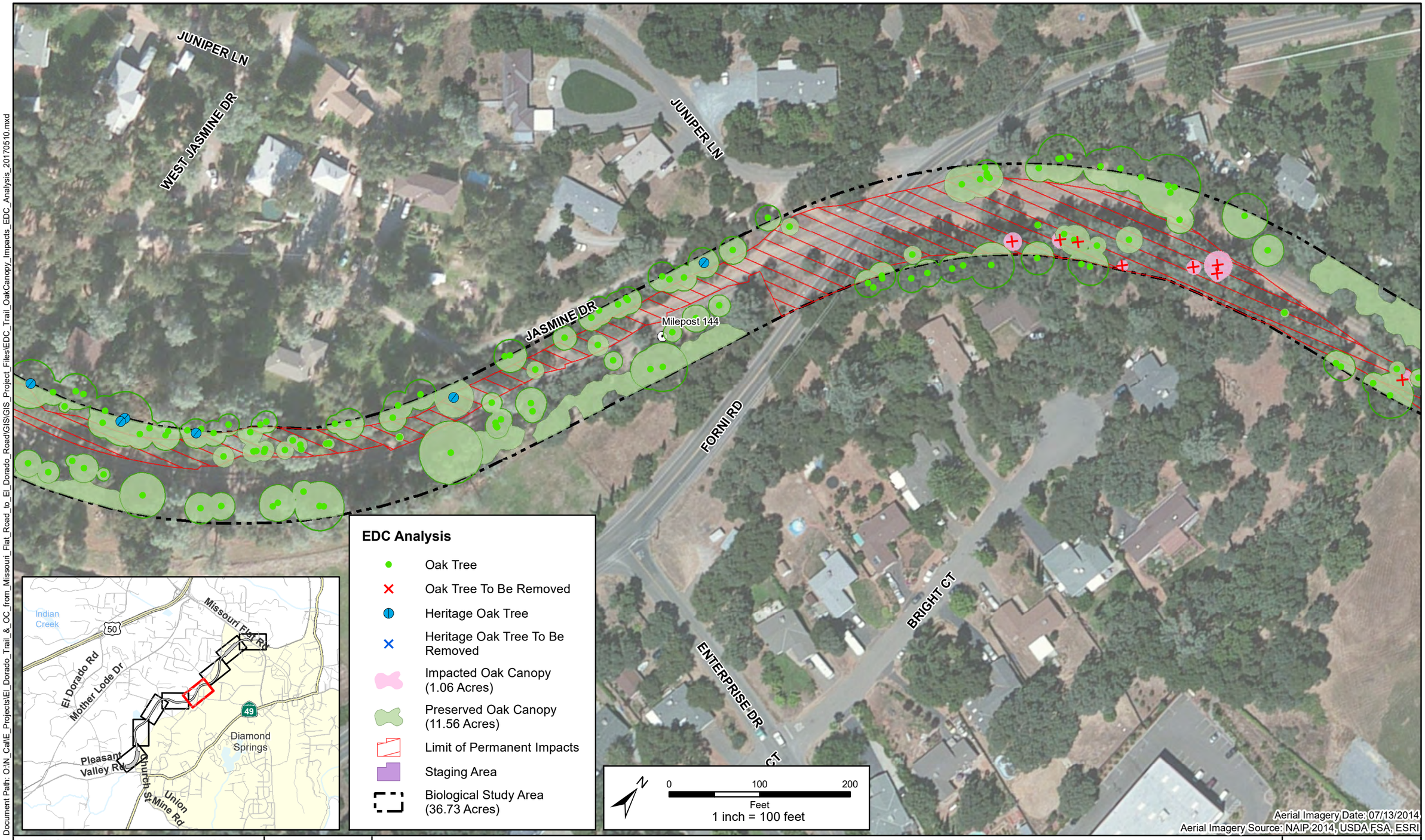


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Drawn By: MUB
QA/QC: CTG
Date: 06/06/2017

# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — OAK CANOPY IMPACTS

FIGURE 2
SHEET 5



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Drawn By: MUB
QA/QC: CTG
Date: 06/06/2017

# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — OAK CANOPY IMPACTS

FIGURE 2
SHEET 6



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STARTHISTLE LN

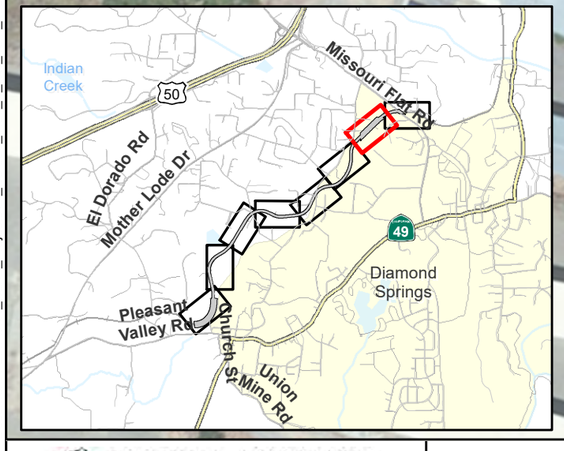
FORNI RD

ALPINE LN

AMBER LN

HALYARD LN

HALYARD CT

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Feet
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Aerial Imagery Date: 07/13/2014
Aerial Imagery Source: NAIP 2014, USDA FSA, ESRI

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Drawn By: MUB
QA/QC: CTG
Date: 06/06/2017

# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — OAK CANOPY IMPACTS

FIGURE 2
SHEET 7



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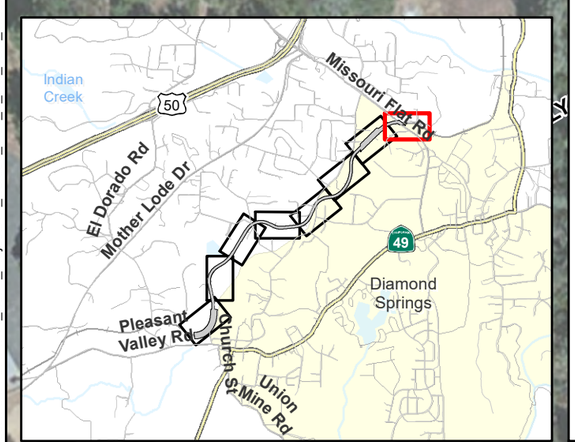
PENN RD

OLD DEPOT RD

OLD DEPOT CT

MISSOURI FLAT RD

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N

0 100 200

Feet

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Aerial Imagery Date: 07/13/2014

Aerial Imagery Source: NAIP 2014, USDA FSA, ESRI

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Drawn By: MUB
QA/QC: CTG
Date: 06/06/2017

# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — OAK CANOPY IMPACTS

FIGURE 2
SHEET 8



Document Name: EDC_Trail_OakCanopy_Impacts_EDC_Analysis_20170510.mxd : : 6/6/2017 1:31:47 PM

# Appendix E — *El Dorado Trail Extension – Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project Oak Woodland Analysis*, June 22, 2017

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June 22, 2017

Donna Keeler
County of El Dorado
Community Development Agency
Transportation Division
2850 Fairlane Court
Placerville, CA 95667

**RE: El Dorado Trail Extension — Missouri Flat Road to the Town of El Dorado and Missouri Flat Road Bike/Pedestrian Overcrossing Project Oak Woodland Analysis**

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The purpose of this letter is to document the extent of existing oak canopy on the 36.7-acre El Dorado Trail Extension Project and to assess potential impacts to oak woodland canopy as a result of the proposed project. The proposed project consists of enhancing and extending the existing El Dorado Trail that runs parallel to the railroad tracks. The Study Area is located along the El Dorado Trail from Mile Point (MP) 142.6 northwest of Oriental Street, to MP 144.8 east of Missouri Flat Road in Placerville, El Dorado County, California. The Study Area is located within Township 10 North, Range 10 East, Sections 24, 26, 34, and 35 of the *Placerville* quadrangle. The approximate location of the center point of the Study Area is 38°41'33" North, 120°50'30" West (**Figure 1**).

## EL DORADO COUNTY OAK CANOPY GUIDELINES

The County of El Dorado regulates impacts to oak woodland canopy under General Plan Policy 7.4.4.4. All oak trees, of all sizes, are included in the measurement of oak canopy. All new development projects on parcels greater than one acre with at least one percent canopy cover must adhere to the retention standard described in **Table 1** below.

**Table 1 — Allowable Oak Canopy Impacts per Option A of the General Plan**

| Percent Existing Canopy Cover | Canopy Cover to be Retained |
|---|---|
| 80-100 | 60% of existing canopy |
| 60-79 | 70% of existing canopy |
| 40-59 | 80% of existing canopy |
| 20-39 | 85% of existing canopy |
| 10-19 | 90% of existing canopy |
| 1-9 for parcels >1 acre | 90% of existing canopy |

In addition to preservation of existing oak woodland canopy, mitigation for impacts to oak woodland canopy is required at a 1:1 ratio. Application of the policy is described in the Interim Interpretive Guidelines for El Dorado County General Plan Policy 7.4.4.4 (Option A), which was last amended on October 12, 2007. The policy states that mitigation can be in the form of on-site or off-site planting of oak trees or acorns, or obtaining an offsite conservation easement to protect existing oak woodland habitat in-lieu of planting. As per the Guidelines, a Monitoring and Reporting Plan needs to be prepared and is subject to maintenance and monitoring for up to ten years.

The County is in the process of revising the *El Dorado County Oak Resources Management Plan* (ORMP). The comment period on the draft Environmental Impact Report closed on August 15, 2016. The new plan is expected to be adopted some time in 2017. Under the proposed new plan, an oak woodland removal permit will be required prior to removal of oak trees that are part of an oak woodland. Mitigation requirements will be based on the percentage of existing oak woodland removed and is outlined below in **Table 2**.

**Table 2 — Oak Woodland Mitigation Ratios**

| Percent of Oak Woodland Impact | Oak Woodland Mitigation Ratio |
|---|---|
| 0 – 50% | 1:1 |
| 50.1 – 75% | 1.5:1 |
| 75.1 – 100% | 2:1 |

Mitigation may be completed with a combination of the following options: acquisition of an off-site conservation easement, payment of in-lieu fees, or either on-site or off-site replacement planting of up to 50 percent of the required mitigation area.

A tree removal permit shall be required prior to the removal of any individual native oak tree not located in an oak woodland and for the removal of all Heritage trees. A Heritage tree is defined as any living native oak of the genus *Quercus*, including blue oak (*Quercus douglasii*), valley oak (*Quercus lobata*), California black oak (*Quercus kelloggii*), interior live oak (*Quercus wislizeni*), canyon live oak (*Quercus chrysolepis*), Oregon oak (*Quercus garryana*), oracle oak (*Quercus* x *morehus*), or hybrids thereof, with a single main trunk or a multiple trunk with an aggregate diameter measuring 36” or greater at breast height. Mitigation for individual trees and Heritage trees will be based on an inch-for-inch standard. Replacement plantings for Heritage trees would be at ratios based on the total diameter inches removed and include: 2:1 for 1-gallon sized trees, 1.5:1 for 5-gallon sized trees, or 1:1 for 15-gallon sized trees. Mitigation may be completed with on- or off-site plantings, payment of in-lieu fees, or a combination of these options.

## METHODS

Foothill Associates International Society of Arboriculture (ISA) Certified Arborists, Charlotte Marks (WE-10519A), Zachary Neider (WE-11615A), and Meredith Branstad (WE-6727A) conducted field surveys on September 22 and October 7, 2016 and January 23 and 24, 2017 in

order to identify the total coverage of oak canopy and individual oak trees with the potential to be impacted by the proposed project. Oak canopy was delineated using GoogleEarth maps and ground-truthing in the field. Individual trees located in or overhanging the project impact area were mapped using handheld Trimble GeoXT units with sub-meter accuracy and the species, dripline radius, and approximate height of each tree was recorded. The individual tree data was merged with the aerial photo interpretation using ESRI® ArcMap (GIS Software package) to identify the total oak canopy in the Study Area. The project impact area footprint was overlain on the tree location data to identify trees to be removed and the associated canopy loss was calculated.

## RESULTS AND DISCUSSION

The mapped oak canopy area consists primarily of interior live oak (*Quercus wislizeni*) and valley oak (*Quercus lobata*); however occasional black oaks (*Quercus kelloggii*) were observed primarily within the northeastern portion of the Study Area and scattered blue oaks (*Quercus douglasii*) were observed within the southwestern portion of the Study Area. The vegetation understory consists primarily of non-native annual grassland, with areas of brush consisting of coyote bush (*Baccharis pilularis*), poison oak (*Toxicodendron diversiloba*), manzanita (*Arctostaphylos manzanita*), and oak saplings.

The oak woodland canopy to be removed is fragmented due to bisecting roadways, residential and industrial development, and the existing active El Dorado Trail. The oak canopy is not part of a larger habitat corridor, due to the fragmented nature of the oak woodland to be removed.

A total of approximately 12.62 acres of oak canopy are found within the Study Area, which equates to approximately 34 percent canopy cover within the Study Area. Therefore, according to General Plan Policy 7.4.4.4, the project must retain 85 percent (10.73 acres) of the existing canopy. It is estimated that permanent impacts from the proposed project will remove approximately 213 trees and result in the loss of approximately 1.06 acres (8 percent) of existing oak canopy as a result of grading, paving, and stormwater improvements. It is estimated that the project will preserve approximately 11.56 acres of the existing oak canopy. Oak canopy located within staging areas will be fenced and preserved onsite. Since the total anticipated impact to oak canopy is less than 15 percent, the project adheres to the retention standards as outlined under General Plan policy 7.4.4.4.

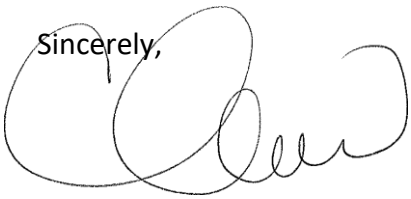
In addition to preservation of existing woodlands, replanting of the impacted oak canopy area is required under both the existing and proposed County policies. Final calculation and design of the oak canopy mitigation planting should be completed in accordance with the policies in effect at the time of project construction. Under the current guidelines, mitigation planting would be at a 1:1 ratio totaling 212 trees. Since the maximum tree planting density per acre is 200 trees, then a total acreage between one and two acres will be required for planting.

Under the new proposed ORMP, mitigation planting would also be at a 1:1 ratio totaling 212 trees. Since the maximum tree planting density per acre is 200 trees, then a total acreage between one and two acres will be required for planting. Additionally, since a total of six

Heritage trees measuring a total of 284 diameter inches would be impacted, the replacement number of trees would include: 568 1-gallon, or 426 5-gallon, or 284 15-gallon trees. Since no individual native oak trees are proposed to be removed that are not part of an oak woodland, no mitigation is required for individual oak trees with the exception of Heritage trees as outlined above.

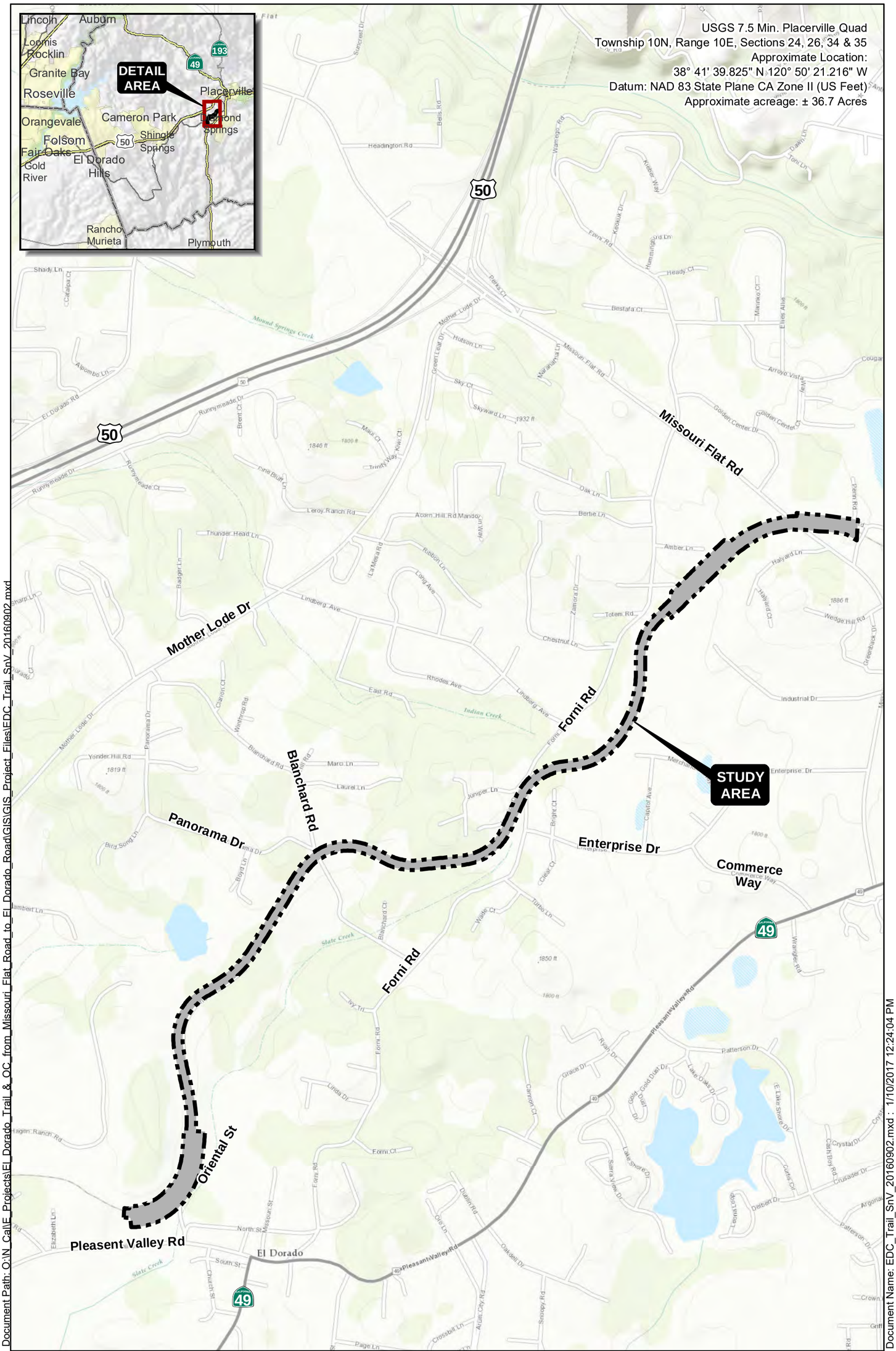
Please do not hesitate to call me at (916) 435-1202 or email cmarks@foothill.com if you have any questions about this report.

Sincerely,



Charlotte Marks
ISA-Certified Arborist 10519A

Enclosures (2)

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## SITE AND VICINITY

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ENVIRONMENTAL CONSULTING + PLANNING + LANDSCAPE ARCHITECTURE



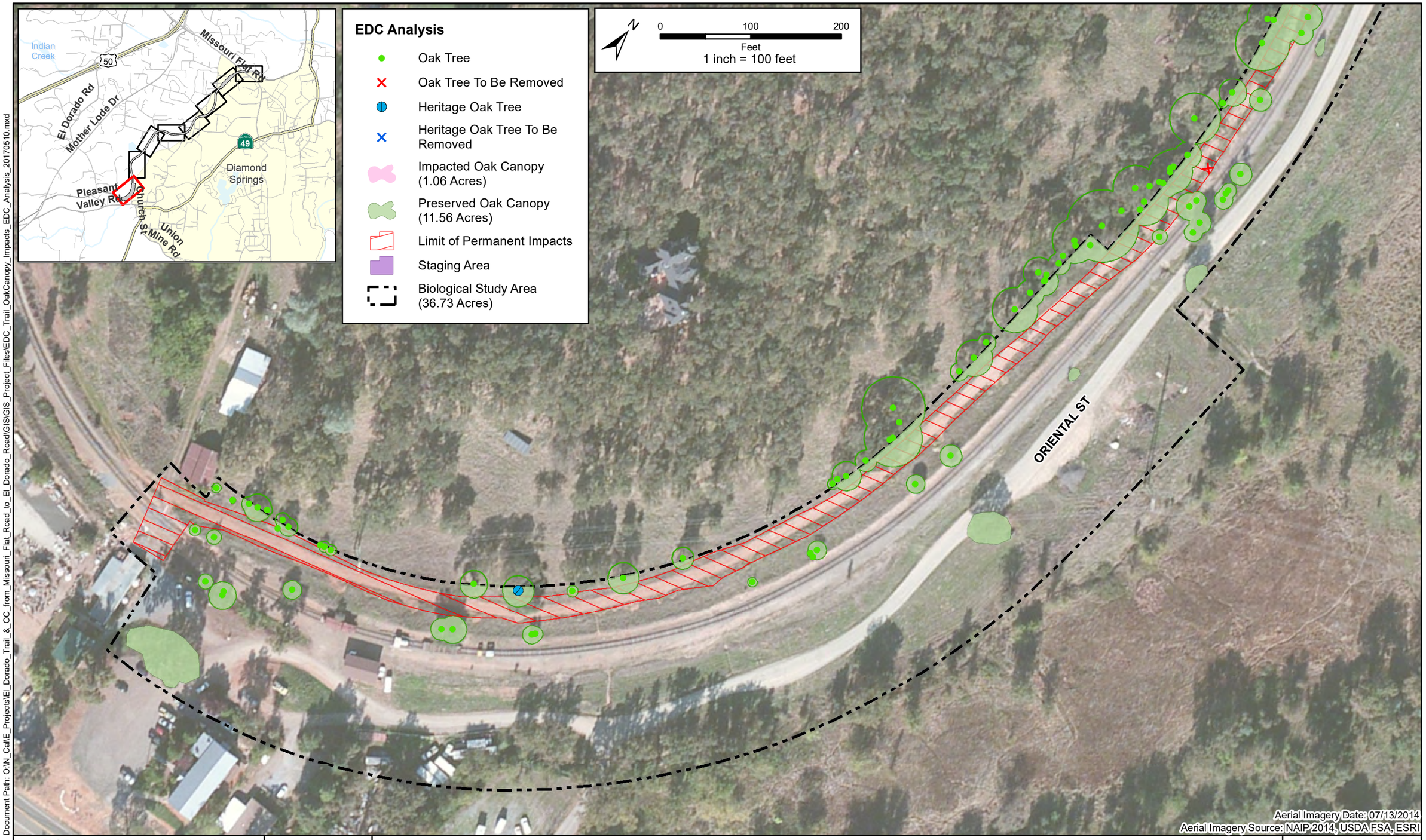
N

0 1000 2000
Feet
1 in = 1,000 feet

Drawn By: MUB
QA/QC: AMP
Date: 01/10/2017

**Figure 1**

EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING PROJECT

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Drawn By: MUB
QA/QC: CTG
Date: 06/06/2017

# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — OAK CANOPY IMPACTS

FIGURE 2
SHEET 1



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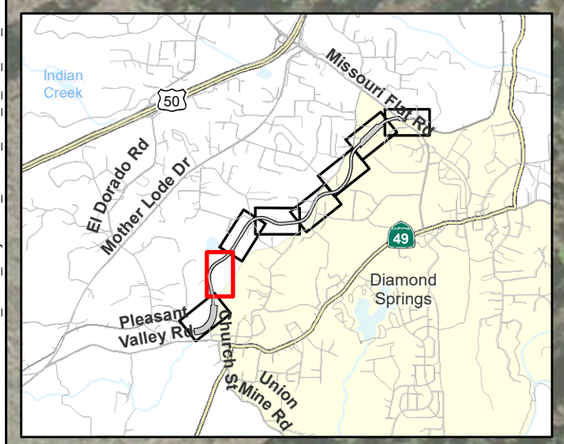
Milepost 143

ORIENTAL ST

**EDC Analysis**

- Oak Tree
- Oak Tree To Be Removed
- Heritage Oak Tree
- Heritage Oak Tree To Be Removed
- Impacted Oak Canopy (1.06 Acres)
- Preserved Oak Canopy (11.56 Acres)
- Limit of Permanent Impacts
- Staging Area
- Biological Study Area (36.73 Acres)




N

0 100 200

Feet

1 inch = 100 feet

Aerial Imagery Date: 07/13/2014

Aerial Imagery Source: NAIP 2014, USDA FSA, ESRI

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Drawn By: MUB
QA/QC: CTG
Date: 06/06/2017

# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — OAK CANOPY IMPACTS

FIGURE 2
SHEET 2



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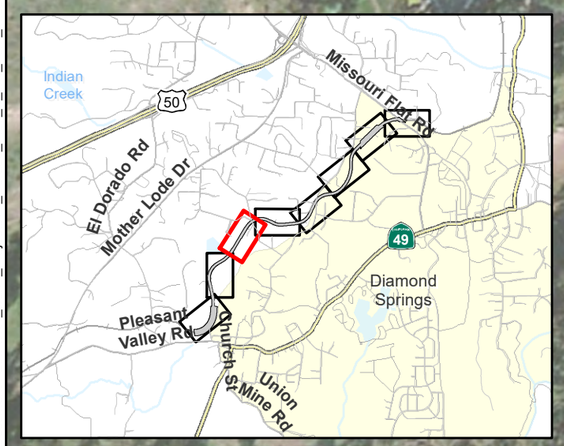
NANAS LN

PANORAMA DR

BLANCHARD RD




**EDC Analysis**

- Oak Tree
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- Staging Area
- Biological Study Area (36.73 Acres)

N

0 100 200

Feet

1 inch = 100 feet

Aerial Imagery Date: 07/13/2014

Aerial Imagery Source: NAIP 2014, USDA FSA, ESRI

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Drawn By: MUB
QA/QC: CTG
Date: 06/06/2017

# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — OAK CANOPY IMPACTS

FIGURE 2
SHEET 3



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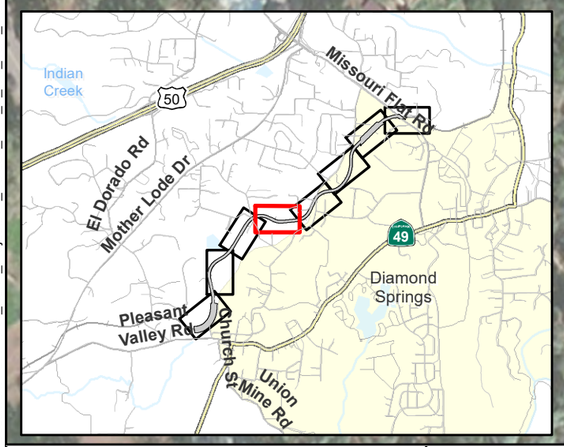
JUNIPER LN

WEST JASMINE DR

FORNI RD

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N

0 100 200

Feet

1 inch = 100 feet

Aerial Imagery Date: 07/13/2014

Aerial Imagery Source: NAIP 2014, USDA FSA, ESRI

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QA/QC: CTG
Date: 06/06/2017

# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — OAK CANOPY IMPACTS

FIGURE 2
SHEET 4



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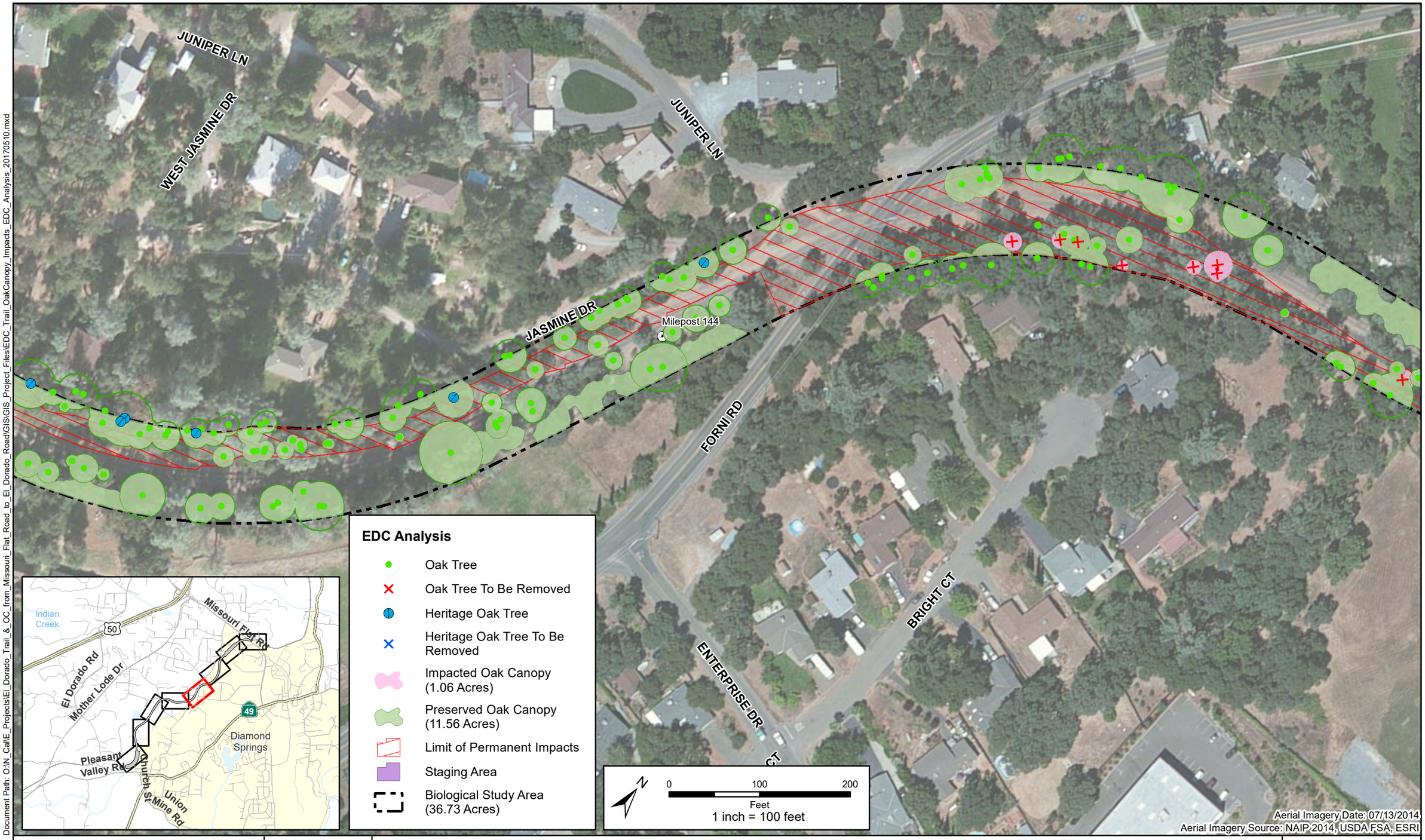


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QA/QC: CTG
Date: 06/06/2017

# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — OAK CANOPY IMPACTS

FIGURE 2
SHEET 5



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Drawn By: MUB
QA/QC: CTG
Date: 06/06/2017

# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — OAK CANOPY IMPACTS

FIGURE 2
SHEET 6



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STARTHISTLE LN

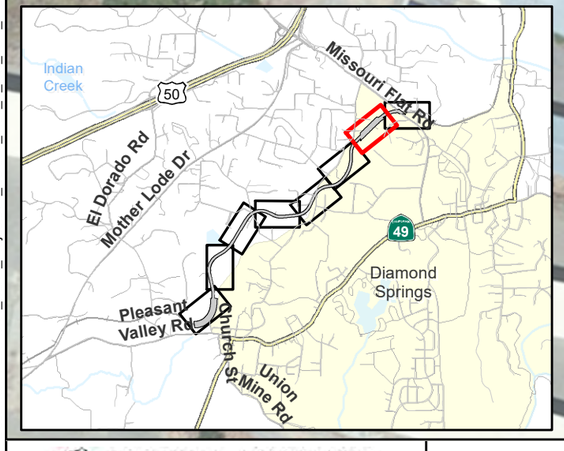
FORNI RD

ALPINE LN

AMBER LN

HALYARD LN

HALYARD CT

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Feet
1 inch = 100 feet

Aerial Imagery Date: 07/13/2014
Aerial Imagery Source: NAIP 2014, USDA FSA, ESRI

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Drawn By: MUB
QA/QC: CTG
Date: 06/06/2017

# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — OAK CANOPY IMPACTS

FIGURE 2
SHEET 7



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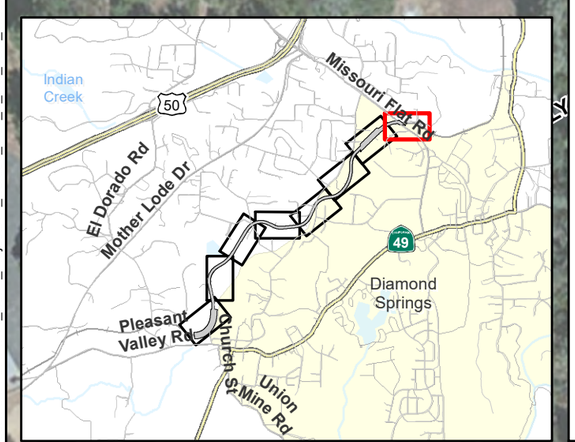
PENN RD

OLD DEPOT RD

OLD DEPOT CT

MISSOURI FLAT RD

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N

0 100 200

Feet

1 inch = 100 feet

Aerial Imagery Date: 07/13/2014

Aerial Imagery Source: NAIP 2014, USDA FSA, ESRI

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QA/QC: CTG
Date: 06/06/2017

# EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING — OAK CANOPY IMPACTS

FIGURE 2
SHEET 8



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# Appendix F — *Construction Noise Analysis El Dorado Trail Extension & Missouri Flat Road Bike/Pedestrian Overcrossing, El Dorado County, California*, November 10, 2016

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Construction Noise Analysis

# El Dorado Trail Extension & Missouri Flat Road Bike/Pedestrian Overcrossing

El Dorado County, California

BAC Job # 2016-153

Prepared For:

Foothill Associates

Attn: Kyrsten Shields
590 Menlo Drive, Suite 5
Rocklin, CA 95765

Prepared By:

**Bollard Acoustical Consultants, Inc.**

Paul Bollard, President

November 10, 2016

BOLLARD
Acoustical Consultants

# Introduction

Bollard Acoustical Consultants, Inc. (BAC) was retained by Foothill Associates to assess potential construction noise-related impacts for the El Dorado Trail Extension & Missouri Flat Road Bike/Pedestrian Overcrossing (project). This analysis was conducted to ensure that the construction related noise levels do not exceed the applicable El Dorado County and Caltrans noise standards. The following analysis includes assessments which address construction noise from the two proposed projects separately (bike path and road overcrossing).

The project proposes to construct approximately 2.2 miles of Class I bike path from Missouri Flat Road to the Town of El Dorado along the El Dorado Trail. In addition, the project also proposes the construction of a multi-use bike/pedestrian overcrossing on the El Dorado Trail at Missouri Flat Road. Work in the trail expansion project area will consist of the re-alignment of an existing informal trail, tree/vegetation removal, and associated excavation and ground disturbances, as well as paving of the Class I Trail. Work in the overcrossing project area will also include the aforementioned activities, in addition to bridge work and pile driving. A temporary construction easement will allow staging of equipment in specified areas, as identified in Attachment B. General trail and overcrossing construction equipment expected to be used includes, but is not limited to: haul trucks, cranes, excavators, backhoes, dump delivery trucks, concrete mixers, and service vehicles.

# Noise Fundamentals and Terminology

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard, and thus are called sound. 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 allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in levels (dB) correspond closely to human perception of relative loudness. Appendix A contains definitions of Acoustical Terminology. Table 4 shows common noise levels associated with various sources.

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 weighing the frequency response of a sound level meter by means of the standardized A-weighing network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. 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 in decibels.

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 noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (Leq) over a given time period (usually one hour). The Leq is the foundation of the Day-Night Average Level noise descriptor, Ldn, 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. $L_{dn}$-based noise standards are commonly used to assess noise impacts associated with traffic, railroad and aircraft noise sources.

# Criteria for Acceptable Noise Exposure

## El Dorado County General Plan

The El Dorado County General Plan Noise Element identifies noise criteria specific to the generation of construction related noise levels. Specifically, Policy 6.5.11.11 identifies numerical standards applicable to construction noise levels affecting various land use types. This specific noise policy and standards applicable to construction noise are reproduced below:

*Policy 6.5.1.11* *The standards outlined in Tables 6-3, 6-4, and 6-5 shall not apply to those activities associated with actual construction of a project as long as such construction occurs between the hours of 7 a.m. and 7 p.m., Monday through Friday, and 8 a.m. and 5 p.m. on weekends, and on federally recognized holidays. Further, the standards outlined in Tables 6-6, 6-4, and 6-5 shall not apply to public projects to alleviate traffic congestion and safety hazards.*

**Table 6-3**
**Maximum Allowable Noise Exposure for Non-Transportation Noise Sources in Community Regions and Adopted Plan Areas – Construction Noise**

| | | Noise Level (dB) | |
|---|---|---|---|
| **Land Use Designation** | **Time Period** | **$L_{eq}$** | **$L_{max}$** |
| Higher-Density Residential (MFR, HDR, MDR) | 7 a.m. – 7 p.m. | 55 | 75 |
| | 7 p.m. – 10 p.m. | 50 | 65 |
| | 10 p.m. – 7 a.m. | 45 | 60 |
| Commercial and Public Facilities (C, R&D, PF) | 7 a.m. – 7 p.m. | 70 | 90 |
| | 10 p.m. – 7 a.m. | 65 | 75 |
| Industrial (I) | Any Time | 80 | 90 |

Notes:

[1] Adopted Plan areas should refer to those land use designations that most closely correspond to the similar General Plan land use designations for similar development.

**Table 6-4**
**Maximum Allowable Noise Exposure for Non-Transportation Noise Sources in Rural Centers – Construction Noise**

| Land Use Designation | Time Period | Noise Level (dB) $L_{eq}$ | Noise Level (dB) $L_{max}$ |
|---|---|---|---|
| All Residential (MFR, HDR, MDR) | 7 a.m. – 7 p.m. | 55 | 75 |
| | 7 p.m. – 10 p.m. | 50 | 65 |
| | 10 p.m. – 7 a.m. | 40 | 55 |
| Commercial, Recreation, and Public Facilities (C, TR, PF) | 7 a.m. – 7 p.m. | 65 | 75 |
| | 7 p.m. – 7 a.m. | 60 | 70 |
| Industrial (I) | Any Time | 70 | 80 |
| Open Space (OS) | 7 a.m. – 7 p.m. | 55 | 75 |
| | 7 p.m. – 7 a.m. | 50 | 65 |

**Table 6-5**
**Maximum Allowable Noise Exposure for Non-Transportation Noise Sources in Rural Regions – Construction Noise**

| Land Use Designation | Time Period | Noise Level (dB) $L_{eq}$ | Noise Level (dB) $L_{max}$ |
|---|---|---|---|
| All Residential (LDR) | 7 a.m. – 7 p.m. | 50 | 60 |
| | 7 p.m. – 10 p.m. | 45 | 55 |
| | 10 p.m. – 7 a.m. | 40 | 50 |
| Commercial, Recreation, and Public Facilities (C, TR, PF) | 7 a.m. – 7 p.m. | 65 | 75 |
| | 10 p.m. – 7 a.m. | 60 | 70 |
| Rural Land, Natural Resources, Open Space, and Agricultural Lands (RR, NR, OS, AL) | 7 a.m. – 7 p.m. | 65 | 75 |
| | 7 p.m. – 7 a.m. | 60 | 70 |

California Department of Transportation

The California Department of Transportation (Caltrans) specifications with respect to construction noise are provided below:

*Section 14-8.02, Noise Control, of Caltrans standard specifications provides information that can be considered in determining whether construction would result in adverse noise impacts. The specification states:*

- *Do not exceed 86 dBA at 50 feet from the job site activities from 9 p.m. to 6 a.m.*

- *Equip an internal combustion engine with the manufacturer-recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler.*

# Existing Ambient Conditions

The noise environment in the project vicinity is primarily defined by traffic noise emanating from Missouri Flat Road and El Dorado Road, the local roadway network, and to a lesser extent by commercial and industrial uses in the vicinity. To quantify existing ambient noise levels at the nearest residence to the proposed construction area, BAC conducted short-term noise surveys at the locations shown in Attachment A on September 9, 2016.

A Larson-Davis Laboratories (LDL) 820 precision integrating sound level meter was used to complete the noise level measurement survey. The meter was calibrated before use with a LDL Model CAL200 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).

The short-term noise level measurement results are summarized in Table 1. The measurement results indicate that ambient conditions in the immediate project vicinity are typical for semi-rural areas affected by local roadway noise.

**Table 1**
**Ambient Noise Monitoring Results Summary**
**El Dorado Trail Extension & Missouri Flat Road Bike/Pedestrian Overcrossing – September 9, 2016**

| | | Measured Noise Levels, dBA | | |
|---|---|---|---|---|
| **Site[1]** | **Time** | **$L_{eq}$** | **$L_{max}$** | **Notes** |
| A | 9:25 AM | 61 | 70 | Missouri Flat Road traffic, birds |
| B | 9:45 AM | 46 | 58 | Birds, industrial noise from nearby building |
| C | 10:06 AM | 42 | 53 | Motorcycle, distant traffic, aircraft |
| D | 10:29 AM | 50 | 59 | Forni Road traffic, barking dogs, aircraft |
| E | 10:53 AM | 45 | 54 | Forni Road traffic, aircraft |
| F | 11:13 AM | 45 | 60 | Blanchard Road traffic, chainsaw |
| G | 11:36 AM | 46 | 59 | Barking dogs, aircraft |
| H | 11:57 AM | 45 | 59 | Aircraft, birds |
| I | 1:53 PM | 42 | 54 | Pleasant Valley Road traffic |
| J | 2:15 PM | 50 | 59 | El Dorado Road traffic |

Notes:

[1] Noise monitoring locations are identified on Attachment A.

Source: Bollard Acoustical Consultants, Inc. 2016.

# Evaluation of Construction Noise Generation

As indicted in Attachment A, approximately 30 of the closest noise-sensitive receivers (residences) to the project area have been identified. The proximity of the receivers to the project area ranges from 60-330 feet. The Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) was utilized to model the various project equipment noise levels at the nearest noise-sensitive locations. The limits of construction can be seen in Attachment B. For modeling purposes, the trail extension and overcrossing project operations were divided into three separate construction phases. Phase 1 represents construction activities that typically take place during the start of construction. Phase 2 represents construction activities that typically take place during the middle of construction. Phase 3 represents construction activities that typically take place towards the end of construction. The phase dependent project equipment modeling assumptions are provided in Table 2. Table 3 shows the predicted construction-related average and maximum noise levels at noise-sensitive locations at various distances.

**Table 2**
**Assumed Construction Equipment Operations During Various Project Phases**
**El Dorado Trail Extension & Missouri Flat Road Bike/Pedestrian Overcrossing Project**

| Construction Equipment | Phase 1 | | Phase 2 | | Phase 3 | |
|---|---|---|---|---|---|---|
| | Trail Extension | Overcrossing | Trail Extension | Overcrossing | Trail Extension | Overcrossing |
| Crane | | X | | | | |
| Excavator | X | X | X | X | | |
| Jackhammer | | X | | | | |
| Dump Truck | X | X | X | X | | |
| Pickup Truck | X | X | X | X | X | X |
| Impact Pile Driver | | X | | | | |
| Grader | | X | | | X | X |
| Front End Loader | X | X | | | X | X |
| Concrete Mixer Truck | X | X | | | | |
| Roller | X | | | | | |
| Paver | X | | | | | |

Source: Bollard Acoustical Consultants, Inc.

**Table 3**
**Summary of Predicted Construction Equipment Noise Levels at Nearest Noise-Sensitive Receivers**
**El Dorado Trail Extension & Missouri Flat Road Bike/Pedestrian Overcrossing Project**

| Receiver[1] | Distance To Project Area (feet) | Predicted Noise Levels (dBA) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Phase 1 | | | | Phase 2 | | Phase 3 | |
| | | Trail Extension | | Overcrossing | | Trail Extension/Overcrossing | | Trail Extension/Overcrossing | |
| | | $L_{eq}$ | $L_{max}$ | $L_{eq}$ | $L_{max}$ | $L_{eq}$ | $L_{max}$ | $L_{eq}$ | $L_{max}$ |
| 16 | 60 | 79 | 81 | 100 | 93 | 79 | 77 | 83 | 81 |
| 7 | 100 | 75 | 77 | 95 | 89 | 75 | 73 | 79 | 76 |
| 5 | 150 | 71 | 73 | 92 | 85 | 71 | 69 | 76 | 73 |
| 22 | 200 | 69 | 71 | 89 | 83 | 69 | 67 | 73 | 70 |
| 25 | 250 | 67 | 69 | 87 | 81 | 67 | 65 | 71 | 68 |
| 26 | 300 | 65 | 67 | 86 | 79 | 65 | 63 | 69 | 67 |
| 24 | 330 | 64 | 66 | 85 | 79 | 64 | 63 | 69 | 66 |

Notes:

[1] See Attachment A for receiver locations.

Source: Bollard Acoustical Consultants, Inc.

# Analysis of Construction Noise Impacts and Recommended Abatement Measures

Analysis of the project generated noise levels shown in Table 3 indicates that the construction-related noise levels would exceed the applicable El Dorado County noise standards for residential uses at some of the closest residences. In addition, project generated construction noise levels would also exceed the Caltrans 86 dB $L_{max}$ noise criteria at some of the closest residences. Although the projects would be of limited duration, due to the potential for short-term noise impacts during project construction, the following specific noise mitigation measures are recommended to minimize intrusion to the local residents:

- Pursuant to Policy 6.5.11 of the El Dorado County General Plan Noise Element project construction activities should be limited to the hours of 7:00 a.m. and 7:00 p.m. (Monday through Friday), 8:00 a.m. and 5:00 p.m. (weekends), and on federally recognized holidays.
- Section14-8.02 (Noise Control) of Caltrans standards specifications states that project construction activities shall not exceed 86 dBA at 50 feet from job site activities from 9 p.m. to 6 a.m. The limitation of project construction activities to the hours identified in Policy 6.5.11 of the El Dorado County General Plan (above) would ensure satisfaction with the applicable Caltrans noise standard.
- All internal combustion engines used for construction shall be fitted with manufacturer-recommended mufflers.
- Local residents should be given advanced notice of project construction schedules, and should be notified that there will be substantial temporary increases in local noise levels during project construction at the nearest residences to the construction activities.
- To the extent feasible, separation between construction staging areas and the nearest residences should be maximized.
- If concerns are expressed by local residents regarding excessive noise during project construction, the potential for installation of temporary, localized noise barriers should be discussed with the resident and implemented if feasible. Such barriers could take the form of hay bales, acoustic curtains, or temporary wood fencing.
- Generators and compressors required during project construction should be located as far as possible from existing residents and, if necessary, shielded from view of those residences by portable noise barriers.

## Conclusions

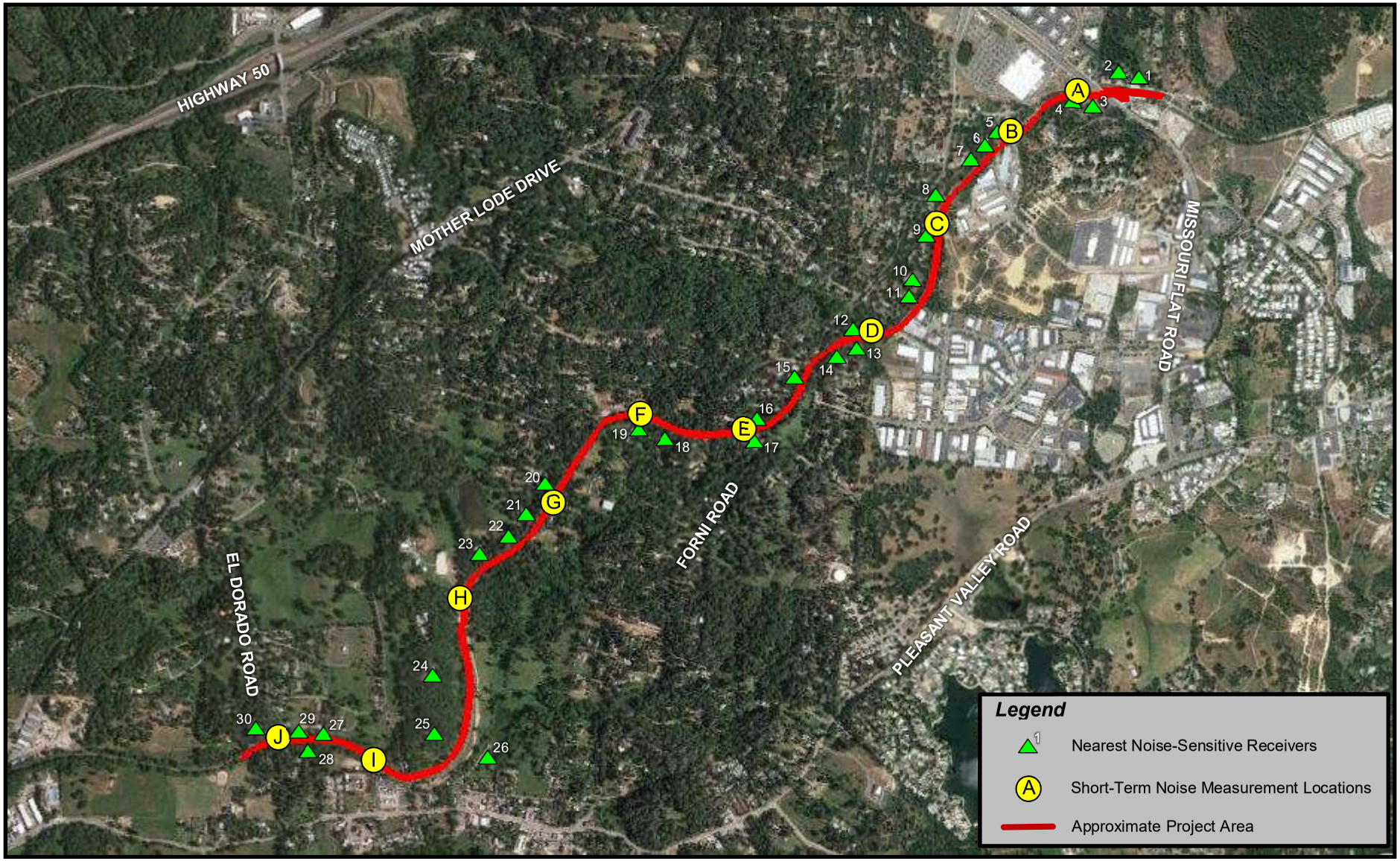
Given the proximity of existing residences to the proposed construction areas, short term increases in noise levels at nearby residences will occur during project construction. Although construction noise levels would still be elevated after implementation of the recommendations provided above, those recommendations would reduce the potential for adverse public reaction during project construction.

This concludes BAC's environmental noise assessment for the proposed El Dorado Trail Extension & Missouri Flat Road Bike/Pedestrian Overcrossing project in El Dorado County, California. Please contact us at (916) 663-0500 or paulb@bacnoise.com with any comments or questions regarding this memorandum.

**Attachment A**

Project Area, Noise Measurement Locations & Nearest Noise-Sensitive Receivers

El Dorado Trail Extension & Missouri Flat Road Bike/Pedestrian Overcrossing – El Dorado County, California



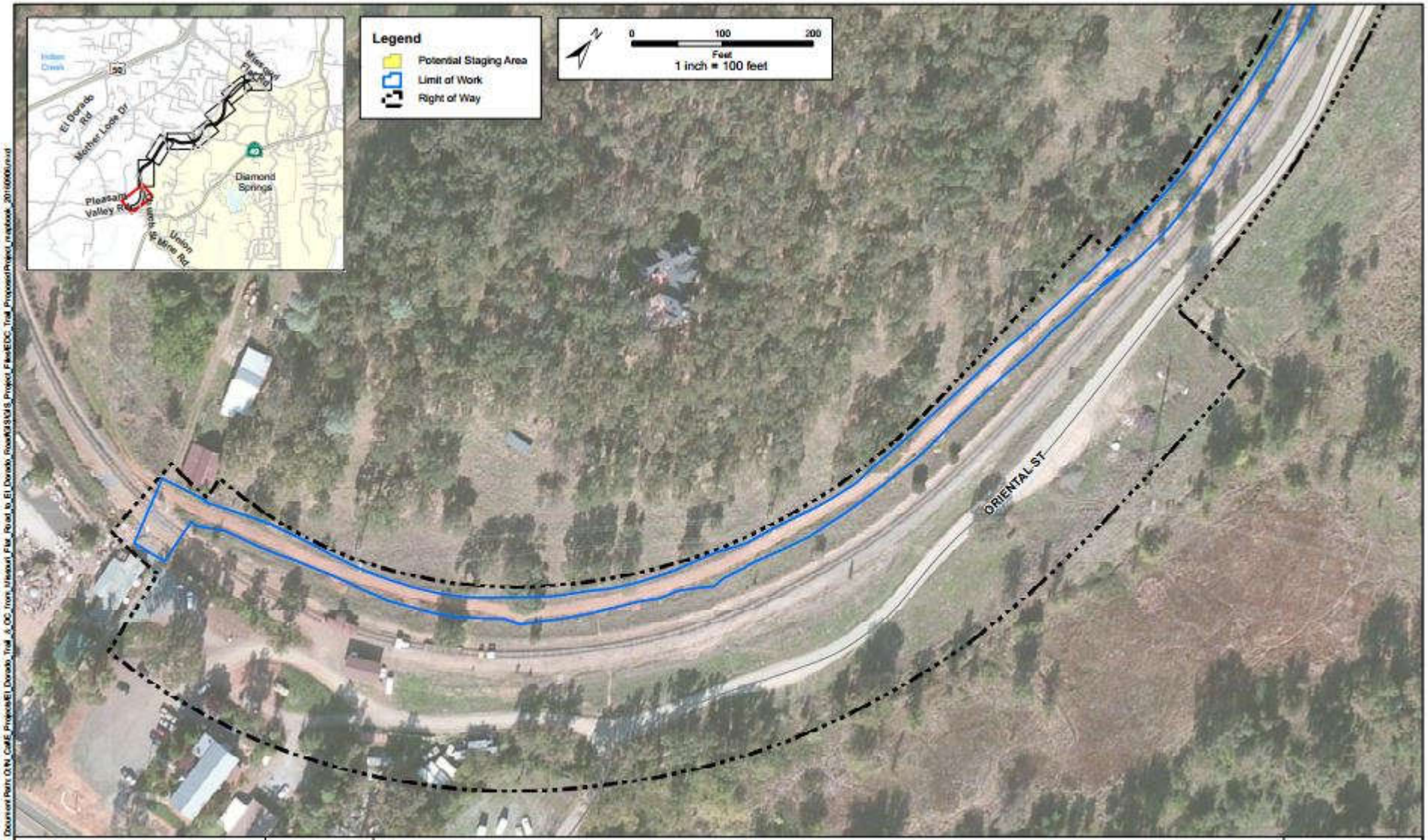

BOLLARD Acoustical Consultants

Scale (feet)

0 1,250 2,500

N

# Attachment B



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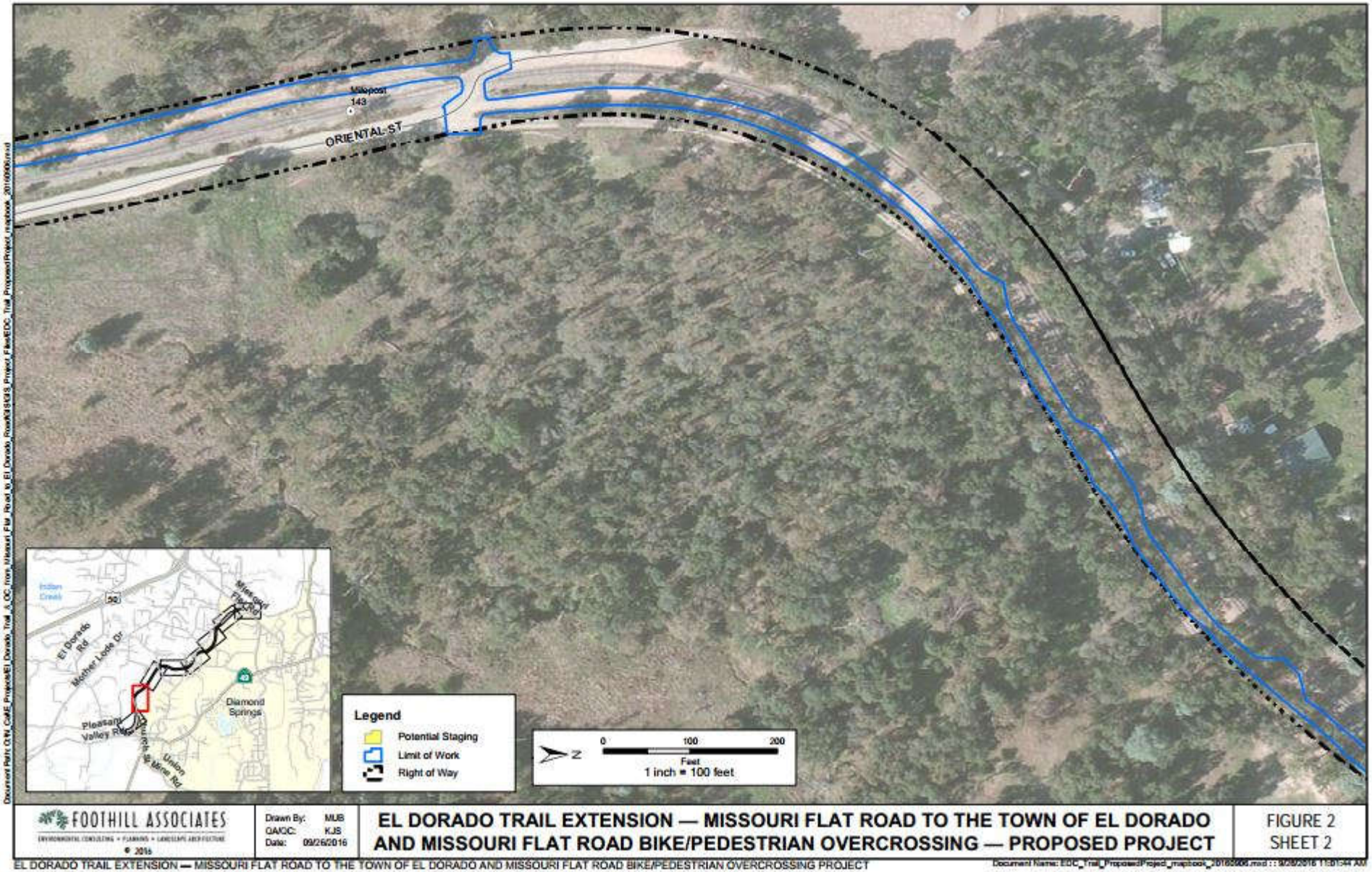

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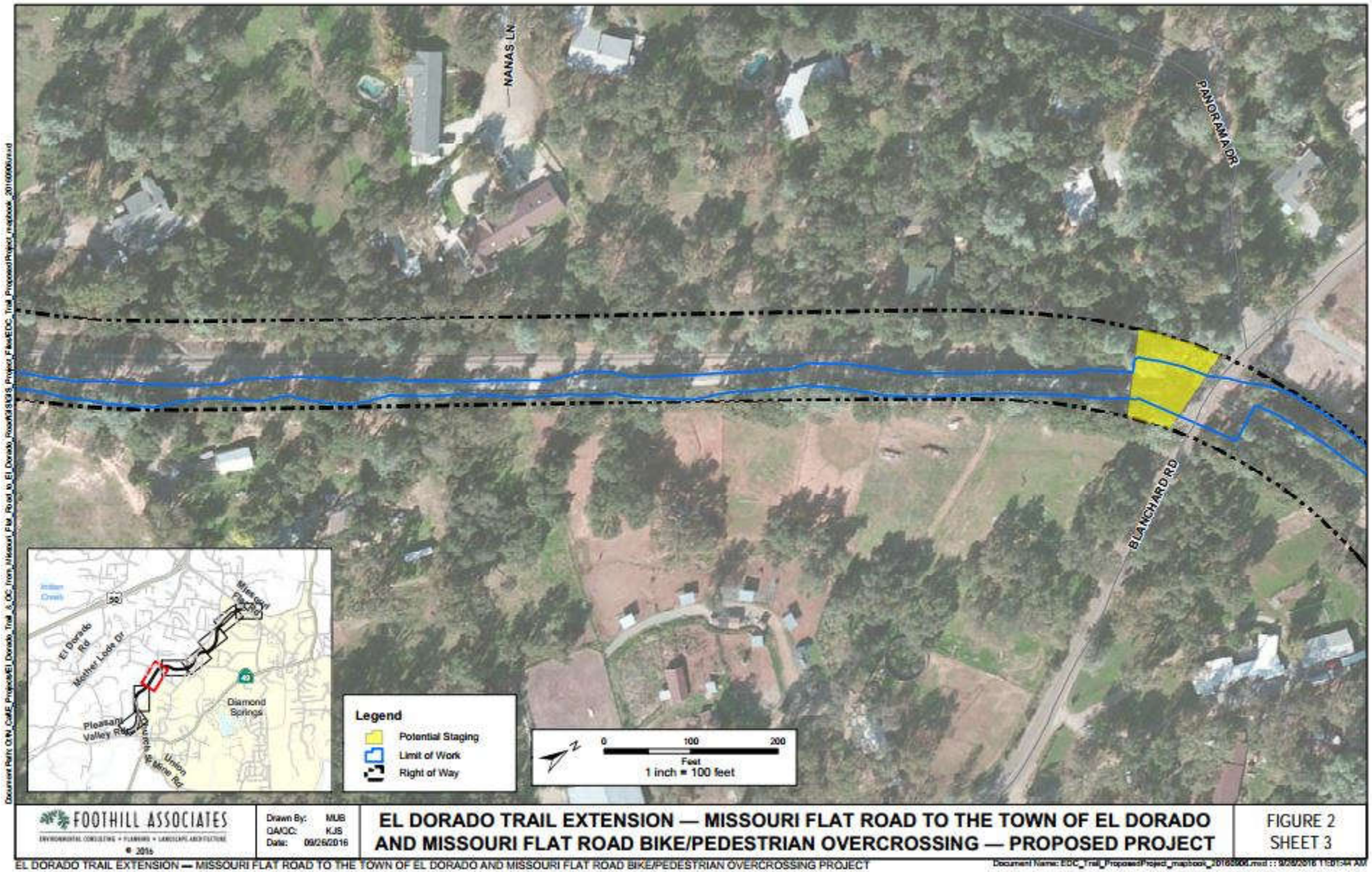

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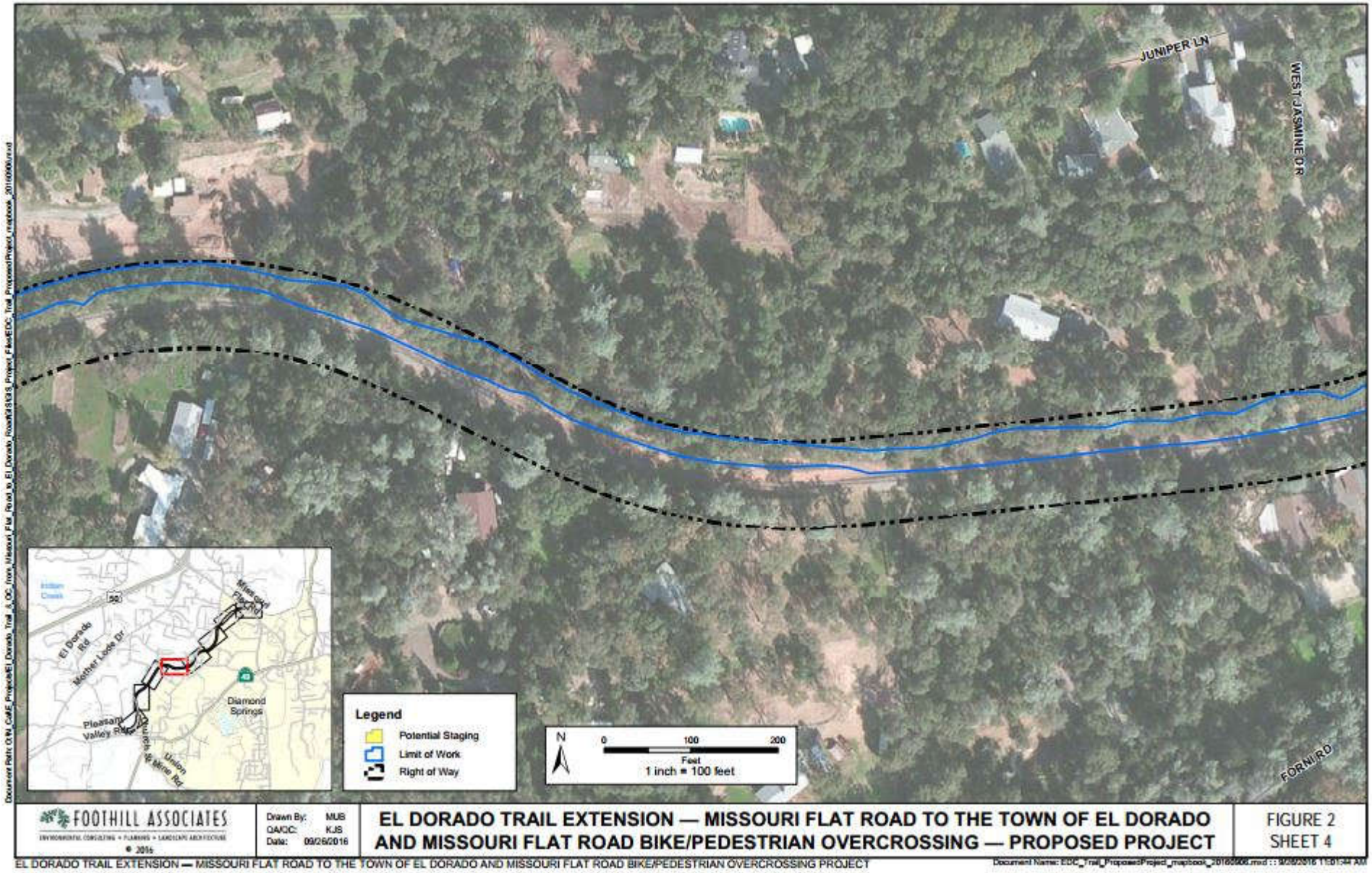

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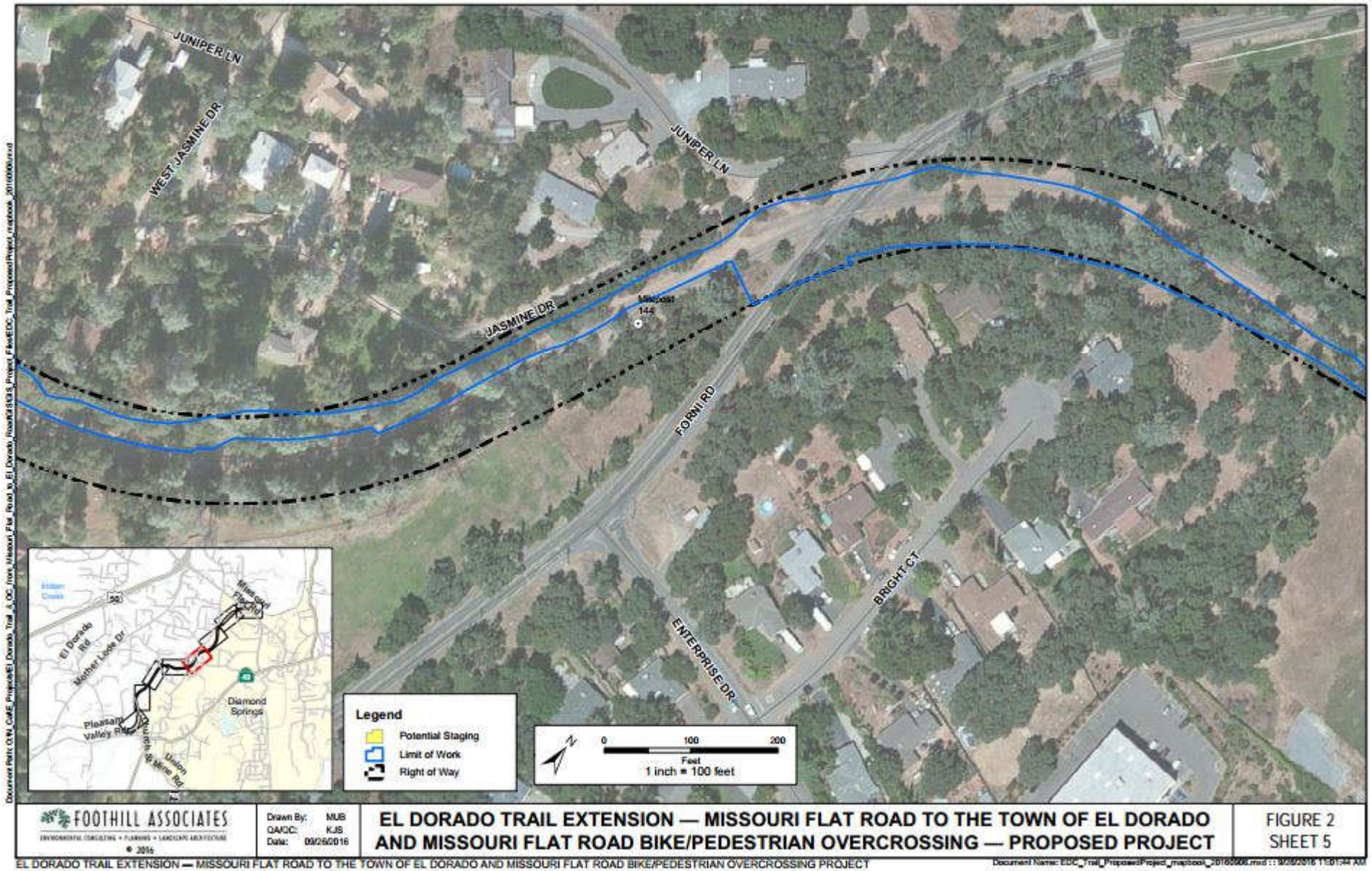

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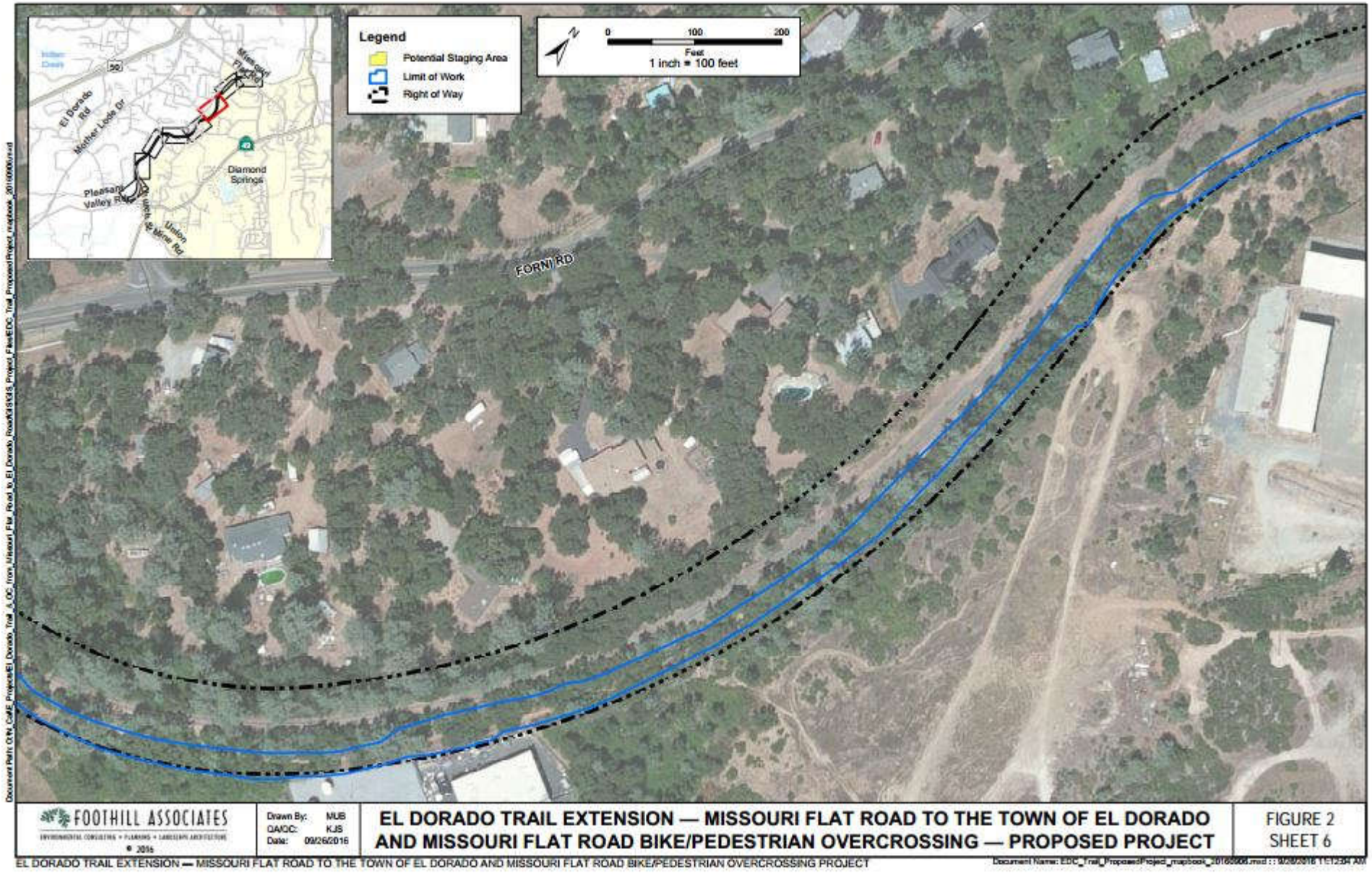

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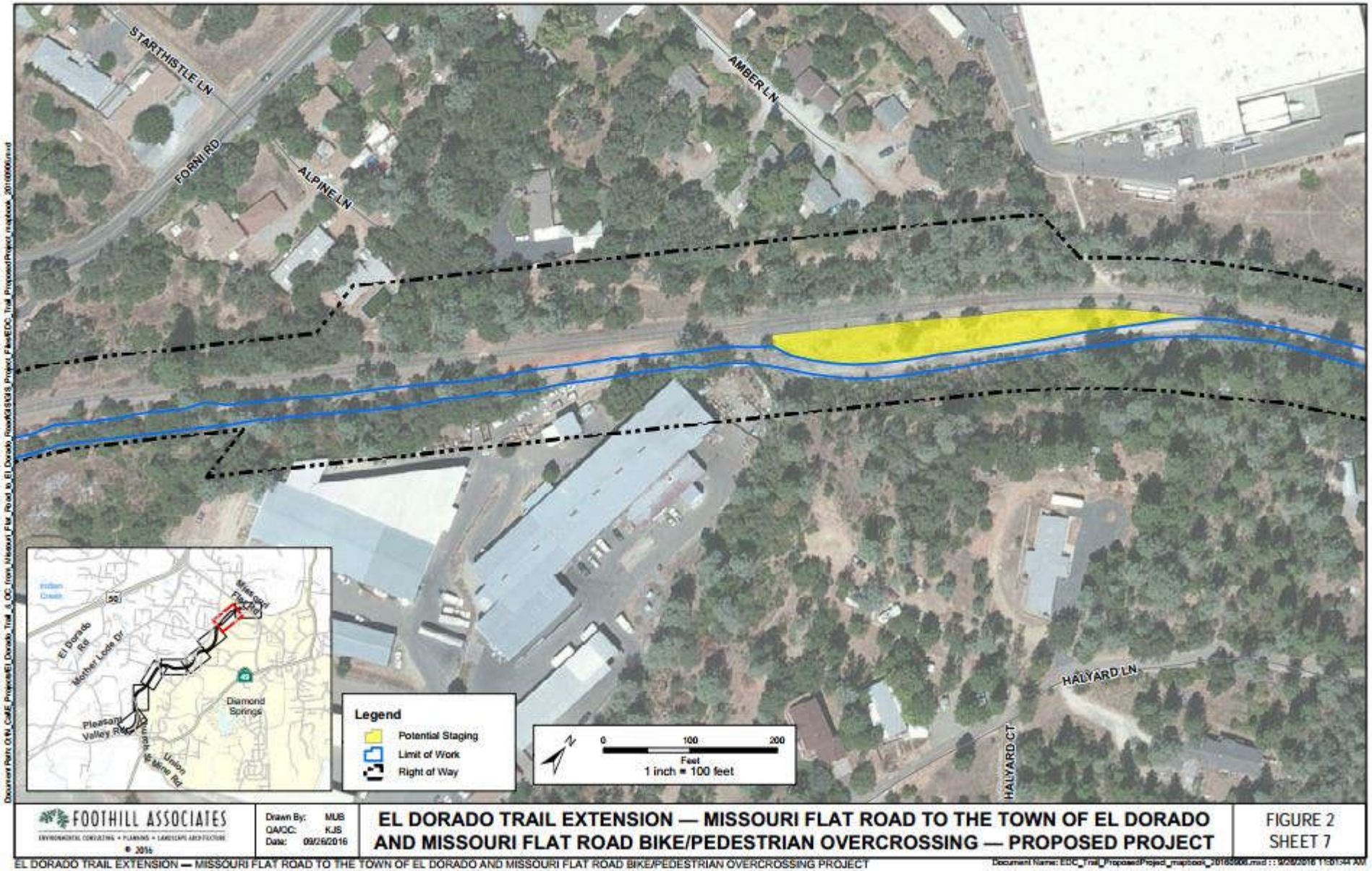
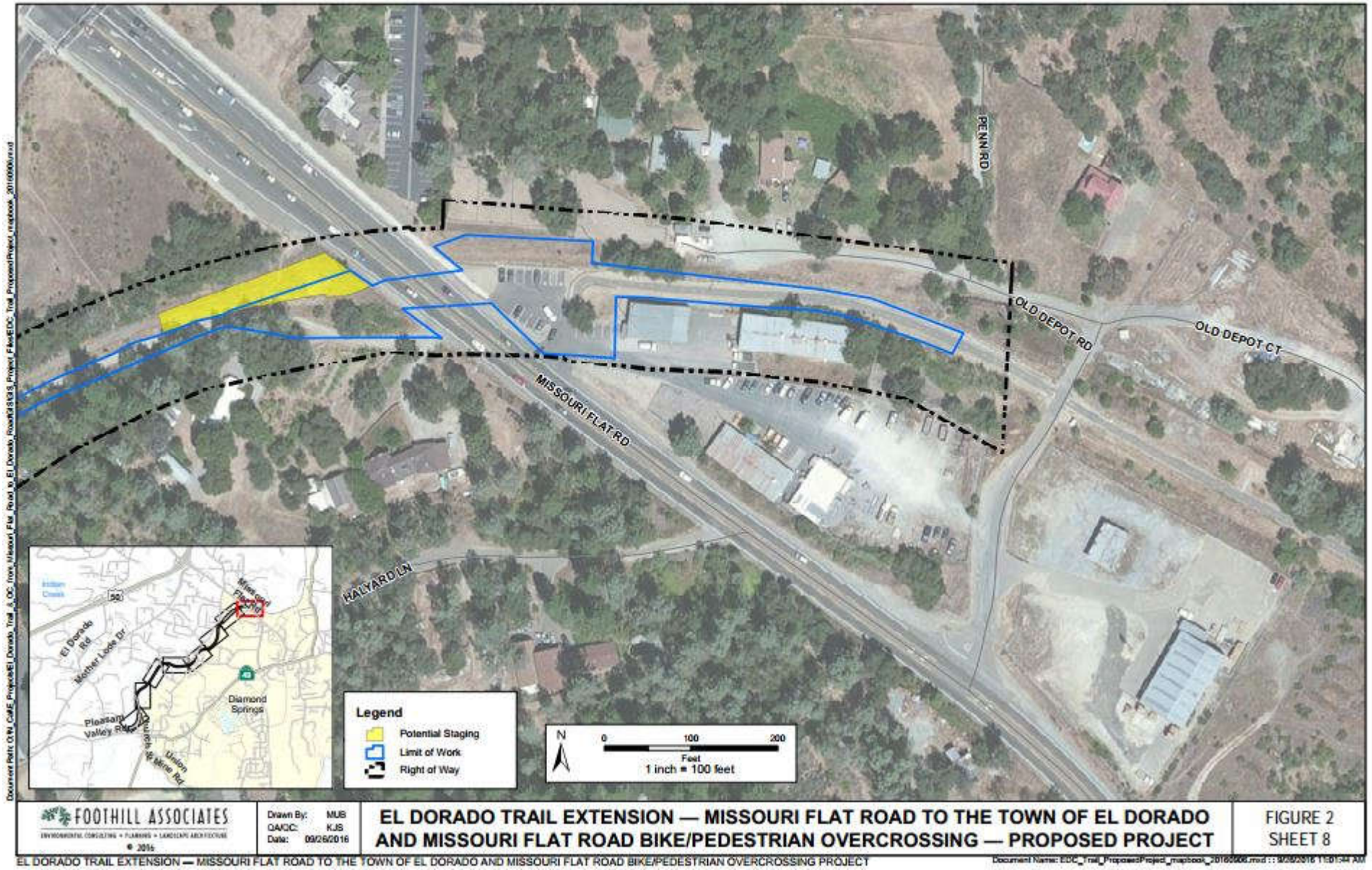



EL DORADO TRAIL EXTENSION — MISSOURI FLAT ROAD TO THE TOWN OF EL DORADO AND MISSOURI FLAT ROAD BIKE/PEDESTRIAN OVERCROSSING PROJECT

# Attachment B



**Attachment C**
**Noise Levels Associated with Common Noise Sources**